Cannabis policy,
implementation and outcomes

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Preface

This report examines what is known about the effects of policies regarding the possession and use of cannabis. Such policies continue to be subject to debate in most if not all European countries. Different governments have made different policy decisions, varying from explicit toleration (but not full legalisation) to strict prohibition. Policymaking would be served by insight in the relationship between different cannabis policies and their outcomes, such as prevalence of cannabis use and social consequences for cannabis users and for society as a whole. As the impact of policy is greatly dependent upon its implementation, it is worthwhile to study not just formal policy but also cannabis policy as implemented in practice. Interest in such a study has come from a joint initiative of the Health Ministers of Belgium, Germany, France, the Netherlands and Switzerland. The study reported here was made possible by a research grant from the Dutch Ministry of Health, Welfare and Sports. The current report describes the result of this study.

In Part I of this document, we sketch the context of the study. We discuss the analytical framework used to structure the literature review, the methodology of the literature review, and the context of cannabis policy in Europe. Part II provides the results of the literature review on the relationship between cannabis policies and their outcomes. In Part III the conclusions of the literature review are summarised and recommendations for future research are made.

This report is of interest to policymakers and others concerned with cannabis policy, especially in Europe.

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Executive summary

Introduction. Cannabis policy is a long-standing topic of intense debate in most if not all European countries. Different nations have made a wide range of different policy decisions regarding possession and use of this drug, varying from explicit toleration to strict prohibition. Some countries have had a relatively stable policy over the past decades, whilst others have shifted ground (sometimes several times). Attractive as the idea of testing the effects of competing prohibitionist and decriminalist philosophies is, this is a formidable task. The success of a policy greatly depends upon the degree of its implementation. Thus, the outcomes of (a change in) formal cannabis policy cannot be analysed without taking implementation issues into account.

The debate would be served by more insight into cannabis policies - both in theoretical foundations and implementation in actual practice - and their outcomes, such as cannabis use and other consequences; e.g. fates of people convicted of cannabis use or possession, or the public nuisance created by users, or the costs of policy enforcement. Interest in a study on the relationship between cannabis policy and its outcomes has come from a joint initiative of the Health Ministers of Belgium, France, Germany, the Netherlands and Switzerland. This study was made possible by a research grant from the Dutch Ministry of Health, Welfare and Sports as a contribution to the joint initiative. We reviewed the existing literature to provide a summary of the evidence on this topic. Because, as was known from the beginning, the availability of high quality evidence is limited, this review is not extensive.

Analytical framework. An analytical framework, developed by MacCoun and Reuter[1] was extended and adjusted to the focus of this study (see Figure S.1). This framework presents the outcomes of cannabis policy as dependent on a wide range of factors both exogenous and endogenous to policy. The present study examined three questions i.e., (a) to what extent does implemented policy differ from formal policy; (b) to what extent does policy have an impact on prevalence of cannabis use; and (c) which consequences does cannabis policy have for individual users and for society as a whole? The evidence provided by literature assessing these interactions was analysed and conclusions with regard to the outcomes of policy were drawn. The findings help to set the agenda for future research that can lead to more realistic and effective cannabis policy.

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[1] MacCoun and Reuter, 2001, p. 211.

Figure S.1.   Analytic framework for studying cannabis policy
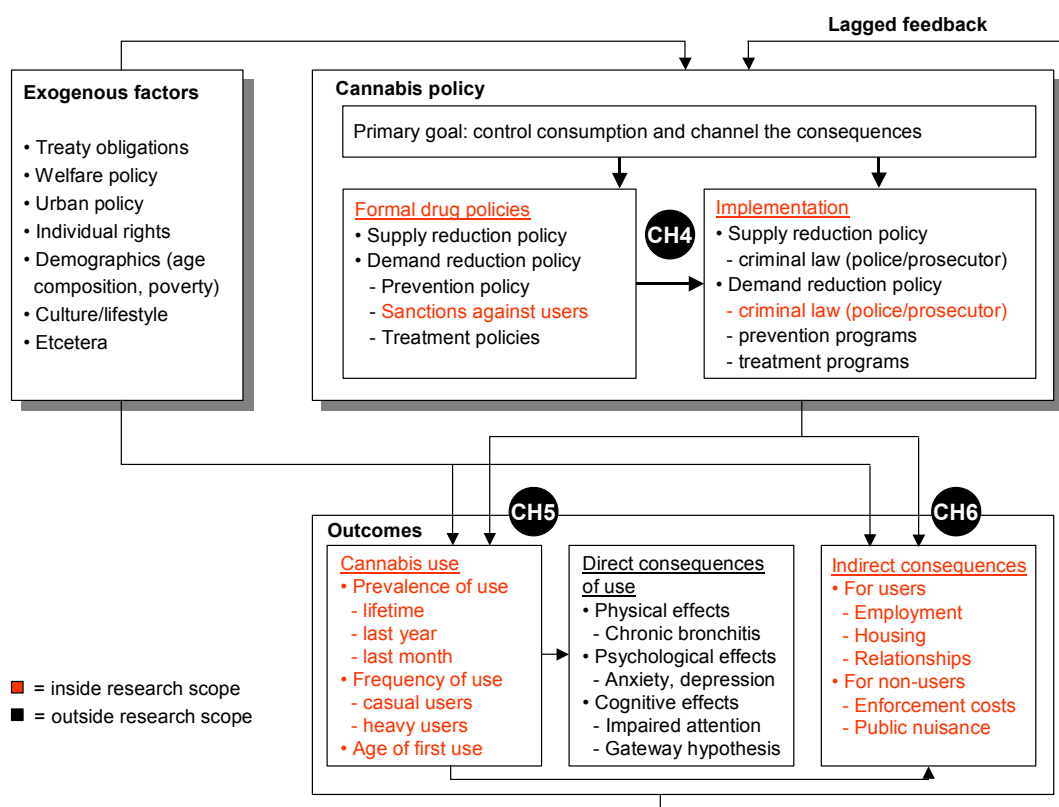
Formal cannabis policy and cannabis policy as implemented. There are real variations in policy amongst nations and amongst regions within nations that are structured along federal lines (e.g., the US, Australia, Germany). Moreover, any notion of coherent implementation of policy at the local level is overly optimistic; not only is there a sizable gap between formal policy and policy as implemented in a number of countries/regions, but there is no evidence that any country or region has achieved uniform implementation within its jurisdictions. This is true even though countries differ widely in the extent to which they officially permit discretion in policy interpretation and implementation at local levels.

The studies examined show that there are various factors that contribute to the sizable gap between formal cannabis policy and cannabis policy as implemented. One factor is that policy regimes allocate responsibility for policy enforcement. They can officially assign discretionary power to, for example, regional police authorities, enforcement officials, prosecutorial officials, and judicial officials. These officials may opt for a more punitive or more permissive approach, depending on their own or their organisation's agenda. Another factor is the limitations in financial or human resources, which might impede implementation of the formal policy.

The discrepancy between formal cannabis policy and cannabis policy as implemented has consequences for our ability to understand the relationship between policy, prevalence of cannabis use and consequences. Interpretation of the consequences of formal policy is impossible without knowing how that policy is implemented. Unless the implementation practices are known, analysis is tricky at best.

Cannabis policy and prevalence of cannabis use. Given the discussion immediately above, it is perhaps not surprising that there can be no definitive statement made regarding policy and the prevalence of cannabis use. Moreover, the range of policies as implemented is presumably more narrow than the continuum of formal policies from "prohibition" to "decriminalisation" would suggest, thus limiting our possibilities to assess the relative effectiveness of implemented policies. Within this restriction, our overall conclusion is that the evidence does not support the notion that policy and prevalence of cannabis use are strongly connected. However, neither does the evidence support a definitive lack of connection, but the weight of the evidence leans towards a lack of connection. Many studies attempted to investigate the impact of a formal policy change or compared cross-sectional statutory regimes, but most of the research did not use indicators for the actual implementation of the formal principles, penalties and fines, and thus did not effectively measure the actual level of enforcement.

Cannabis and social consequences. We examined what is known about the social consequences of policies regarding cannabis use, from the perspective of the users and the communities in which users live. Here, there is some conventional evidence available, for example on the number of arrestees. In other areas where evidence would be desirable, for example on the fates of arrestees, it is largely missing.

Although the literature has noted an increase in the number of cannabis users arrested for possession, the extant studies have so far been unable to measure the consequences these offenders face in their respective countries or regions. Most apprehended users receive a warning or a fine; few are incarcerated. What has been established is that experiencing the criminal justice system has negative consequences for cannabis users beyond the correction of drug taking behaviour. Many who receive a criminal record experience negative consequences for civil rights, employment, accommodation, their interpersonal relationships, and driver's licences.

The negative consequences to the community of the regulation and sanctioning of cannabis use have not been extensively examined. What evidence exists does not support an hypothesis of extensive harms to a community from cannabis use per se. The effect of regulation is another story. However, the evidence is so scant that no firm conclusions may be drawn, although it is known that monetary costs of enforcement, for

example costs of maintaining people in prison, have rise. The non-monetary costs of enforcement of cannabis policy remain to be investigated.

Recommendations. Cannabis policy should be based as much as possible on evidence regarding its effectiveness. The summary of the evidence examined does not lead to the ability to make any recommendations regarding the implementation of policy. Therefore, the recommendations below are aimed at getting to know enough about these important relationships. Perfect understanding is not possible, but fortunately, it is also not required. With some effort, enough understanding can be obtained to guide coherent policy making.

1. **Spend more money on basic information acquisition, and spend it wisely.**
2. **Start understanding the range of how policies are implemented and why different implementation choices are made.** We know that implementation varies. We do not know how it varies by jurisdiction, what the full range of variation is, and why variations occur. Annex B gives an overview of issues that need to be addressed should such research be undertaken.
3. **Where differences in policy as implemented can be established, conduct comparative studies of cannabis use, using common measures.**
4. **Where such differences in policy as implemented can be found, multidisciplinary studies of the costs of different implementation regimes to the society should be examined, again using common data measures across jurisdictions.**
5. **To gain more insight in the outcomes of cannabis policy, data should be collected on the consequences for cannabis users.** Currently not much is known about the outcomes of cannabis policy for cannabis users. Therefore, we believe it is important to collect the following data: (a) Chance of being cited for cannabis use; (b) Sanctions in practice for those cited: criminal record, caution, incarceration, fine, etc.; and (c) Other consequences: obligatory treatment, losing driver's licenses, etc.
6. **Create opportunities for policy makers with differing beliefs about what effective policy should and could constitute to come together and discuss their viewpoints in a non-threatening way.**

PART I: Context of the study

Chapter 1: Introduction

1.1 Background of the study

The policy regarding possession and use of cannabis continues to be subject to debate in most if not all European countries. Different governments have made or are considering different policy decisions, varying from explicit toleration (but not full legalisation) to strict prohibition. Although the formulation of drug policy is generally at the national or regional level, implementation of that policy usually takes place at a regional or local level. In the implementation at that level, there often is considerable room for variation. As the success of a policy is greatly dependent upon its implementation, it is worthwhile to study not just the formal cannabis policies of governments, but also the implementation of these policies at different levels of government.

There is still limited insight in the role of implementation in cannabis policy. The public debate about cannabis policy is often more based on opinions than on evidence. The debate would be served by more insight in the relationship between different cannabis policies as implemented and their outcomes, such as prevalence and frequency of cannabis use and social consequences for both users and society as a whole.

The purpose of the current study is to gain insight into the impact of different types of cannabis policy. Our main research question is:

What is known and what is not known about the relationship between formal cannabis policy, cannabis policy as implemented and the outcomes thereof?

To answer the main research question, several sub questions were answered:

- o What types of formal cannabis policy can be distinguished, and what are the most important characteristics of these policy options?
- o What is known about the implementation of cannabis policy, i.e. the degree to which the formal policy is enforced in practice?
- o What are the effects of cannabis policy as implemented on prevalence of cannabis use?
- o What are the effects of cannabis policy as implemented for cannabis users and for society as a whole?

Interest in this study on the relationship between cannabis policies and their outcomes has come from a joint initiative of the Health Ministers of Belgium, Germany, France, the

Netherlands and Switzerland.[2] The study reported here was made possible by a research grant from the Dutch Ministry of Health, Welfare and Sports, as part of its contribution to the joint initiative.

1.2   Analytical framework

In order to study cannabis policy and the effects thereof, it is important to have an analytical framework that describes the relationship between cannabis policy and outcomes, and the external factors influencing this relationship. In the current study, we use an analytical framework developed By MacCoun and Reuter (2001, p. 211) and we modified this framework to better reflect the specificities of our study. The original analytical framework (see Annex A) focuses on drug policy in general, whereas the modified framework is designed to address cannabis policy in particular.

Figure 1.1: Analytical framework for studying cannabis policy
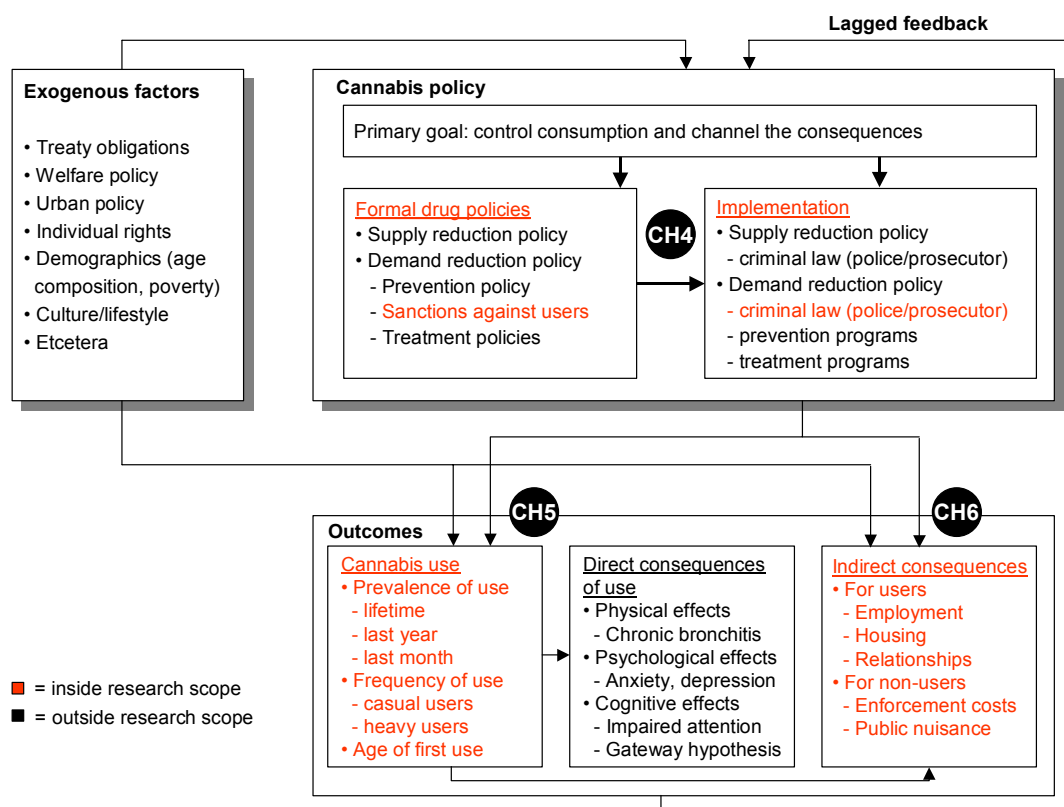
As MacCoun and Reuter state "it is tempting to think of a simple causal chain: goals ➜ policies ➜ implementation ➜ prevalence of drug use ➜ prevalence of drug harms." The above figure shows that the reality is almost certainly more complex. To gain insight in this complexity, the next paragraphs discuss the different elements of the analytical framework. We discuss the importance of the different elements of the framework, and

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[2] Action plan for the follow-up of the cannabis conference in Brussels on February 25, 2002, Steering Committee, April 2003.

indicate where the modified framework differs from the original one, and which elements are within and outside the research scope.

There is a wide range of exogenous factors that influence both formal cannabis policy, policy implementation and the outcomes of implemented policy. Examples of such factors are international treaties, national health and welfare policies, individual rights, demographics (MacCoun and Reuter, 2002, p. 12) and culture and lifestyle. International treaties, for example, set the boundaries within which national policies can be defined. Demographic indicators, such as the age composition, influence the prevalence of use. Enforcement budgets, local circumstances, and perceptions might affect the level of implementation. In determining the effectiveness of drug policy the context in which these policies are implemented should thus be taken into account.

In the original framework, MacCoun and Reuter state the primary goal of drug policy in terms of "use reduction vs. harm reduction". For the current study, we have rephrased the primary goal of cannabis policy into "control consumption and channel the consequences". This is because some cannabis policies do not aim to reduce use, and there are questions about whether there are harms that need to be reduced. Our reframing enables to encompass the entire debate.

Drug policy includes drug prevention policy, supply reduction policy, sanctions against drug users, and treatment policy. Our current study does not aim to provide an insight in the outcomes of all of these policies, but specifically focuses on sanctions as a lever for addressing the consumption of cannabis and the related consequences for cannabis users and society as a whole.

It is important to recognise that the implementation of cannabis policies can deviate from the formal policy. This holds for both supply control policy and demand control policy. For example, it might be possible that people possessing cannabis could be arrested and prosecuted according to the law, but that possession of a limited amount of cannabis is tolerated in practice, whereas possession of larger amounts is prosecuted. When studying the outcomes of cannabis policy, it is important to take such differences into account, and this is the main focus of our study. However, there are also implementation issues related to alternative policies, such as regulations governing the supply of cannabis for industrial purposes in Switzerland, the supply of cannabis in Dutch coffee shops and development of prevention programs targeting inappropriate use of cannabis (e.g. while driving). These are not the focus of the current study.

As MacCoun and Reuter (2001, p. 221-222) indicate, meaningful cross-national comparisons of the prevalence of drug use in the general population are difficult,

because few nations conduct regular surveys on drug prevalence, and the surveys that are conducted often differ in their population coverage, mode of questioning and questions asked. Measuring the extent of a nation's cannabis problems requires an insight in drug related outcomes. In our modification of the original framework, a distinction is made between direct consequences of cannabis use and indirect consequences. Our study focuses on the indirect consequences only.

Our study deliberately focused on the indirect, policy-related aspects of use and consequences. It therefore did not look at the physical, psychological and cognitive effects of cannabis have been conducted, phenomena such as the "gateway hypothesis" (Morral, et al., 2002), or other effects that are not mediated by policy. There is a wide range of potential indirect consequences, ranging from political consequences (such as the impact of cannabis policy on international relations between countries with different policies) to social consequences (such as the impact of cannabis policy on employment opportunities for people with a criminal record as a consequence of a cannabis related arrest). Here, we only focus on social consequences, which can pertain to both the cannabis user and the rest of society.

1.3 Set-up of the report

Chapter 2 discusses the research methodology used, i.e. the literature review that was conducted to answer the abovementioned research questions. It describes how we identified and selected the literature relevant for the study. Chapter 3 addresses the context of cannabis policy in Europe. We focus on Europe because the results of this study are mainly aimed at informing cannabis policy in Europe. The literature review does however not exclusively focus on Europe, because results of studies in other countries might also be relevant to the development of cannabis policy in Europe.

In Part II, the results of the literature review are presented. The structure of the literature review builds on the causal relations identified in the analytical framework. Chapter 4 focuses on cannabis policy and its implementation. Chapter 5 discusses the relationship between cannabis policy and prevalence of use, and Chapter 6 discusses the relationship between cannabis policy and cannabis related social consequences.

Part III contains the main conclusions of the research. The evidence on the implementation of cannabis policy is summarised, and recommendations for further research are made.

Chapter 2: Research methodology

2.1 Identification and screening of literature

The literature review commenced with a comprehensive search of a wide variety of information sources to identify what is known about the research questions formulated above, and to synthesise the relevant information. The search strategy followed several tracks in order to ensure that all important studies are identified:

o **Database search**: We systematically searched the most important databases on drugs and drug abuse. Currently, there is no database that specifically focuses on cannabis policy and the implementation thereof. However, more general databases were of use when searching for relevant articles, book chapters, conference papers, etc. Examples of such databases are:

- EDDRA-database (Exchange of Drug Demand Reduction Action information system) of the European Monitoring Centre for Drugs and Drug Addiction <**http://eddra.emcdda.eu.int:8008/eddra/**>
- ARCHIDO-database (Archives for Drug Related Literature) of the University of Bremen <**http://www.archido.de**>
- CEDRO-database (Centre for Drug Research) of the University of Amsterdam <**http://www.cedro-uva.org**>
- Drugtext-database – Internet's centre for substance use related risk reduction <**http://www.drugtext.org/**>
- Lindesmith library - Catalog of the holdings of the Lindesmith Library in New York and the Drug Policy Alliance Online Library of full-text electronic documents <**http://library.soros.org/lindesmith.html**>

The search terms used concerned potential key words of studies, such as different combinations of the following words: "cannabis", "policy", "implementation", "impact", "outcomes", "prevalence", etc.

o **Search in peer reviewed journals:** In addition to the database search, a search of well-regarded journals was conducted, including:
- *Journal of Drug Issues;*
- *Drug and Alcohol Dependence;*
- *Addiction;*
- *International Journal of Drug Policy;*
- *British Journal of Psychiatry;*
- *Addictive Behaviors;*
- *Journal of Public Health Policy; and*
- *European Journal on Criminal Policy and Research.*

- **Search on websites of well-established research institutes:** A search of websites of well-established research institutes in the field of drug policy was conducted, including the CEDRO, EMCDDA, US National Bureau of Economic Research, RAND Drug Policy Research Center, and the Trimbos Institute.
- **Snowball strategy**: The major items retrieved were checked for relevant references to ensure that we would not miss any important articles.
- **Consultation of experts:** After retrieving relevant studies and composing a matrix of relevant literature (see Section 2.2), we consulted a number of American and Dutch experts in the field of cannabis policy, and asked them to verify the relevance of the selected articles and to find out whether we missed any important studies. Based on their suggestions, we added a few studies to the matrix. In addition, some of the experts gave us copies of articles that are still in press, so that our literature review is as up-to-date as possible.

2.2 Selection of relevant literature

The first phase of the literature review resulted in a wide variety of more or less relevant books, reports, articles, and other documents that discuss various aspects of cannabis policy. The second phase of the literature was aimed at identifying those documents that are relevant to the research questions addressed in this study. In the selection of literature, the following criteria were employed:

- **Relevance to the research question:** First we checked whether the identified study was relevant for the research question, i.e. whether the study assessed one or more of the relationships in the analytical framework.
- **Quality of the study:** Our study aims to put the debate on cannabis policy on an evidentiary basis, and therefore it only includes studies of sufficient scientific quality. A study was considered to be of sufficient scientific quality if:
  - The research method (including the study question, the study population, the intervention and the outcome indicators) was clearly described;
  - The statistical analysis (if this was part of the study) was clearly described and performed accurately; and
  - The conclusions and recommendations flowed logically from the results.
- **Year of publication:** The search was limited to studies published since 1995. Information on earlier studies was obtained by reviewing earlier literature reviews on relevant issues.
- **Geographic region:** Initially, the literature search was concentrated on all European Union member states, Switzerland and Norway. However, the literature review almost immediately revealed that many interesting studies have been conducted in other countries, particularly the US and Australia, but also Canada and New Zealand. These studies were included in the literature review as well.

The retrieved documents have been documented in a database[3], which includes information on the following aspects of the document:

- o **Reference information:** The matrix contains the reference information on the retrieved documents, i.e. author(s), title, journal, year, volume, number, etc.
- o **Data source:** The data source specifies whether the document was retrieved through searching a specific database, through a more general Internet search, or whether the document was suggested by one of the experts we contacted throughout the study.
- o **Used search term(s):** The search terms producing the 'hit' of the retrieved document are provided.
- o **Focus of the study:**
  - geographic focus (e.g. Europe, Netherlands, Amsterdam);
  - research type (e.g. descriptive study, survey results, econometric analysis);
  - policy area (e.g. prevention, treatment, law enforcement);
  - key words (e.g. coffee shops, harms, criminal penalties, etc.).
- o **Summary of the key findings:** A brief summary of the key findings of each retrieved article is presented, including information on the relevance of the study to the research questions, i.e. on the relationship between formal policies, the implementation thereof, prevalence of cannabis use and social consequences.
- o **Comments of the reviewers:** Finally, the members of the project team who reviewed the articles assigned a relevance score from 1 to 5 to each article, and they sometimes added remarks with respect to the relevance of the article.

2.3   Analysis of the literature

In the database, which is used as a basis for Part II of the report, it was indicated whether the cited study is relevant for studying the relationship between:

- o Formal cannabis policy and cannabis policy as implemented (Chapter 4);
- o Cannabis policy and prevalence of cannabis use (Chapter 5); or
- o Cannabis policy and social consequences (Chapter 6).

In Part II the results of the selected studies are summarised and discussed. Although we would have preferred to only include studies of high scientific quality. However, for some of the issues discussed, no such studies were available, and we therefore included lower quality articles to illustrate preliminary findings with respect to that issue. In those instances, remarks on the quality of the study are added. Based on the findings of the literature review, Part III identifies priorities for further research in the field of cannabis policy and its consequences. It indicates where gaps in knowledge exist and where the current evidence is to weak to draw conclusions on the consequences of cannabis policy.

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[3] This database is available from the authors of the report.

Chapter 3: Context of cannabis policy

3.1   Background and history

Cannabis is a multi-use plant. Even before its use for medicinal purposes in China bout 4000 years ago, it was used for making such items as clothing and rope. In modern Europe, cannabis made its primary entrance as a recreational drug in the 1950s via the jazz scene. In the 1960s and early 1970s, the use of cannabis boomed with the rise of the hippie culture. Use then stabilised and in some countries declined until a resurgence in the late 1980s, which resulted in the spread of cannabis use across a broad social and geographic spectrum (EMCDDA, 1999, p. 72-80).

Cannabis is now more widespread than ever before in Europe. It is the most commonly used illicit drug across the EU, having been tried by between 5 and 30% of the total population and up to 40% of younger adults. Recent use is less frequent: 1 to 9% of the adult population and up to 20% of young adults have used cannabis in the last 12 months. After rapid increases between 1985 and 1994, levels of quantities seized have recently stabilised (EMCDDA, 1998, p. 5).

3.2   Typology of cannabis policy regimes

Cannabis policies can be grouped into three broad categories, namely complete prohibition, partial decriminalisation, and full decriminalisation. Countries with complete prohibition treat simple possession and use offences of even small amounts of cannabis as criminal offences with the result that individuals who are convicted of breaking these laws incur a criminal record (even if they avoid prison). In countries with partial decriminalisation, there are civil instead of criminal penalties for simple possession and use when the quantity of cannabis is lower than a specified amount. In this regime, casual users are thus separated from more involved users. The latter, who are more likely to be convicted of possessing larger quantities, are still treated as criminals. In models of full decriminalisation, the simple possession and use of any amount of cannabis remains illegal but offenders receive administrative rather than criminal sanctions (Hall and Pacula, forthcoming).

> *Complete prohibition*: legal systems that prohibit the supply of cannabis, impose criminal sanctions on individuals who possess or use any amount of cannabis or cannabis product.
>
> *Partial decriminalisation*: legal systems in which it remains illegal to produce or supply cannabis, but civil penalties are imposed for possession and/or use of specified quantities of cannabis.
>
> *Full decriminalisation*: legal systems in which the simple possession or use of any amount of cannabis is not a crime.

3.3   Formal cannabis policy in selected countries

<u>International level</u>

Cannabis extracts are classified as narcotic drugs under Schedules I and IV of the 1961 United Nations Single Convention on Narcotic Drugs (http://www.incb.org/e/conv/ 1961). The general obligations under the Single Convention limit the use and possession of drugs exclusively to medical and scientific purposes, and are reinforced by the 1988 United Nations Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (http://www.incb.org/e/conv/1988).

<u>National level</u>

Although cannabis is a classified narcotic drug placed under control by the United Nations and by all 15 EU Member States, the measures adopted to control it at national level vary considerably. This has resulted in a heterogeneous legal status of cannabis in different EU Member States. In some countries or regions certain forms of possession and consumption are tolerated, whereas other countries apply administrative sanctions or fines, and still others apply penal sanctions (www.emcdda.org).

Despite the different legal approaches towards cannabis, a common trend can be seen across the Member States in the implementation of lesser sanctions for cases of use and possession of small quantities of cannabis for personal use without aggravating circumstances. Fines, cautions, probation, exemption from punishment and counselling are favoured by most European justice systems (www.emcdda.org). Table 3.1 gives an overview of cannabis legislation and prosecution in selected countries.

Table 3.1: Legal status of cannabis in selected countries[4]

Country	Legislation	Level of prosecution	Notes
Australia	The responsibility for cannabis policy lies with the states and territories. As a consequence, policies differ among states.	The responsibility for enforcement of cannabis policy lies with the states and territories. The level of prosecution thus differs among states/territories.	
Austria	Cannabis-related offences are punishable by up to six months' imprisonment. If certain conditions are met, especially if the user is a 'first consumer', reports must be withdrawn in cases involving small quantities.		

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[4] Mainly based on www.emcdda.org; some updates and additions by RAND Europe.

Country	Legislation	Level of prosecution	Notes
Belgium	Under the new policy, marijuana possession and cultivation for personal use is decriminalised. However, the production and sale of large quantities of marijuana continues to be actively prosecuted.	Possession of one plant or up to 3 grams of marijuana will draw a warning and a fine of 15 to 25 Euros. A second offence within one year draws a fine of 26 to 50 Euros. A third offence within one year may be punished by up to a month in jail. The drug will be confiscated in all cases.	Smoking in the presence of minors, near schools or army barracks is considered a public nuisance, punishable by 3 months to a year in jail and/or a fine of 1,000 to 100,000 Euros.
Denmark	Cannabis-related offences (possession) are punishable by a fine or imprisonment for up two years.	For possession of small quantities of cannabis, the Chief Public Prosecutor recommends that the police should settle cases by dismissing the offender with a caution.	
Finland	Cannabis-related offences, such as use, possession or cultivation, are punishable by a fine or up to two years' imprisonment.		Finnish law includes the concept of a 'very dangerous drug', which refers to a narcotic drug that may cause death by overdose or serious damage to health. This definition is not normally applied to cannabis.
France	Cannabis-related offences, such as use, are punishable by a fine or imprisonment for up to one year.	Warnings are given the first time a person is caught using cannabis, if use is occasional and the circumstances do not justify prosecution.	
Germany	Cannabis-related offences are punishable by up to five years' imprisonment or a fine; punishment can be remitted in cases of 'insignificant quantities' for personal use.	The Constitutional Court states that even if penal provisions for the possession of cannabis are in line with the constitution, the Länder should waive prosecution in minor cases when possession of cannabis is for personal use. Each Land determined what it considers to be an insignificant quantity of cannabis.	Possession of a small quantity of all drugs is a criminal offence, but is not prosecuted or punished when: - there is no harm to third persons; - minors are not involved; - the substance is for personal use; or - the offence involves an 'insignificant quantity'.
Greece	Cannabis-related offences are punishable by up to five years' imprisonment, which the offender can exchange for compulsory treatment.		
Ireland	Cannabis-related offences (possession for personal use) are punishable by a fine on the 1st or 2nd conviction. From the 3rd offence onwards, the offender incurs prison sentences of up to 1 year (summary) or up to 3 years (on indictment).		

Country	Legislation	Level of prosecution	Notes
Italy	Cannabis-related offences are punishable by administrative sanctions from the 2nd offence onwards. For 1st offences of possession for personal use only a warning is given.		
Luxembourg	Cannabis-related offences are punishable by fine from €250 to €2500.	Using cannabis in front of a minor, a school or in the workplace can lead to prison sentences (from 8 days to 6 months).	
Netherlands	Sale, production and possession of up to 30g of cannabis are punishable by imprisonment for one month and/or a fine of €2270; for possession of more than 30g cannabis, the maximum penalties are four years' imprisonment for import or export, and two years for manufacture, transportation, sale, possession/storage.	Investigation and prosecution of possession of cannabis for personal use (up to 5g) have the lowest judicial priority; the sale of up to 5g of cannabis per transaction in 'coffee shops' is generally not investigated.	Guidelines specify the terms and conditions for sale of cannabis in coffee shops. The maximum stock allowed at any one time is 500g per coffee shop.
Portugal	Cannabis-related offences are decriminalised from July 2001.		Cannabis and other drugs are not differentiated under Portuguese law.
Spain	Cannabis-related offences, such as possession and use in public places, are punishable by administrative sanctions.		
Sweden	Cannabis-related offences, such as use, if judged minor, are punishable by imprisonment for up to six months or a fine.	Users are usually fined, which may be exchanged on a voluntary basis for counselling.	
Switzerland	Cannabis-related offences are punishable by a fine or imprison-ment (not under one year and up to 1 Mio Swiss Franks for sale and cultivation of large quantities). In the case of minor cases such as possession for personal use a judge may caution instead of prosecution.	Policies differ among cantons. In most cantons personal use is not prosecuted any more and sometimes cultivation and sale are tolerated.	Under the new law proposed by the Swiss government (in Parliament as of summer 2003) possession and use will not be punishable any more and cultivation and trade may be tolerated under certain conditions (discretionary prosecution).
United Kingdom	Cannabis-related offences are punishable by up to five years' imprisonment; police may caution instead of prosecuting, and courts may apply fines, probation or community service.	Where only small amounts are involved for personal use, the offence is often met by a fine.	In 2002, the Home Secretary announced to ask Parliament to downgrade cannabis to Class C by July 2003. Police powers of arrest, not normal for possession of Class C drugs, would be retained in cases of danger to public order or children.
United States	Legislatively, federal government determines cannabis policy.	Implementation and enforcement of policy resides primarily in the states.	

There are different levels of government involved in the formulation of formal cannabis policy. In the Netherlands, for example, the national government has adopted a series of measures to regulate coffee shops. However, local authorities have been given some freedom in the specification of these measures. Although national policy tolerates sales of cannabis to consumers in coffee shops, local authorities can decide to outlaw coffee shops altogether, if they wish (Korf *et al.*, 2001, p. 145).

In many other countries, especially countries with a federal structure, there is a substantial degree of freedom for the sub-national (the US states, the German Länder, the Australian states and territories, the Swiss Cantons, etc.) government bodies to formulate cannabis policies. In Australia, cannabis has been decriminalised in South Australia, the Australian Capital Territory (Canberra), and the Northern Territory, and the governments of Victoria and New South Wales are considering the step, while Western Australia has a tough, prohibitive stance. Formal cannabis policy is thus sometimes formulated at a regional level.

The above examples illustrate that it is important to keep in mind that cannabis policies at all levels of government could affect the prevalence of cannabis use and the related social consequences.

PART II: Results of the literature review

Chapter 4: Implementation of cannabis policy

The rationale behind prohibition of cannabis possession is that, ceteris paribus, the more stringent the policy, the larger the deterrent effect on cannabis use. However, this hypothesis hinges upon several assumptions regarding the ability of policy to change behaviour. The mere fact that an act is illicit may influence behaviour independently of the actual magnitude of the threat of punishment (MacCoun, 1993). However, typically it is the swiftness, certainty and severity of punishment that invokes a change in behaviour. Prohibitionist policies that are not enforced, therefore, are unlikely to have a major impact on individual behaviour and/or outcomes. Thus, if the formal policy regarding cannabis use differs considerably from its implementation with regard to these characteristics of punishment, then the outcomes of cannabis policy cannot be evaluated through analysis of formal policy differences.

Section 4.1 provides a simplified framework for the analysis of formal cannabis policy and cannabis policy as implemented, and discusses potential reasons for differences between formal and actual policy. In the following sections, Sections 4.2 to 4.5, we illustrate these differences between formal and actual cannabis by means of examples from various countries. The final section summarises the main conclusions of this chapter.

4.1   Framework for analysing the implementation of cannabis policy

Policymakers often have certain degrees of freedom for acting within the boundaries of a formal policy. Although they are formally mandated with this discretionary power, which allows them to formulate cannabis policy that is tuned to regional or local characteristics, their actions may cause the eventual implementation to deviate from the original formal policy. The same holds for police officers and prosecutors; in fact, the latter have a discretionary power by definition.

Policymakers and police officers can deviate from formal policy in different ways and for different reasons. Firstly, policymakers and police officers could act beyond the intent of the statutory policy. Depending on their personal or their organisation's agenda, they may either opt for a more punitive or a more permissive approach than the formal policy. Secondly, deviation from the formal regime could also stem from factors beyond the policymaker's control, for example, financial or capacity constraints. In this case, the policymaker intends to implement the formal policy, but cannot do so because of reasons beyond his or her control.

As a consequence, differences in the formal regime will not necessarily lead to differences in the threat of punishment. Pacula, Chriqui and King (2003) discuss three conditions in which a formal policy might not lead to a change in the threat of punishment: (1) the change in formal policy is not implemented by police, prosecutors and judges who are responsible for maintaining the threat of punishment; (2) the intent of the statutory policy is offset by other changes in enforcement; and (3) the public is unaware of the formal change in statutory policy.[5]

Figure 4.1: Stages of the cannabis policy process
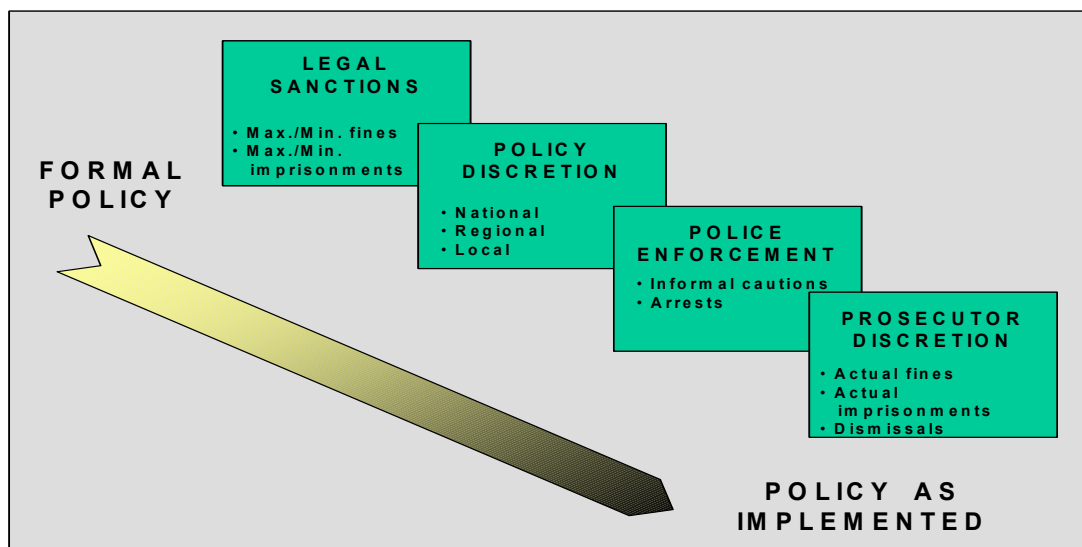
This chapter discusses literature that assessed the first two conditions, which might lead to a discrepancy between the formal cannabis policy regime and implementation. As indicated in Figure 4.1, four stages in the cannabis possession and use policy process can be identified. Every step could but does not necessarily lead to further deviation from the formal national policy. Although a more sophisticated model could be conceived, involving various aggregation levels and feedback loops (e.g. the implications of enforcement practice on formal policymaking), this simplified figure illustrates the stepwise deviation from formal policy.

In reality, it is not always easy to distinguish whether the actions of policymakers, police officers and prosecutors are in accordance with or deviate from the formal national policy. The following sections provide examples of discretionary power that is explicitly given to the organisations responsible for implementation of the formal policy as well as examples of agenda's beyond formal policy. The four steps, as described in Figure 4.1, will be discussed in the four subsequent sections.

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[5] Another possible explanation, not introduced by Pacula *et al.*, is that the perception of the regime change might be wrong.

4.2 Conversion of the formal policy into legal sanctions

Cannabis policy as implemented can deviate from the formal cannabis policy because there might be a discrepancy between the position of the government regarding cannabis possession and use and the way this position is translated in legal sanctions. The state-level in the US provides an excellent example of a situation in which the actual legal sanctions regarding cannabis possession and use are not necessarily in accordance with the formal position of a state. Pacula, Chriqui and King (2003) show that the statutory law in many so-called decriminalised states does not truly reflect a policy of decriminalisation. In the US, eleven states enacted legislation during the 1970s reducing the criminal sanctions associated with possession of small amounts of cannabis.[6] In the literature and policy debate, these eleven states are commonly referred to as "decriminalisation states".[7] The authors show that these states are not the most "decriminalised" in terms of legal position, i.e. decriminalisation is not necessarily reflected in lower maximum first offence fines and imprisonments for cannabis possession.

Strictly applying the definition of the 'National Commission on Marihuana and Drug Abuse' (1972), four of the so-called decriminalisation states have retained their initial cannabis offences as a criminal offence.[8] Alaska, California and North Carolina specify cannabis possession as a misdemeanour and Arizona specifies it as a felony. On the other hand, seven non-decriminalised states (Connecticut, Louisiana, Massachusetts, New Jersey, Vermont, Wisconsin, and West Virginia) also specify first time cannabis possession offence as non-criminal; they have either reduced the criminal status of cannabis through changing the statutory offence or through conditional discharge and expungement provisions.[9] An even larger number of non-decriminalised states have reduced the statutory penalties associated with cannabis possession offences. These findings imply that using the term "decriminalisation state" does not accurately indicate the formal cannabis policy of a state in the US. Therefore, an indicator for statutory decriminalisation, which is often used as a proxy for the stringency of the cannabis

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[6] Oregon (1973); Colorado, Alaska and Ohio (1975); California, Maine and Minnesota (1976); Mississippi, New York and North Carolina (1977); Nebraska (1978) (MacCoun and Reuter, 2001).
[7] With the addition of Arizona in 1996.
[8] Decriminalisation was defined as "those policies in which possession of marijuana for personal use or casual distribution of small amounts for no remuneration was not considered a criminal offence."
[9] A conditional discharge provision enables convicted offenders to choose participation in alternative diversion programs (e.g. community service, drug treatment, drug education, etc.) where, if the offender successfully completed the program, (s)he would be afforded the opportunity to have the original charges dismissed. Expungement is in essence removing the incident from the individual's criminal record, assuming that specific conditions are met (e.g. community service, probation, etc.).

regime in a certain state, is not an appropriate estimate of reduced criminality or penalties.[10]

4.3   Discretion for policymakers on different levels of government

The implementation of formal cannabis policy is often left to policymakers at national, regional and local levels. Usually, policymakers are given discretion to take decisions within the boundaries of the formal cannabis policy. However, they might sometimes use the freedom given to them to take decisions that are not in accordance with that policy. Hence it is important to know the role sub-national government levels play in order to truly understand a specific country's policy and its influences on outcomes. Because the specification of policy plans often occurs on sub-national government levels, one can often find differences within countries or regions. In this section, we discuss the Dutch coffee shop policy and the cannabis policy of the German Länder to illustrate discretion given to policymakers at local and regional level respectively; differences between formal national and sub-national cannabis policy are apparent in other countries as well.

The Netherlands serves as a good example to illustrate the difference between national and local policymaking within the framework set by the formal national policy. National cannabis policy is focused on the reduction of health and social risks related to cannabis use, which has led to cannabis decriminalisation in the 1970s. However, the mandate for coffee shop regulation is left primarily to the discretion of the local policymaker (De Kort and Cramer, 1999). During the 1990s local authorities developed unique local coffee shop policies, motivated by a public safety concern related to uncontrollability of the number of coffee shops. Local authorities started to receive worrying reports of nuisance on coffee shops and their clientele. Currently, local policy is characterised by 'balance and control' (Korf *et al.*, 2001). Since 1996, local authorities have the authority to decide whether to allow coffee shops in their area, and if so, how many, and how to regulate them. They may also close down such locations even if they do not violate the so-called AHOJ-G criteria[11]. This has resulted in the current situation, in which many local authorities do not allow coffee shops, while other local authorities limit their numbers or work with licensing systems (De Kort and Cramer, 1999; Korf, 2002).

To date, 400 of the 500 municipalities decided not to allow coffee shops at all. Bieleman *et al.* (1996) analysed the development of the number of coffee shops and concluded

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[10] Chapter 5 discusses several econometric studies that have used such a dichotomous indicator: equal to one in 'decriminalisation states' and zero in 'prohibition states'.

[11] AHOJ-G criteria are official national level guidelines for the toleration of coffee shops: no overt advertising, no hard drugs, no nuisance, no under-age clientele, and no large quantities. More detail is available in Korf *et al.* (2001).

that virtually all municipalities with populations less than 20,000 have selected a zero option, which does not allow the establishment of any coffee shops. On the other hand some larger towns (e.g. Purmerend: population 70,000; Hoofddorp: population 110,000 and Almere: population 140,000) have used their authority to either realise the establishment of a coffee shop within their municipal boundaries or increase the existing number of coffee shops to gain better control of cannabis supply. Doing so, these municipalities used their discretionary power to implement a liberal approach towards cannabis policy.

Since local governments have more 'latitude' than national governments for developing alternative forms of soft drug policy, De Kort and Cramer argue that the importance of this decentralised policy must not be underestimated. On a local level, people might have very different views on the subject of cannabis. Consequently, the increased influence of local governments on coffee shops has led to a wide variation of cannabis policies, not only with regard to coffee shops. This variety may well be working; Korf *et al.* (2001) analysed the local cannabis policy in 20 cities (4 large cities, 10 intermediate cities and 6 border cities) in the Netherlands. The 20 municipalities generally considered cannabis problems as being under control.

While Dutch cities have considerable authority to flesh out cannabis policy, Albrecht and Paoli (2001) argue that local German communities enjoy only limited autonomy in the field of drug policy and are merely restricted to the legal framework from both federal and Länder (state) level. Although drug laws are ratified by the federal parliament, they are enforced at state level. Federal bodies thus have limited opportunity to influence the implementation of criminal law at the state level. Implementation, therefore, varies considerably across different states. Although cannabis derivatives are still included in the most restrictive category of the list of controlled substances in the federal Act on Narcotics, the highest German judicial body concluded in 1994 that "the infringements of the basic rights of equal treatment and proportionality could be avoided by properly applying criminal drug laws and implementing consistent non-prosecution policies throughout Germany in cases involving the possession of small drug quantities for personal use" (Albrecht and Paoli, 2001). The authors claim, however, that this verdict has not given rise to a uniform non-prosecution policy of cannabis users in German states. Hesse, for example, has been one of the most liberal states and, aside from the mandatory non-prosecution for cases involving up to 6 grams of cannabis, it grants public prosecutors the discretion to dismiss the case if it involves up to 30 grams of cannabis for exclusive personal use. Although cannabis policy in Hesse reflects the dominant regime in most of the (former West) Northern Germany, Albrecht and Paoli claim that there are no grounds to assume that it represents the policies enforced in the rest of the country.

4.4   Police enforcement

Since the implementation of cannabis policy does not strictly follow formal policy, the number of people convicted of cannabis possession offences is not solely dependent on the prevalence of cannabis use and the stringency of policies. May *et al.* (2001, 2002) provide several reasons why police enforcement can also influence cannabis policy implementation that results in cannabis arrests: (1) the prioritisation of the police policy for action against cannabis; (2) police searches for non-drug offences may also result in drug arrests; and (3) arrests for cannabis possession may result from targeting other illicit drugs. Although police officers have considerable discretionary power within formal boundaries, the abovementioned factors may cause police enforcement to differ substantially from the intentions of the formal policy. Firstly, it appears that arrest rates seem to have increased internationally, while formal policies have generally become less strict. Secondly, regional police departments have different cannabis policies, causing regional differences in cannabis enforcement. This section discusses studies that have analysed police enforcement practices in several countries.

Arrests
Countries that have published statistics[12] on cannabis arrest rates show a clear trend: the numbers of arrests for cannabis possession increased considerably in the past decades; threefold in the US between 1970 and 1995 (Zimmer and Morgan, 1997, p. 41, based on FBI Uniform Crime Reports) and tenfold in England and Wales between 1974 and 1998 (May *et al.,* 2002, p. 3). According to May *et al.*, the growth in cannabis convictions in the UK is not due to an explicit change in formal national policy. Neither can this increase be exclusively contributed to the growth in cannabis use. They claim that more stringent police enforcement has resulted in increased arrest rates.

May *et al.* (2002) analysed 1,312 cannabis cases from the Policy National Computer (PNC) database for the year 2000 and interviewed 150 police officers in England and Wales. Their analysis illustrates the often informal approach of police officers when dealing with cannabis policy. Although no hard evidence is available, it is suggested that the most likely explanation for the rapid growth in possession offences is the increased use of the relatively new 'stop and search' by the police. The authors found that in practice most cannabis users were caught during 'stop and search', which allowed officers to search individuals without a concrete suspicion, as a by-product of other perceived offences. While the specific suspicion on which the search was based sometimes turned out to be unproven, cannabis was discovered in the process. It appeared that cannabis offences were a by-product of other arrests in 20% of the

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[12] Although not all countries can deliver statistics on the number of people who were arrested for cannabis possession or use. Crime statistics mostly deal with drug offences in general. Additionally, not every arrest or noticed offence will be registered by the police.

cannabis arrests, and in 75% of the cases cannabis arrests were due to the 'stop and search' policy. This implies that only 5% of the cannabis arrests was made purely on the basis of a concrete suspicion of cannabis possession.

Another variable influencing the arrest rate is the attitude of the police officer in question. Some individual officers developed an intended strategy or tactic to target cannabis possession. This can be attributed to the fact that some officers arrest more cannabis users than others: 11% of the officers who made any arrests for possession accounted for 37% of the arrests, and 3% of them accounted for 20% of the arrests.

Officers also reported that they use possession of cannabis as a 'door opener' to other offences. This tactic is often used to check on persistent offenders. May *et al.* (2002, (pp. vi-vii) show in their analysis of custody records that 8% the cannabis arrests led to the detection of other offences. However, in many cases this was by accident rather than intent, and the detected offences were almost all relatively minor.

In addition, professional aspiration can also play a part: officers who want to be promoted to the drug squad are more eager to arrest cannabis users (Nolin and Kenny 2002, p. 359). Similarly, May *et al.* mention that new officers are often encouraged to 'learn the ropes' by making arrests for a variety of offences, including cannabis possession offences.

May *et al.* used their case studies to assess to which extent there was discretion for informal action by police officers. However, the exact number of cannabis offences, which are dealt with informally, remains unknown. The results indicate that only a third of the police officers reported that they always arrest people possessing cannabis, while 69% report that they have dealt with cannabis informally at some point in their career. Many said to judge each situation on its merits.

As a final indication that police officers have extensive discretion for informal action for cannabis arrests, May *et al.* (p. 30) show that 58% of the total known possession offenders (69,377) in 1999 were cautioned by the police.[13] Hence, the remaining 42% were dealt with in court.

A recent study for the New Zealand House of Representatives (Health Committee, 2003, p. 34-35) shows that police arrests of cannabis users can stem from action beyond the boundaries set by formal policy. This study found that the police have the power to search for and seize controlled drugs without warrant, provided there is probable cause.

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[13] Excluding those who were acquitted and those against whom the police took no action.

This provision allows for situations where a warrant may not be able to be obtained quickly enough for the police to respond to offences (under the Misuse of Drugs Act). The provision was intended by Parliament to be used primarily for serious trafficking and supply offences, not for personal possession charges. Today those powers are used as part of routine activities or street patrols.

In Australia, decriminalisation actually led to more arrests. In 1987 the government of South Australia (SA) introduced the Cannabis Expiation Notice (CEN), under which the possession of small quantities of cannabis for personal use was decriminalised, while criminal penalties for commercial cultivation and trafficking of cannabis were increased. Adults coming to the attention of police for "simple cannabis offences" could be issued with a CEN. Offenders could avoid prosecution by paying the specified fee within 60 days of the issue. The CEN does not result in complete decriminalisation of personal cannabis use, as the possibility remains for offenders to receive criminal convictions if they do not pay the expiation fees on time. Introduction of the CEN was followed by an increase in the number of minor cannabis offences for which CENs were issued (Christie, 1999). The number of these offences increased from 6,231 in 1987/1988 to 17,425 in 1993/1994: an increase of 180%. This 'net widening' was not due to changes in patterns of cannabis use, but rather reflected the ease with which police could issue expiation notices (Bammer *et al.*, 2002; Christie, 1999). According to Christie (ibid) "it is likely to be related to changes in SA Police procedures relating to detecting minor cannabis offences, such that more operational police [officers] are available for this work, and the work involved in issuing a formal prosecution procedure must be undertaken." Furthermore, it was a shift away from the use of police discretion in giving offenders informal cautions, to a process of formally recording all minor offences.

Kilmer (2001) states that the number of cannabis arrests per capita and per officer give an indication of the stringency of cannabis policy enforcement. Although many countries have reduced the severity of sanctions for infringing cannabis possession laws, Kilmer signals a rise in the per capita number of cannabis possession arrests. A similar trend is observed for the number of cannabis arrests per police officer. Between 1990 and 1994 the number of arrests increased considerably in Austria, France, the United Kingdom (UK), and the US. Subsequently, he constitutes probabilities of being arrested for cannabis possession, showing a rough 2-3% chance of arrest in case of cannabis possession for the included countries[14], varying from 1.6% in France to 3.7% in the US. Nonetheless, the author concludes that "despite differences in the per capita number of cannabis users and police officers, the annual probability of being arrested for cannabis possession in the late 1990s was fairly similar for most countries." Although it is

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[14] Australia, Canada, France, Germany, Sweden, UK and the US.

questionable whether "criminalisation" as such solely depends on arrest rates, based on Kilmer's results, it may be suggested that formal criminalisation of cannabis possession rarely leads to actual criminalisation. Kilmer emphasises that his results should be interpreted with caution.[15]

<u>Regional differences</u>
The abovementioned studies show that increasing arrest rates do not necessarily reflect a more stringent formal policy, but are rather a reflection of police enforcement. The discrepancy between formal cannabis policy and actual implementation also becomes apparent from differences within countries or regions. Different policy districts apply different priorities, criteria, or measures to enforce cannabis policy. In England and Wales, for example, considerable regional differences were found between the percentage of those arrested for cannabis and those who were only cautioned by the police: in the studied police departments, caution rates ranged from 40% in Thames Valley to 72% in Avon and Somerset (May *et al.*, 2002). However, there is no simple interpretation for these data, since low arrest rates can either indicate low priority of the police or low prevalence of cannabis use. Nonetheless, several studies have tried to assess these differences.

For Germany, Böllinger (1997, p. 166-167) describes numerous differences in strategy and emphasis not only between different states of the federal union, but even between different regions or cities. Based on a quantitative survey by the Bremen Institute for Drug Research (BISDRO), he states that a citizen apprehended with 6 grams of cannabis in Bavaria can receive a prison term, while the police in Hesse or Schleswig-Holstein will let him go with 30 grams. Cannabis offences in the North of Germany have dropped during the nineties by 20% in six years, while they increased by 94,6% in Bavaria. Thus, within the boundaries of formal policy Schleswig-Holstein opts for a more punitive approach than Hesse. From the same research stemmed the observation that regional differences also apply to police practices regarding decriminalisation of the possession of cannabis; i.e. the probability that offenders will be arrested for possession of 5 grams of cannabis or more. This ratio ranged from 80% in the North to 7% in Bavaria (BISDRO, 1995).

Nolin and Kenny (2002, p. 354) have extensively analysed the trend of cannabis offences in Canada. Similar to countries discussed above, they report a gradual increasing number of registered offences for cannabis possession in the period 1977-1999, with a sharper increase in the nineties than in the preceding period. The authors

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[15] For several reasons: (1) 'arrest' may have different meanings in different places; (2) the prevalence studies used for the calculation differed in content and method; (3) for ratios to be truly comparable, one must assume that the frequency of cannabis use by past-year users and the share of people arrested more than once in a year were the same for each country.

raised serious concern with respect to the police discretion regarding drug-related possession charges, in particular cannabis possession cases. They reported an uneven application of drug legislation in the various Canadian provinces, even within the same province; the arrest rates for drug-related offences per 100,000 capita ranged from 806.1 in Nunavut to 173.1 in Newfoundland and Labrador.[16]

Vander Laenen (2001, p. 65) states that regional police departments in Belgium have considerable authority to interpret national drug policy. Belgian drug laws did, at the time of study, not distinguish between cannabis and other illegal substances. She reports that on the local level police officers do develop a cannabis policy separate from other illicit substances, whereas there is no separate cannabis policy on national and regional level.

Finally, it is worth noting that the implementation of cannabis policy enforcement may also differ between central and decentral police forces. Boekhout van Solinge (1996) notes that in France arrest practices of regional officers and the National Gendarme diverge considerably: the first will ignore cannabis use, with some local differences, while the latter applies the rule more strictly. The National Gendarme does not distinguish between cannabis and other illicit drugs and sees cannabis offences as a way to infiltrate into larger criminal networks.

4.5 Discretion of prosecutors

The previous section indicated that discretion of police officers varies. Once cannabis offenders are charged for an offence, prosecutors have the authority to determine the consequences when the offenders appear in court. Prosecutors might have extensive discretion in the punishment of cannabis-related offences, which can cause cannabis policy as implemented to deviate from the formal cannabis policy in those jurisdictions. Discrepancies can be revealed by the extent to which police charges lead to actual convictions and by the extent to which regional differences in prosecutions exist. Several authors have examined these phenomena.

Boekhout van Solinge (1996) analysed the French practice of prosecution and conviction for cannabis offences. His research is based upon various interviews with prosecutors. Although it may not be regarded as an evidence-based assessment of the policy practice in France, it serves as a good example of the discretion of prosecutors. He argues that, while the general assumption by legal authorities is that arrests for cannabis possession usually do not lead to incarceration, practice indicates that detection of cannabis possession may lead to a jail sentence. First, he shows that considerable deviations exist

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[16] Cannabis-related offences constitute almost 77% of all drug-related offences in Canada.

amongst the 180 district courts. In general, courts in larger cities are unlikely to prosecute the detection of cannabis use, while in smaller villages, where some judges do not distinguish between cannabis and other illicit drugs, prosecution or conviction can follow. In some districts, incarceration might even occur. A second factor that contributes to the probability of cannabis conviction, according to Boekhout van Solinge, is the number of offences per person: on first and second offence the prosecutors often dismiss the case, while after a third, prosecution will follow, generally resulting in a fine. Finally, French prosecutors make a distinction between cannabis use and possession, the first being dealt with through health laws, while the latter can be seen as possession for trade which is dealt with under criminal law. Unambiguous guidelines do not exist; however, regional differences occur. For instance, possession of 20 grams in Paris will be seen as a quantity for personal use, generally not leading to prosecution, while in Aisne it will be seen as trade stock, resulting in a fine or incarceration.

May *et al.* (2002) considered enforcement of cannabis policy in the UK and Wales in great detail. According to their study, British prosecutors deviated from charges by the police to some extent. Sixty percent of those sentenced were disposed from court with a fine. Only 20% of the total number of offenders that appeared in front of court were given discharges. Nonetheless, the authors indicate considerable regional variations in court disposals. Amongst the eight case study police forces, fine rates ranged from 42% (Avon and Somerset) to 70% (Metropolitan Police Service (MPS)). The rates of imprisonment appeared to vary as well, ranging from 2% (MPS) to 10% (Nottinghamshire). The database used by these researchers indicated that prosecutors have extensive discretion for judging conviction to individual circumstances as well, since very few people were imprisoned for possession of cannabis. In fact, only two cases involved first offences of simple cannabis possession. The authors claim that "it is hard to envisage the circumstance […] that justified the prison sentences for the two first offenders."

In the report of the Canadian Senate Special Committee on Illegal Drugs, Nolin and Kenny (2002, p. 373) discussed the discretion for informal enforcement of cannabis possession. The authors report that prosecution practices in Canada vary from one region to another, and refer to a document prepared by the *Comité permanent de lutte à la toxicomanie* (1999, pp. 11-13), which reviews police and judicial practices based on Québec statistics from 1985 to 1998. It notes that while there is a trend towards greater use of 'diversion', i.e. referral to treatment instead of a criminal sanction, in cannabis possession cases, it is far from being a standard practice and it varies considerably from one region to another.

Evidence for the informal application of cannabis policy enforcement also stems from a study by Erickson (2001), which indicates that Canadian judges order absolute or conditional discharges in a substantial proportion of the cases. In 1998, 43% of the cases were diverted, while the remaining 57% awaited disposition. Erickson claims that penalties seem to be imposed randomly and that there is "no correlation between sentence received and the type of person they were, or the case characteristics, charge and amount of drug" (Nolin and Kenny, 2002, p. 375).

Finally, various other researchers have found that formal cannabis policy deviates from the practice of prosecution of cannabis offenders. Böllinger (1997, pp. 166-7) indicates that in Germany it proved impossible to homogenise the practice of decriminalisation as had been imposed by the federal Constitutional Court in 1994. Albrecht *et al.* (2003)[17] mention in this regard that despite this ruling, German states have not yet been able to develop and implement a uniform policy of non-prosecution. Additionally, they state that "it must be considered, furthermore, that the public prosecutor has a monopoly in prosecuting criminal cases and selecting the cases which have to be brought to the criminal court. And although the German criminal system subscribes to the principle of legality, in terms of statutory powers and practical outcomes public prosecutors enjoy a relatively high degree of discretion, when they have to decide whether to prosecute a criminal case or to dismiss it." Böllinger, therefore, indicates both regional differences in court sentences and vertical differences between official declarations on the federal level and practical action on the state and city level.

Vander Laenen (2001, p. 65) finds that with regard to cannabis offences, Belgian prosecutors use pragmatic considerations in their verdicts as well. Although the Belgian law did, at the time of study, not distinguish cannabis from other illicit drugs, as far as the possession of cannabis products in small quantities for single and incidental personal use is concerned, the public prosecutor's departments usually drop the case. "However, in case of problematic use of both cannabis and other illicit drugs or (risk of) disturbance of the public order, the public prosecutor's departments opt for a transaction, (a conditional dismissal) or mediation."

In conclusion, several studies provide an indication of the extent to which prosecutors influence on the way in which cannabis policy is implemented. Table 4.1 provides an overview of the formal and informal enforcement practices of cannabis policy in EU Member States. For example, few judges seem to convict simple cannabis possession

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[17] Albrecht, H.J., L. Paoli (Max Planck Institute), R.L. Pacula (RAND; National Bureau of Economic Research), J. Chriqui (The MayaTech Corporation), R. MacCoun (University of California at Berkeley; RAND); and Prof. Dr. P. Reuter (University of Maryland; RAND), *Cannabis Non-Prosecution Policies in Germany* – Project Description (in progress), http://www.iuscrim.mpg.de/forsch/krim/albrecht3_e.html

offences, even if their formal drug laws do not distinguish between cannabis and other illicit drugs. Whereas offenders are more commonly punished with fines, incarceration for cannabis possession is not common in most countries. Furthermore, some studies indicate that considerable regional differences exist in cannabis convictions within certain countries. Unfortunately, we did not identify any studies that compare court practices in different countries. An international comparative study on court practices would be of crucial importance to gain more insight in cannabis policy as implemented.

Table 4.1: Enforcement of cannabis policy in European Union member states[18]

Member state	Formal penalties	Enforcement practice
Austria	Up to 6 months	Persons convicted of misdemeanours (which includes possession of small amounts) are often sentenced to pay fines and rarely punished with unsuspended prison sentences.
Belgium	Fine to 5 years	The legislation regarding possession of cannabis for personal use was revised in June 2003, and it is therefore impossible at this stage to discuss the degree to which this law is enforced. The formal penalty for possession of cannabis for personal use, without aggravating circumstances, is a fine of 15–25 Euro for the first offence. For repeat offences or in case of aggravating circumstances heavier sanctions apply.
Denmark	Fine to 2 years	In Denmark, possession of small quantities typically results in a warning.
Finland	Fine to 2 years	For those convicted of a drug offence in 1999, 71% were fined, 19% received prison offences, and 8% were given suspended sentences. Incarceration apparently concerns persons who have allegedly committed aggravated drug offences. It seems that the prosecutor decides not to press charges if the amount used (or possessed) is small.
France	Fine to 1 year	Apart from receiving treatment orders, arrested users may be released without charge, cautioned (most commonly), or prosecuted.
Germany	Fine to 5 years	In the practice of courts and public prosecutors nation-wide more than 90% of all criminal procedures with a maximum of 10 g are suspended. Differences exist among Länder.
Greece	Counselling to 5 years	Non-addicted users who are arrested for the first time are obliged to follow a counselling program. There have been cases where cannabis possession is punished more strictly than heroin because the latter causes addiction and those arrested were in need.

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[18] Situation as of beginning 2002

Ireland	Fine to 3 years	Consumption is not penalised, but possession is penalised with a fine. Offenders can be incarcerated for third offence.
Italy	Administrative sanctions	Offences involving cannabis use and small-scale dealing attract only an administrative fine. In some cases driver's licences may be suspended.
Luxembourg	Fine to 6 months	Using cannabis in front of a minor, a school, or in the workplace can lead to a prison sentence (eight days to six months).
Netherlands	Fine to 1 month	There is no arrest for possessing less than five grams.
Portugal	Fine/Counselling	It is the recreational drug users who are most likely to be fined. Addicts will be sent to detoxification or other health programs.
Spain	Administrative sanctions to fine	Possession of less than 50 grams is not penalised. Sometimes administrative fines are levied. Offenders receive an 'administrative cautionary notification'.
Sweden	Fine to 6 months	Users are usually fined, which may be exchanged for treatment.
United Kingdom	Caution to 5 years	Where only small amounts are involved for personal use, the offence is often met by a fine.

Source: Kilmer (2001, p. 113) and Rigter *et al.* (2003, p. 52). The information regarding Belgium is updated, based on: http://www.vad.be/wet/index.html.

4.6   Conclusions

It is important to recognise that the implementation of cannabis policies can deviate from the formal policy. The sections discussed the different aspects of policy making and implementation from the formal position a national government takes on policy regarding cannabis possession and use to the actual court convictions. The most important conclusions are summarised below.

There exist sometimes major discrepancies between the official position that a country or region takes on cannabis use and the relevant laws and regulations. The most notable example is the US where some states have decriminalised the possession of small amounts of cannabis, and other states have not. However, in practice, no clear distinction between the decriminalised and the other states can be made when looking at the legal sanctions regarding cannabis use. This has considerable implications for studies assessing the impact of "decriminalisation", which are discussed in Chapter 5.

In most countries, there has been a tendency towards a less stringent cannabis policy. However, in those countries where statistics are available (including France, the UK and the US), arrest rates for cannabis possession appeared to have considerably increased

in the past decades. Additionally, preliminary research suggests that the probabilities of being arrested for cannabis possession are similar in various countries, although the formal policies regarding cannabis differ significantly. More rigorous research is needed to gain an insight in the threat of being arrested for cannabis possession under different formal policies.

In many countries, regional or local governments have substantial authority to define cannabis policy. As a consequence, cannabis users encounter sub-national policies that might differ amongst regions or cities. Furthermore, larger cities dealing with problems accustomed to urban areas (drug nuisance, violence, crime) tend to be less stringent in the implementation of formal cannabis policy than more rural communities. In several countries, local authorities, police departments and regional courts differ considerably in their priorities regarding implementation and enforcement of cannabis policy.

Some studies indicated that cannabis arrests might give an erroneous estimate of actual cannabis enforcement. Police officers may use cannabis offences as 'door openers' to other offences and cannabis offences may be a by-product of standard (traffic) 'stop and search' procedures. Various other reasons are discussed to explain why arrest rates for cannabis offences are relatively high, while cannabis might have a low priority in police departments.

Chapter 5: Cannabis policy and prevalence

This chapter provides an overview of studies that have assessed the impact of drug policy on prevalence of cannabis use. 'Decriminalists' argue that strict cannabis policies have little or no effect on substance dependence or prevalence rates. Their opponents, however, stress the crucial importance of symbolic and real barriers to initiation of cannabis use to suggest that legalisation would produce substantial increases in these rates (Kleber, 1994). Section 5.1 provides a brief introduction to the concept of prevalence of cannabis use, and the methodologies used to measure the impact of policy on prevalence. Section 5.2 summarises previous literature reviews that have discussed the relationship between policy and prevalence. Section 5.3 and 5.4 respectively discuss the impact of formal cannabis policy and cannabis policy as implemented on prevalence of cannabis use. Finally, section 5.5 summarises the main results from the chapter.

5.1   Studying the impact of cannabis policy on prevalence

To study the impact of cannabis policy on cannabis use, several outcome indicators are of interest, namely the number of cannabis users, the frequency with which cannabis is used, and the age of first use. Cannabis policy can affect all of these outcomes. The current literature primarily focuses on the impact of policy on prevalence. The impact on the frequency of cannabis use is hardly studied. As this chapter reviews the existing literature on the impact of cannabis policy, we also primarily focus on prevalence of cannabis use.

> The three most widely used recall periods of cannabis use in drug surveys are:
> *Lifetime prevalence*: the percentage of respondents who have ever taken cannabis (LTP).
> *Last year prevalence*: the percentage of respondents who have used cannabis in the last 12 months (LYP).
> *Last month prevalence*: the percentage of respondents who have used cannabis in the last 30 days (LMP).

Currently, survey designs and instruments used in different countries to measure the prevalence of cannabis use are highly inconsistent. Interviewing techniques, types of questionnaires, question formulation, (age) target groups, geographical focus (urban, suburban or rural), sample sizes, and non-response documentation are not yet harmonised when collecting cross-national prevalence data. Therefore, the comparability of the prevalence rates is questionable at this moment. Several organisations (for example, the Pompidou Group, EMCDDA, and WHO-Europe) encourage harmonisation of data collection, but their guidelines for data collection are not (yet) followed by all EU-member states.

The EMCDDA annual report of 2002 gives an indication of the prevalence for cannabis use in all EU countries (noting the reservations enumerated in the preceding paragraph).

It concludes that "lifetime experience of cannabis is reported to range from 10% (Finland) to 30% (UK) of the whole adult population, with a substantial number of countries reporting figures of around 20% (Belgium, Germany, Spain, France, Ireland and the Netherlands)." It is beyond the scope of this literature review to collect and compare prevalence data. However, the literature review includes information on prevalence data as discussed in the accepted studies. To give an insight in the different types of studies that look at the impact of cannabis policy on prevalence data, we briefly discuss the different methodologies used to collect those data. The next sections give an overview of the results of the studies that have used those instruments to assess the impact of cannabis policy on prevalence.

In order to study the impact of cannabis policy on prevalence, researchers have conducted both longitudinal and cross-sectional analyses. Several countries have changed their formal policy with regard to penalties for possession of cannabis.

Longitudinal analyses that examine data on cannabis use before and after the policy change can infer the significance of the policy change on behaviour controlling for other factors that may have changed during the same time period. Thus far, the impact of decriminalisation on the prevalence of cannabis among youth and young adults has been studied most extensively. The policy changes in the Netherlands, Australia and some states in the US (e.g. Maryland) are useful case studies for such analyses.

A **cross-sectional** analysis of prevalence data for different policy regimes is an alternative method to assess the effect of the regime on cannabis use. Using this method, researchers rely on cross-regional (state/country) variation in policies to determine the influence of a particular type of policy on either individual marijuana use (employing micro-level household data) or a country's aggregate level of use (employing macro-level national data). Different studies operationalise cannabis policy in different ways; for example, some studies include a dichotomous indicator as a proxy for decriminalisation,[19] while others include actual penalties, including measures of fines and/or jail time. Numerous studies have employed cross-sectional analysis of decriminalisation policies within the US and Australia using micro-level data (e.g. Saffer and Chaloupka, 1995; Chaloupka, Grossman and Taurus, 1998; Chaloupka *et al.*, 1998; Pacula, 1998; Pacula, Chriqui and King, 2003; Cameron and Williams, 2000). Cross-sectional studies examining the effects of specific cannabis policies on use across nations generally employ macro-level data (e.g. MacCoun and Reuter, 1997; 2001a; 2001b), with the notable exception of Cohen and Kaal (2001).

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[19] A "dummy variable" set equal to one in those states where cannabis has been decriminalised and zero for "prohibition states".

The following sections discuss the results, implications and shortcomings of analyses, such as those described above, within and across several countries.

5.2   Previous literature reviews

Harrison *et al.* (1995) reviewed the then existing literature on the impact of drug policy in the US on prevalence of cannabis use. The authors report that "there does not appear to be any relationship or correlation between policy and prevalence." They indicate that the probability of being arrested for cannabis possession is much more a matter of demographics than it is of policy. Concern with formal sanctions or consequences account, at best, for a marginal share of the differences in rates of cannabis use. The authors of this review report several studies following the partial decriminalisation of cannabis use in 11 states between 1973 and 1978, which detect either little increase in use (e.g. Maloff, 1981) or virtually no effect on cannabis use (e.g. Johnston, O'Mally and Bachman, 1981; Saveland and Bray, 1981).

Other studies revealed that in Alaska, which repealed their laws in 1991 to introduce the most liberal cannabis regime in the US, adolescents showed higher rates of lifetime and annual prevalence than the US average, while their daily prevalence appeared to be lower (Trebach, 1987; Slaughter, 1988).

Other studies revealed that in Alaska, which had the most liberal cannabis regime in the US[20], cannabis use increased after de facto decriminalisation in the late 1970s (Segal, 1990). Adolescents showed higher rates of lifetime and annual prevalence than the US average, while their daily prevalence appeared to be lower (Trebach, 1987; Slaughter, 1988). Segal does not attribute this increase to the law but rather to changes in the social conditions.

Single, Christie and Ali (2000) mention various state-wide evaluation studies of the effect of decriminalisation in American states, such as Oregon (Drug abuse Council, 1974-1977), Maine (Maine Office of Alcoholism and Drug Abuse Prevention, 1979), Ohio (Spitzner, 1979) and California (Budman, 1988). All four state-wide evaluations of decriminalisation measures found modest increases in rates of self-reported use. Single, Christie and Ali mention that "the authors of all these studies chose to interpret the increases as insignificant, deeming the decriminalisation measures to be successful, although the very same data might well have been used to support the opposite conclusion."

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[20] Until it was repealed in 1991.

Various other studies (e.g. Saffer and Chaloupka, 1995; Pacula, 1998; Farelly *et al.*, 1999) provide overviews of prior studies on the effect of cannabis decriminalisation on cannabis participation. Most of these studies used samples of young people whose behaviour may not be representative for the overall population. The majority of the studies on the effect of cannabis decriminalisation found no effect of decriminalisation on cannabis use (e.g. Pacula, 1994; Thies and Register, 1993; DiNardo and Lemieux, 1992). However, a literature review by Model (1992) reported on a study that showed that decriminalisation might increase cannabis use.

Reuband (1998) presents an overview of factors that determine the demand for drugs. As a means to illustrate that the relation between drug policy and demand is not straightforward, he mentions that a study from the early 1970s in Germany shows that police intervention increased rather than decreased the willingness to continue drug use[21]. Fear factors did not seem to play a role (Reuband, 1994). Furthermore, he provides a review of studies on the changes in drug policy and their effects. Reuband also discusses earlier studies on the case of the Netherlands. After 'de facto' legalisation in the Netherlands, a decrease in drug use among the young cohorts occurred in the subsequent years, after which prevalence rates stabilised and increased in more recent years. Some authors interpreted the immediate decrease in use as a success of the Dutch policy (Trebach, 1987; Hoekstra, 1988; Engelsman, 1989), while others claimed that the following increase was due to the long-term effects of liberal policies (e.g. Korf, 1995). However, the Dutch proved not to be unique, since both trends - increase and decrease - could be observed in neighbouring countries and the US under different policies as well. Reuband concludes that policy may not be the decisive factor in determining the prevalence of cannabis use, but that socio-economic conditions and attitudes of the populations towards drugs and related areas might be more important.

Kilmer (2002) provides a comprehensive overview of literature on the relationship between cannabis possession laws and cannabis use. He distinguishes both cross-national and intra-national comparisons of cannabis policy regimes. Kilmer concludes that according to most studies, cannabis decriminalisation does not have a significant impact on cannabis use, and jurisdictions with more liberal possession laws do not necessarily have higher prevalence rates. He argues that the majority of the studies failed to assess the level of enforcement of cannabis policy.

However, in a forthcoming literature review, Hall and Pacula claim that these findings of a lack of impact of legal sanctions on patterns of use are not supported by some more

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[21] Although this study considered drugs in general the results mentioned here mostly apply to cannabis.

recent studies.[22] The authors conclude that "More recent studies use large nationally representative samples and sophisticated statistical models to control for individual propensities to use cannabis, differences in the monetary price of cannabis, unobserved differences in enforcement patterns that are constant over time, and other factors that are known to influence an individual's decision to use cannabis. When these additional confounding factors are controlled for, these studies show that the decision to use cannabis is affected by changes in the legal penalties for possession of cannabis although the rates of cannabis use among users are not. In other words, legal penalties appear to be more likely to deter some people from using cannabis than they are to reduce the amount consumed by existing users, ceteris paribus."

Finally, a recent review of three expert reports[23] (Maag, 2003) concludes that "no systematic relationship between drug policies and prevalence rates of cannabis use or illicit drug use in general can be detected" and goes on to recommend that "more empirical evidence is needed because policy changes and the implementation of decriminalisation measures have not been evaluated so far with a truly comprehensive research design".

5.3 Consequences of formal policy

The conceptual framework used for this analysis distinguishes formal policy and policy as implemented. Various studies have assessed the impact of a formal policy regime change. This section discusses the results from studies of formal cannabis policy in the US, the Netherlands, Australia and Italy.

<u>National studies</u>

United States. With few exceptions, the US system of cannabis prohibition has steadily become stricter since the 1920s and it is one of the world's most punitive regimes. The rationale behind American cannabis policy has been maximising deterrence through punishment and exclusion of cannabis users (Zimmer, 1997). Nonetheless, in the 1970s eleven states enacted legislation reducing the criminal sanctions associated with possession of small amounts of cannabis.[24] In the literature and policy debate, these

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[22] E.g. Cameron and Williams (2001); Pacula *et al.* (2003); Williams (2002).

[23] The reviewed reports are: Reuband, K.H., *Cannabiskonsum in Westeuropea unter dem Einfluss rechtlicher Rahmenbedingungen - Eine vergleichende Analyse epidemiologischer Befunde*, Swiss Federal Office of Public Health, 2001; Single, E. and P. Christie, *The consequence of cannabis decriminalization in Australia and the United States* , Swiss Federal Office of Public Health, 2001; and Solivetti, L.M., *Drug Use Criminalization v. Decriminalization: An Analysis in the Light of the Italian Experience*, Swiss Federal Office of Public Health, 2001.

[24] Oregon (1973); Colorado, Alasaka and Ohio (1975); California, Maine and Minnesota (1976); Mississippi, New York and North Carolina (1977); Nebraska (1978); (MacCoun and Reuter, 2001).

eleven states are commonly referred to as "decriminalisation states"[25] and they are usually grouped together in empirical analyses. Various studies have come to different conclusions regarding the impact of decriminalisation on cannabis use.[26] As discussed in Chapter 4, "decriminalised states are not uniquely identifiable based on statutory law as has been presumed by researchers over the past twenty years". This has implications for studies using a dichotomous indicator for decriminalisation as a measure for the stringency of the cannabis regime (e.g. Thies and Register, 1993; Pacula, 1998a, 1998b; Chaloupka *et al.*, 1998b; Saffer and Chaloupka, 1995), namely that using an indicator for statutory decriminalisation will not result in an appropriate estimate of reduced criminality or penalties. Therefore, the results of studies using the proxy for this purpose may essentially be discarded, for as much they are used to assess the impact of decriminalisation. Unfortunately, this is the case for most of the studies discussed below; the evidence, thus, is limited.

Saffer and Chaloupka (1995) estimated the effects of cannabis decriminalisation on the demand for cannabis, using a distribution function for cannabis demand with a dichotomous decriminalisation variable equal to one for 'decriminalised states' and equal to zero for 'prohibition states'.[27] The results provide empirical evidence that cannabis decriminalisation in 11 states between 1973 and 1978 increased the probability of annual cannabis 'participation' by about 6 to 7 percent and the monthly participation by about 4 to 5 percent. The authors used a pooled set of data from the 1988, 1990 and 1991 National Household Surveys on Drug Abuse. Since residence from institutional group quarters (i.e. prisons), non-institutional group quarters (i.e. college dormitories) and people without permanent residence (i.e. homeless) are excluded from these surveys, the results are likely to be more representative of casual drug use than of problematic drug use.[28]

Chaloupka, Grossman and Taurus (1998a) found that increased formal sanctions for the possession of cannabis had a negative and significant impact on youth cannabis use. Their results suggest that decriminalisation in all states caused the number of youths using cannabis in the past year to increase by 4 to 5%, whereas it appeared to have no effect on past month use. The magnitude of these estimates implies that very large increases in the monetary fines would be necessary to achieve meaningful reductions in use. For instance, doubling the fines for cannabis use would reduce overall youth cannabis use by about 1.5%. Finally, sanctions for the sale, manufacture or distribution

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[25] With the addition of Arizona in 1996.

[26] Most of these studies are published as part of the National Bureau of Economic Research working paper series.

[27] The authors analysed the effect of heroine and cocaine prices on the demand for these substances as well.

[28] This group constitutes less than 2% of the total population, which has a higher percentage of hard-core drug users than the excluded 98%.

of cannabis were found to have a positive, but generally insignificant impact on youth cannabis use.

Chaloupka *et al.* (1998b) examine the relationship between cannabis and tobacco use by youth. They use 8th, 10th and 12th graders from the 1992 until 1994 cross-sectional data in the *Monitoring the Future Project* (MTF). As an indicator for the legal costs of cannabis, they use a dichotomous variable set equal to one in those states that have decriminalised the possession of small amounts of cannabis. Additionally, measures were included regarding the median fine and jail time that can be imposed for the possession of an ounce of cannabis on the first offence, obtained from the *Sourcebook on Criminal Justice Statistics*. The authors find that jail sentences and fines did not have a statistically significant impact on the probability of cannabis use. However, Chaloupka *et al.* discovered that youths are more likely to use cannabis and to use it more frequently if they live in a decriminalised state. These results could imply that statutory prohibition does have a (small) deterring effect on cannabis use, whereas neither the introduction of higher fines nor longer jail terms actually decrease the probability of cannabis use. The authors did not include state fixed effects, because there was not enough variation within states over time to identify price/policy effects in this relatively short time period.

In a study analysing the relationship between the demands for alcohol and cannabis by youths, Pacula (1998a; 1998b) also used a dichotomous variable set equal to one for the cannabis decriminalisation in eleven states to assess its impact on price of and demand for cannabis by young adults. Although states that have decriminalised possession of cannabis have higher incidences of cannabis consumption, the significance of the 'decriminalised state' variable in the prevalence equation is marginal. In this study the 1984 wave of the National Longitudinal Survey of Youth was used to estimate the joint demand for both alcohol and cannabis using a sample of roughly 5,000 individuals.

Pacula, Chriqui and King (2003) find that youths living in decriminalised states are 2% more likely to use cannabis both in the past year and in the past month, although the finding with respect to annual use is not statistically significant at conventional levels. Thus, the policy of "decriminalisation" appears to have an impact, albeit small, on cannabis use, even though, as has been indicated in Chapter 4, it is not an indication of reduced criminality or penalties. The reason for this remains unclear to the researchers. They provide three possible explanations for their results: (1) this variable is not picking up differences in the willingness to enforce existing cannabis laws; (2) formal decriminalisation statutes may be an indicator of a larger social acceptance of cannabis use within the state; or (3) they may be an indicator of greater public knowledge (or advertisement) of the reduced penalties associated with possession of cannabis. Using

state-level penalty information for first offence cannabis possession offences for all states from 1989 through 1999, Pacula, Chriqui and King also examined the impact of penalties imposed with cannabis use on the demand for cannabis among high school students (n = 19,602). Their results suggest that an increase in statutorily imposed minimum jail time is associated with a mild reduction in annual cannabis prevalence and an even lesser reduction in monthly prevalence. The impact of higher maximum fines is slightly different; they are associated with reduced monthly prevalence and higher annual prevalence. However, the results for statutory fines do not appear to be statistically significant, which differs substantially from previous finding that have generally indicated a significant negative impact of statutory fines on cannabis possession (e.g. Chaloupka, Grossman and Taurus, 1998a).

The Netherlands. In contrast to the US, cannabis policy in the Netherlands has been focused on harm reduction and integration of cannabis users. Especially, since 1976 the Dutch adopted a formal policy of non-enforcement ('gedoogbeleid') for violations involving possession or sale of up to 30 grams of cannabis, which was reduced to 5 grams in 1996. Since 1976, the Dutch regime is often referred to as 'de facto' legalisation. Following the policy change, cannabis prevalence started to increase steadily. Some researchers have used this longitudinal trend as an indication of failing decriminalisation policy. However, since surveys reveal that prevalence trends in other European and non-European countries are similar to those in the Netherlands, several researchers have taken a closer look at Dutch policy and prevalence. Studying the impact of the 1976 'de facto' legalisation of cannabis (e.g. Korf, 1995; 2002; MacCoun and Reuter, 1997; 2001), the researchers conclude that the deciding factor for the change in cannabis use is not so much the statutory decriminalisation itself, as the form which actual decriminalisation takes.

MacCoun and Reuter (1997) have analysed the impact of the Dutch depenalisation and coffee shop policy since 1976. This study regards the cumulative effect of a range of formal and informal policies in the Netherlands, such as the 'quasi-formal' guidelines for coffee shop owners, which were described in Chapter 4. However, the researchers have not included specific policy practices (e.g. arrests or fines) as indicators of decriminalisation. MacCoun and Reuter conclude that Dutch prevalence rates are comparable to those of the US, but somewhat higher than those of its neighbours. Furthermore, they found "no evidence that the depenalisation component of the 1976 policy, per se, increased levels of cannabis use." Nonetheless, they put forward that subsequent growth in commercial access might have caused the steep increase in cannabis prevalence among youth. MacCoun and Reuter stress that: (1) the association may not be causal, since prevalence has also increased in other countries despite different policies; (2) Dutch use levels have remained below those of the US throughout

most of the twenty years following 1976; (3) the question is whether prevalence levels drop again after a recent development towards more aggressive enforcement of regulations.[29] The evidence for their conclusion that commercialisation increases prevalence is rather preliminary; it is, however, consistent with observations for substances as tobacco and alcohol. Although challenged by other researchers,[30] MacCoun and Reuter expand and update their 'commercialisation hypothesis' in later work (2001), which will be further discussed in Section 5.4. Nonetheless, their evidence on the effects of cannabis depenalisation in the Netherlands supports the hypothesis that removal of the prohibition against possession of small quantities of cannabis as such, does not increase prevalence of cannabis use.

The effects of a policy change introducing stricter criteria for coffee shops in 1995 were investigated by Korf, Woude, Benschop and Nabben (2001). The stricter criteria included a higher age limit (from 16 to 18 years) for admission to a coffee shop with the objective to reduce cannabis use among youth and the reduction of possession or sale limit of 30 to 5 grams with the aim to deter drug tourism. Nationwide school survey data revealed a break in the previous upward trend in current adolescent cannabis use after raising the age limit;[31] cannabis use stabilised. It is tempting to interpret the nationwide stabilisation in adolescent cannabis use as a result of raising the age limit. However, Korf (2002) suggests that this is not due to the policy change, since informal networks of friends and acquaintances have taken over the role of cannabis supplier from coffee shops. Thus, at the user level an apparent displacement of the cannabis market can be observed. Access to cannabis has not been reduced. Korf maintains that cannabis use rates evolve independently from drug policy and show a similar wave-like trend in many countries.

Australia. In April 1987 the government of South Australia (SA) introduced the CEN (see Section 4.4), which partly decriminalised personal cannabis possession. The Australian Capital Territory (ACT) followed the depenalisation in 1992 by setting a fine of up to hundred Australian Dollars for possession up to 25 gram.

McGeorge and Aitken (1997) assessed the policy change in the Australian Capital Territory by surveying 221 university students in the ACT and 246 university students in a state without a depenalisation scheme. Their results indicated similar lifetime cannabis prevalence rates in the two different states at approximately 53%. Furthermore, they were not able to prove that cannabis use patterns for the groups in 1992 and 1994 were

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[29] For example the reduction to a 5g limit in 1996 and government efforts to closedown coffee shops.
[30] Such as Abraham *et al.* (2001) and De Zwart and van Laar (2001).
[31] These data are derived from De Zwart, Monshouwer and Smit "Peilstationsonderzoek" (2000).

significantly different, which convinced the authors that depenalisation had no effect on use.

Several other studies analysed the effect of cannabis decriminalisation in SA on cannabis use.[32] Some studies assessed the significance of a longitudinal change in cannabis use following the CEN introduction, while others compared prevalence rates of SA with cross-sectional data of states with a more punitive cannabis regime. Donnelly, Hall and Christie (1998), for example, report that the adjusted prevalence rates of lifetime cannabis use in SA increased from 26 to 36 percent. Although the increase in SA was significantly larger than the average increase throughout all Australian states, the prohibition states of Tasmania and Victoria have rates of increase similar to SA. Furthermore, differences between the rate of increase in weekly cannabis use in SA and the rest of Australia appeared statistically insignificant. Additionally, the lifetime prevalence for young adults (14 to 29 year age group), the cohort with the highest prevalence rates, did not show a greater rate of change. Therefore, in conclusion, Donnelly *et al.* state that it is unlikely that the increase of lifetime prevalence is due to the Cannabis Expiation Scheme.

In a comparative study of minor cannabis offenders in South Australia (SA) and Western Australia (WA), which was chosen as an example of a total prohibition approach to minor cannabis offences, Ali *et al.* (1999) concluded that both the CEN scheme and the more punitive prohibition approach had little deterrent effect upon cannabis users. Offenders from both jurisdictions reported that an expiation notice or conviction had little or no impact on subsequent cannabis and other drug use, and most subjects reported that even if they were caught again, they would not stop using the drug. Over the five-year period (1991/92 – 1995/96), 24% of all CENs issued concerned repeat offenders.

Lenton (2000) compared decriminalised and prohibitionist states in Australia and showed that decriminalisation did not lead to higher rates of current cannabis use. He concluded that "it is now beyond reasonable doubt that applying criminal sanctions for minor cannabis offences does not deter cannabis use." Additionally, Bammer, Hall, Hamilton and Ali (2002) did not report an increase in use attributable to the introduction of the Cannabis Expiation Scheme; neither did it have a deterrent effect on continuing use.

Weatherburn and Jones (2001) designed a study to assess the influence of prohibition on young people from an entirely different perspective. The researchers interviewed 569 18-29 year-olds to assess the influence of prohibition on those who have never used

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[32] Most of which have been published by the National Drug Strategy - Monograph Series.

cannabis or who have not used it in the past 12 months. Albeit tentative, their results suggest that the illegal status of cannabis does act to limit its use. However, they claim that "the fear of arrest, fear of imprisonment, the cost of cannabis or its availability do not appear to exert much effect on the prevalence of cannabis use, although they may exert some restraining effect."

Cameron and Williams (2001) use data from the 1988, 1991, 1993, and 1995 National Drug Strategy Household Survey to estimate the impact of decriminalisation and marijuana prices on marijuana participation. They conclude that, controlling for other factors including unobservable state effects, the change in legal status did have an effect on marijuana participation rates in SA although the effect was transitory and was greatest for individuals over 30. In a follow-on working paper, Williams (2002) examines more carefully the policy of decriminalisation by including measures of decriminalisation status as well as other measures (see Section 5.4).

Italy. Italy was the first country to decriminalise the possession of illicit drugs for personal use. It changed its drug policy several times in recent decades: in 1975 it depenalised drugs, in 1990 repenalised them, and then depenalised them again in 1993. Therefore an historical evaluation of drug policy in Italy provides an opportunity to learn more about the effects of depenalisation.[33] According to Reuter and MacCoun (2001), the effect of these legal changes appeared hard to identify, since the number of charged offenders decreased considerably 2 years before the introduction of the 1990 law, and increased again 2 years prior to the 1993 redepenalisation. The authors also report that "cross-national comparisons fail to support the notion that drug laws influenced the Italian drug use [...]." Solivetti (2001) showed that the repressive sanctions of the 1950s failed to stem the spread of drug use in the 1960s, and that the reintroduction of sanctions on drug use in 1990 had no effect on drug use.

Cross-national studies

Based on the EMCDDA data, the Canadian Senate Special Committee on Illegal Drugs (2002) provided an overview of cross-national cannabis prevalence rates in different prohibitionist and liberal regimes (see Table 5.1). This table suggests that the policy approach has little effect on the lifetime prevalence rates, since prevalence in the prohibitionist US is considerably higher than in liberal Spain and the Netherlands.

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[33] The Italian experience does not solely concern cannabis, but all the major street drugs.

**Table 5.1. Cross-national comparison of prevalence rates
and formal policy regimes**

Country	Lifetime prevalence (15-69)	Policy approach
Sweden	13%	Prohibitionist
Canada	15%	Prohibitionist
Netherlands	19%	Liberal
Spain	20%	Liberal
USA	34%	Prohibitionist
Australia	38%	Liberal

Source: Senate Special Committee on Illegal Drugs, 2002, p. 7 [34]

The results of this analysis, however, are questionable, since, as indicated in section 5.1, drug prevalence surveys are subject to strong methodological inconsistencies. Rigorous cross-national comparisons are nearly non-existent. In their review of Dutch cannabis policy, MacCoun and Reuter (1997; 2001a; 2001b) make a first attempt for such comparison with prevalence rates in other countries. The authors report that prevalence rates in the Netherlands are about 5 percentage points higher than in their European neighbours (Sweden, Denmark, France, UK, and Finland) and identify a sharp and consistent lifetime prevalence increase in the Netherlands from 1984 to 1996, which seems to be only partly existent in other countries. As indicated above, MacCoun and Reuter use this evidence to suggest that legal or quasi-legal commercial sales of cannabis may produce significant increases in cannabis prevalence.

MacCoun and Reuter (2001a, 2001b) acknowledge that it is necessary to be cautious when interpreting these cross-national results. Comparisons between the Netherlands and its European neighbours and the US often suffer from the same weakness; i.e. they compare prevalence rates for an entire nation to rates in the largest city of another nation. Moreover, they recognise that surveys differ with respect to survey design, or other details that may bias inferences about relative cannabis prevalence. Abraham *et al.* (2001) criticise several aspects of the approach taken by MacCoun and Reuter. One of their main concerns is the comparison of different geographic regions; considering size, address density, variation of population and lifestyle, Amsterdam could be compared with San Francisco, for example, but not to New York City, or the US as a whole, they reason. Additionally, Abraham *et al.* claim that if MacCoun and Reuter had used data for Rotterdam instead of Amsterdam, their results would have been considerably different. The Trimbos Institute (1997) also challenges MacCoun and Reuter's interpretation that youth cannabis prevalence increase is due to coffee shop policy. It reasons that coffee shops are responsible for a mere one-third of the total cannabis distribution in the Netherlands. Furthermore, the increase in cannabis use

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[34] The Senate Special Committee on Illegal Drugs based this classification on INSERM (2001); MacCoun and Reuter (1997); Cohen et al. (2001); EMCDDA (2001); Kilmer (2002).

commenced several years prior to the rise in the number of coffee shops. Finally, the institute claims that soft drug use has increased in various western countries without a coffee shop policy, often having a more repressive regime.

Similarly, Korf (2002) reviews Dutch cannabis policy and prevalence rates and compares these with those in other countries. Korf questions MacCoun and Reuter's 'commercialisation hypothesis' by looking at trends of current use rather than lifetime prevalence. Whereas MacCoun and Reuter mainly use Nordic countries, Korf concludes that trends in the Netherlands are rather similar to those in Western European countries (e.g. England and Wales, and Germany), and Dutch data on cannabis use are not out of line with those from countries that did not decriminalise cannabis. Therefore, he maintains that cannabis use rates evolve independently from drug policy and show a similar wave-like trend in many countries.

Given the inconsistencies of existing prevalence surveys, Cohen and Kaal (2001) made a pioneering attempt to harmonise design and methodology of a cross-national survey. They compared three cities with very different cannabis policies: Amsterdam, San Francisco and Bremen. Not only did they regard lifetime, last year and last month prevalence in the population of 12 years and older as an indicator of cannabis use, but the results were also based on a random sample of users who used cannabis more than 25 times: experienced users. While user patterns and consequences (negative effects of cannabis use) of cannabis were very similar, lifetime, past-year and past-month use in the household population was highest for San Francisco (62%, 29%, and 15%, respectively), second highest for Amsterdam (35%, 12%, 8%), and lowest for Bremen (15%, 5%, 2%). Furthermore, it appeared that experienced users perceived similar availability of cannabis in the three cities. Despite the diverging regimes in Bremen, San Francisco and Amsterdam, the majority of the cannabis users claim to be able to obtain at least one gram of cannabis within a day.[35] It should be mentioned that for 99 percent of the cannabis users in Amsterdam it would take less than an hour to obtain this amount, whereas respectively only 44 percent and 24 percent in Bremen and San Francisco would succeed within this time frame. Although the authors do not discuss the cannabis policy regimes in the different cities, based on previous observations they conclude that "policy is not a key determining factor when it comes to usage patterns of experienced users".

Rigter *et al.* (2003) also report the perceived availability of cannabis as an indicator for the effect of cannabis policy. They claim that this criterion is dependent on both the required effort for cannabis purchase (e.g. distance to sale location) and the perceived

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[35] For an overview of cannabis policy regimes in Germany, The Netherlands and the United States, refer to section 3.3.

risk of arrest. The study shows that the perceived availability correlates positively with the number cannabis users in the 15-16 year cohort; the easier cannabis is perceived to be available, the higher the percentage of actual users. Although the authors realise that the cross-national comparison of this 'perceived availability' may be subject to biases, Rigter *et al.* report that the results could lead to the conclusion that decriminalisation causes cannabis use to increase. However, they show that the perceived availability in countries,[36] such as the Netherlands, Italy and Portugal is considerably lower than in the US where cannabis possession is prohibited. Similar to prevalence as a proxy for the effect of cannabis policy, this parameter is rather arbitrary, highly subjective and its determination in different countries is subject to inconsistencies and biases.

5.4   Consequences of policy implementation

Whereas Section 5.3 discussed the studies that assess the impact of formal cannabis policy on prevalence, this section addresses the impact of cannabis policies as implemented on prevalence of cannabis use. However, the literature does not seem to have rigorously and extensively considered the effects of cannabis enforcement. The few studies that made such an attempt are discussed in this section.

National studies

United States. Pacula (1998) studied the relation between legal risks and monetary costs on the one hand, and cannabis use by young adults on the other. She uses an additional variable to the dummy variable set equal to one in 'decriminalised' states, which is used by many other studies (e.g. Chaloupka *et al.*, 1998). Pacula also uses a relatively new but important proxy for the price of cannabis, "the ratio of common crimes (measured as burglary plus robbery) to the number of officers at the Metropolitan Statistical Area level."[37] This second variable, the number of crimes per officer, is an indicator of the relative enforcement risk of possessing or dealing cannabis. Since cannabis is produced relatively cheaply, Pacula reasons that the largest component of the monetary price of cannabis is determined by the risk premium bringing the drug to the market. The hypothesis is that a decrease in the number of crimes per officer increases the risk of getting caught selling cannabis. Hence, a higher enforcement risk will raise the price of cannabis, and reduce the quantity of cannabis consumed. The results of this study suggest that "Although lower monetary prices for marijuana[38], indicated by higher crime per officer ratios, only increase the prevalence of

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[36] Based on data from Hibell, B., Andersson, B., Bjarnason, T. *et al* (1999).

[37] Data were obtained from the Uniform Crime Reports published by the US Department of Justice.

[38] In the American literature the term 'marijuana' or 'marihuana' is more commonly used than 'cannabis', which is the preferred term in this report. Although slightly different, the terms marijuana/marihuana and cannabis can be regarded as synonyms in this report.

marijuana consumed, states that have decriminalised possession of marijuana have higher incidences of alcohol and marijuana consumption."

Farelly *et al*. (1999) explored the National Household Survey on Drug Abuse (NHSDA) to better understand how prices and policies affect the use of cannabis. The NHSDA is designed to provide data on the extent of drug use and abuse by the non-institutionalised civilian population age 12 and older in the US.[39] The authors included state cannabis law data on fines and jail terms for various quantities of cannabis possession for 1991-1994 and 1996, collected from state legal codebooks. They also gathered arrest information from the Uniform Crime Reports, which include the number of cannabis possession violations and total arrests at the county level. Since cannabis violations may simply be a function of increased use, Farelly *et al.* divided the number of possession arrests by the total number of arrests as a proxy for the enforcement effort. Their results suggest that "policies targeted at curbing marijuana use do not appear to influence marijuana use among youths." They also claim that adults (age 21-30), in comparison with their younger counterparts, are more responsive to both increased policy enforcement of cannabis laws and higher fines for cannabis possession. They reason that youth probably perceive the risk of being caught with cannabis and a following fine or jail term differently than adults. For adults, "a doubling of the current fines would decrease the probability of marijuana use by 0.8 percent."

A report by Reuter, Hirschfield and Davies (2001) explores the costs and consequences of the recent crackdown on cannabis use in the state of Maryland. Cannabis use has increased substantially among youth, whereas enforcement of cannabis law has become tougher. The chance that cannabis users are arrested has increased. "The available evidence, though it is not very strong, suggests that tougher enforcement has little effect on marijuana use, crime or public safety."

Australia. As discussed in previous sections, survey data on cannabis use did not report increasing rates in use due to the establishment of the CEN in 1987 in South Australia. Neither did the Cannabis Expiation scheme have a deterrent effect on continuing use (Bammer *et al.*, 2002). However, the CEN scheme in South Australia had a major unforeseen effect on the number of minor cannabis offence detection. The number of offences for which CENs were issued increased from 6,231 in 1987/1988 to 17,425 in 1993/1994 and dropped slightly in the subsequent two years to 16,321 in 1995/1996 (Christie, 1998). Several authors (e.g. Donnelly, Hall and Christie, 1995; Christie, 1998; Ali *et al.,* 1998; Single, Christie and Ali, 2000; Bammer *et al.* 2002) report that this 'net-

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[39] Roughly 1% of the US population is excluded from these surveys. As with the survey used by Saffer and Chaloupka (1995), these data may underestimate the drug use of the total population.

widening' was not due to changes in patterns of cannabis use, but that it rather reflected the ease with which police could issue expiation notices (see Section 4.3).

Similar to the abovementioned studies, Ali *et al*. (1998, pp. 44) found that in regions giving on-the-spot fines to cannabis users rather than more severe criminal penalties, no increased cannabis use was observed.

Following the study which solely focused on statutory decriminalisation (Cameron and Williams, 2001), Williams (2002) uses the 1988, 1991, 1993, 1995 and 1998 NDSHA and examines more carefully the policy of decriminalisation by including measures of decriminalisation status as well as fines, incarceration rates and price. She estimates a variety of specifications of cannabis demand and finds that the impact of decriminalisation is sensitive to the model estimated as well as the inclusion of fine and incarceration data. She concludes, looking at evidence across her models, that criminal sanctions do have a significant deterrent effect on the decision to use cannabis but no effect on the level of use once one has decided to use.

The Netherlands. MacCoun and Reuter's 'commercialisation hypothesis' may be regarded as an assessment of the impact of a specific (informal) policy implementation. According to their analogy, the increase in prevalence of cannabis users from 1984 to 1992 coincides with the promotion of cannabis by coffee shop owners. Therefore they state that "the Dutch experience suggests that commercial promotion and sales may significantly increase cannabis prevalence". The authors do not, however, specify proxies for commercialisation, which would be required to accurately test their hypothesis; so far, literature lacks a clear definition of 'commercialisation' and its measurability.

Korf (1995) concludes that "the coffee shops increase the chance that people in their twenties and thirties start using cannabis or, more so, continue to use it." Although several studies attempt to correlate cannabis prevalence to the number of coffee shops, the authors of this report could not identify high quality studies that establish that relation.

Other countries. Schmid (2001) uses data from a Swiss survey of Health Behaviour in School-aged Children (HBSC) to assess drug use in a nationally representative sample of 3,473 15-year-olds, who reported on their cannabis use. Schmid examined the relationship between cannabis use and repressive policy and used officially recorded offences of cannabis use in the cantons as an indicator of policy implementation. The analysis controlled for population density in the 26 Swiss Cantons as an indicator of urbanisation and attributions of drug use to friends. Schmid did not find a relationship

between recorded offences and cannabis use, while cannabis use appeared to be highly correlated with attribution to friends. The correlation was even more pronounced in urban cantons. These results suggest that individual behaviour is influenced by structural variables rather than law enforcement; repressive policy does not seem to effect individual cannabis use, while living in an urban area affects the attribution of drug use to friends.

In the report of the Canadian Senate Special Committee on Illegal Drugs, Nolin and Kenny (2002) mention two studies that discuss the issue of deterrence. La Comité permanent de lutte à la toxicomanie (1999) noted that 92% of the convicted cannabis users were still users one year later. The study noted that the severity of the penalty was not relevant in deciding whether to use cannabis in the future. Erickson (2000) came to the same conclusion.

Cross-national studies

The current literature lacks a rigorous cross-national analysis of cannabis policy enforcement and the consequences for prevalence of cannabis use. As discussed in Chapter 4, Kilmer (2001) made a first attempt to assess the probability of arrest in various countries and related it to cannabis prevalence in these countries. His preliminary results indicate that the risk of cannabis users to be arrested for cannabis possession is fairly similar (2-3%) both in countries with relatively high and low prevalence rates. He concluded that formal criminalisation of cannabis possession in practice rarely leads to criminalisation. Therefore, Korf (2002) thinks it is plausible that current formal cannabis laws in EU member states, as well as other Western countries, hardly have a deterring effect on cannabis use.

5.5 Conclusions

Existing research does not provide strong evidence of a relationship between the stringency of formal cannabis policy and the prevalence of cannabis use. Some studies indicate a small increase in cannabis consumption after decriminalisation of cannabis offences, although the correlations usually appear to be insignificantly small. The underlying rationale of criminalisation of cannabis possession is the deterrence of cannabis use. However, since prevalence rates follow a similar trend in different countries with contradictory regimes, the current literature suggests that the deterrent effect of cannabis policies is limited. There might thus be other factors that affect cannabis use, which are currently being unaccounted for in cross-national studies.[40] More

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[40] For example, availability of cannabis internationally, the cost of cannabis, the overall economy (which impacts disposable income), heterogeneity in the enforcement of specific policies which makes policies more alike or dislike, etc.

research is needed to better understand the role of these factors before the results of cross-national studies on prevalence of cannabis consumption can be put into perspective.

Although little is known about the driving forces behind cannabis prevalence trends, some researchers suggest that the commercialisation of the cannabis market might be an important factor. Others however stress the importance of contextual factors, such as lifestyle and urban versus rural areas. Again others suggest that the driving factor behind longitudinal prevalence trends could be the availability of cannabis. However, thus far none of these hypotheses have been proven and gaps remain in the knowledge concerning the deterrent effects of sanctions on prevalence of cannabis use.

In most of the studies that conclude that there is no effect of cannabis policy on individuals' behaviour, the study sample consists of youths or young adults. The very few studies that did identify an impact on prevalence of cannabis use were mainly targeted at adults (e.g. Farelly *et al.,* 1999). This could suggest that policies aimed at curbing cannabis use do not influence use among youth, but that adult behaviour is more sensitive to such policies.

Although many longitudinal and cross-sectional studies on the relationship between formal cannabis policy and prevalence of cannabis use have been conducted, hardly any of these studies includes information regarding the implementation of the actual policy. However, to do a rigorous policy impact analysis of the outcomes of cannabis policy, this dimension is of crucial importance. Based on our literature review it can be concluded that there is a huge information gap regarding the impact of cannabis policy as implemented and the prevalence of cannabis use. The shortage of high quality and complete criminal justice data may be one of the main reasons for this.

Chapter 6: Cannabis policy and social consequences

6.1   An overview of potential social consequences

As the analytical framework in Chapter 1 suggests, cannabis policy could not only affect the prevalence of cannabis use, but could also have consequences for those using cannabis and for society as a whole. In this chapter, we discuss what is known about the number of people affected by cannabis policy, the social consequences for cannabis users, and the implications for society as a whole.

Potential consequences for cannabis users:

Responses from the criminal justice system:
- Arrest or citation
- Criminal record
- Fine
- Diversion to treatment and/or community service
- Losing driver's license
- Probation
- Imprisonment

Effects of being known as a cannabis user:
- Accommodation (losing current housing or difficulty getting new housing)
- Employment (losing current job or barrier for applying for new job)
- Education (no admission or expulsion)
- Relationships
- Future responses from criminal justice (stop and search, future convictions)
- Travel (crossing border)

Potential consequences for society as a whole:

- Expenses of law enforcement
- Perceived legitimacy of law enforcement
- Marginalisation of vulnerable groups through selective law enforcement
- Public nuisance caused by cannabis use
- Associated crime (violent black market)

The above list gives an overview of potential social consequences for cannabis users and for society as a whole. Only some of these consequences have, thus far, been studied and therefore reviewed in this chapter. Before describing the possible consequences cannabis offenders encounter, an estimate will be made in Section 6.2 of the number of people who actually experienced an arrest and what they were arrested for. Section 6.3 describes how an arrest is dealt with by the criminal justice system, i.e. whether the cannabis offence leads to a fine, probation, criminal record, imprisonment, etc. Section 6.4 deals with the effects a registered offence can have on employment, housing and relationships and what kinds of other policy measures are triggered from outside the criminal justice system. Sections 6.5 and 6.6 describe the wider societal implications of

cannabis policy: the legitimacy of law enforcement and the costs for non-users. In Section 6.7 the most important findings of this chapter are summarised.

6.2   Defining the population of cannabis offenders

The current literature does not provide an estimate of the total population of cannabis users that is affected by cannabis policy. However, studying arrest rates might give an indication of the size of this population. Information on arrest rates can be retrieved from national crime statistics. As countries do not collect these data in a uniform way, they cannot be added up to reach a total number, and it is difficult to compare countries.

A first source to give an estimate of the annual population of cannabis offenders is the EMCDDA database.[41] Caution is needed when comparing these numbers, as these arrests 'involved' cannabis, which means they may also involve other offences. In addition, countries differ in their definition of an arrest. Some register the number of cannabis offences, while others register the number of persons arrested or the number of arrests. Furthermore, the EMCDDA numbers are not broken down into possession and trade offences that separates cannabis users from dealers. A final difficulty is that these countries describe different years. Therefore, the countries cannot be compared. Nevertheless, the numbers can give an impression of how many people actually did experience the consequences of cannabis policy.

The EMCDDA numbers refer to cannabis offences in general, including possession and trade. Some sources do distinguish between cannabis arrest for possession and other cannabis arrests. For example, Boekhout van Solinge (1996) calculated that in France approximately 80% of cannabis arrests were for possession. May *et al.* (2002, p.3) calculated the percentage of cannabis possession offences compared to all drug offences in England and Wales (1999) to be 69%.

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[41] This database (www.emcdda.org) provides annual drug arrest rates and the percentages of arrests involving cannabis for a given year. Multiplying these two can give an indication of the total number of people arrested in Europe for a cannabis offence.

**Table 6.1: Data on cannabis offenders
in selected European countries**

	Country	Arrest per 1000 capita[42]	Absolute #	Year
Offences	Germany	1.63	134,401	2000
	Spain	1.61	64,924	2000
	Austria	1.46	11,963	2000
	Ireland	1.23	4,833	2000
Persons	UK	1.20	72,029	2000
	Italy	0.26	15,102	2000
	Belgium	1.24	12,733	2000
	Sweden	0.43	3,858	1999
	Finland	0.63	3,297	1997
Arrests	France	1.42	85,740	2000
Charges	Greece	0.75	8,010	1998

Source: www.emcdda.org

Statistics also exist for the US, Canada, Australia and New Zealand. These are based on police files, which distinguish between arrests for minor cannabis offences (use or possession of small amounts) and other cannabis arrests (trade, trafficking and cultivation).

- Canada: 71,624 cannabis related offences in 2001, of which about 70% were for possession (Nolin and Kenny, 2002, p. 354).
- United States: 588,963 arrests for possession of cannabis in 1995. Arrest for possession is generally between 80 and 85% for the last three decades (Zimmer and Morgan, 1997, p. 41) and highest in 1997: 87% (Thomas, 1998).
- Australia: 47,000 offences reported by the police for possession and use in 1994. If person-scale cultivation and possession or cannabis smoking equipment are added, the number of recorded offences reaches 61,000. This amounts to 83% of all cannabis arrests in 1994 (McDonalds and Atkinson, 1995, p. 16). According to the Australian Institute for Criminology, 85% of all cannabis arrests in 1999-2000 were users; the rest is registered as 'suppliers'.[43]
- New Zealand: National Crime Statistics from the New Zealand Police indicate there were 21,604 reported cannabis offences for the year 2001. More than 80% are for use or possession.[44]

These figures suggest that the majority of people arrested and registered for a cannabis offence consists of users. In this context a user is defined as someone who is caught by

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[42] Arrests per 1000 capita = the absolute number of arrests made per 1000 inhabitants. The population numbers are retrieved from the World Factbook: http://www.cia.gov/cia/publications/factbook/index.html.
[43] http://www.aic.gov.au/publications/facts/2001/sec8.html
[44] http://www.stats.govt.nz/

a police officer in the act of using cannabis or who is arrested for the possession of such a small amount, that it is reasonable for the police officer to assume that this amount is merely for personal use and not for trade. The countries that specify crime statistics show comparable proportions of arrests for cannabis use, about 80% of the total cannabis-related arrests.

6.3   Punishment for cannabis convicts

Few countries supply statistics on what happens to the population of cannabis users who are arrested, but some examples can be given. Again, large differences occur, not only among countries but also among regions within a country. One of the most extensive European studies on what happens after a cannabis arrest was conducted in England and Wales by May *et al.* (2002, p. 30-31). Of 76,769 recorded cannabis possession offences in 1999, about 90% were either cautioned or convicted of possession of cannabis. The remaining 10% were not identified or readily dismissed. Of the 90%, most received a caution (58%) or a fine (25%). Incarceration is rare: 2% were taken into custody, and most of these people were involved in other offences as well. These figures need to be corrected for the kind of offence cannabis users were arrested for. The punishment depended heavily on the number of offences and possible other offences involved. For example: 93% of first offenders who were arrested for simple possession were cautioned, while almost none of those with both concurrent and previous convictions were. Only six people were imprisoned for simple cannabis possession and only two of them were first offenders (May *et al*., 2002, p. 30-31). This shows that in England and Wales people are normally not sent to prison for cannabis use only, but warned or fined.

In some countries outside Europe, more is known about what happens after a cannabis arrest. Nolin and Kenny (2002, p. 374-375), for example, provide information on some Canadian provinces. In Quebec, for example, a trend towards diversion in recent cannabis possession cases can be noticed, especially in cases of minors. For adults the most common penalties for cannabis possession were fines and probation. Detention occurs very rarely. For minors the most common punishment consisted of community work or probation. Data from Montreal show a different picture. In 1998, the incarceration rate was 13.8% of all cannabis possession sentences, consisting of 1 day in 50% of the cases and none being more than 10 days. The average fine for possession equals 186 Canadian dollars. In both studies, 43% of the cases were diverted and the rest were awaiting disposition (Nolin and Kenny, 2002, p. 374-375).

In the US, ten states give a fine for possession of small amounts of cannabis, i.e. less than an ounce (28,45 grams). Although probation and fines are most often given, in some states, incarceration can occur especially if the person is a repeat offender. In

Texas, for example, 33% of those convicted of cannabis possession were sent to prison. In states like Georgia and California, half of the people in prison for cannabis offences were convicted of possession only. What is not clear from these statistics is the extent to which these individuals were repeat offenders or involved extenuating circumstances (e.g. possession near a school, in a car, etc). Under the Californian 'three strikes law', for example, many people have been sent to prison for possession of cannabis simply because it was their third criminal offence, but exact numbers are unknown (Zimmer and Morgan, 1997, p. 42-43).

Thomas (1998) made an attempt to calculate the total number of imprisonments for cannabis possession in the US. According to the FBI's uniform crime reports 695,201 cannabis arrests took place in 1997. Of these arrests, 87.2% were for possession (606,215), not sale or manufacture. In that year, 4,610 offenders were imprisoned in federal jails, with an average sentence of 3.25 years. Subsequently, Thomas estimates the total number of people incarcerated in federal prison for cannabis offences to be 15,668 in 1997. For state prison and local jails his educated guess is 21,000. He proceeds with estimating the total number of incarcerated for mere possession of cannabis to be several thousands (5,474 in state prison and 1,197 in local jails) (Thomas, 1998). It needs to be stressed that these data are estimates, because some ratios used come from general drug statistics and not from specific cannabis statistics.

In New Zealand, there were 9,399 prosecutions for the use of cannabis in 1999; 6,761 of these resulted in convictions, and 52 custodial sentences were imposed. The most common sentence for the use of cannabis was a fine (70%). Periodic detention was imposed in 15% of cases and community service in 6%. The use of police diversion rather than a criminal conviction was rare (3%) (Health Committee, 2003, p. 32).

6.4   Criminalised cannabis users and the community

Criminalisation of cannabis use might have consequences for cannabis users in addition to punishment by the criminal justice system. In most cases, possible consequences can be attributed to the fact of having a criminal record, such as potential effects on employment, housing, travel and relationships. Also, a person's prior conviction may influence police officers to lay charges where they might otherwise have used their discretion not to. Finally, a criminal record can also lead a judge to impose more severe sentences. Aside from the effects of a criminal record, countries such as the US have civil sanctions for those who are registered as a cannabis user.

One of the most visible consequences of a cannabis possession conviction is a criminal record. Lenton *et al.* (1998) have studied its possible effects for cannabis users in

Australia. They compared two groups of cannabis users who were arrested less than 10 years ago for a minor cannabis offence: 68 South Australians who had received a Cannabis Expiation Notice (CEN) and 68 West Australians who received a criminal record.[45] The study showed significant differences between the two groups. West Australians, who received a criminal record, were more likely to report negative consequences for employment (getting a new job or losing their current job), relationships (family disputes or losing relationships) and accommodation (losing work or home accommodation or difficulty in getting a new one). These effects could be attributed to the fact that the West Australians were more likely to be arrested on private dwelling or property, which could have influenced the consequences for relationships and accommodation. But aside from that, no intervening variables could be detected.

Figure 6.1: Negative consequences of a conviction for cannabis use

Source: Lenton *et al.*, 1998.

The East Australians only received a notice for their cannabis offence, not a criminal record and therefore did not experience any of the consequences linked to it. Almost a third of the West Australians claimed their criminal record affected their employment chances as they did not get a job they applied for (19%), had been fired from at least one job (16%) or had stopped applying for jobs where they probably would be asked whether they had a criminal record (9%)[46] (Lenton *et al.,* 1998). This criminalising effect on the West Australians also became apparent as they were drawn more often

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[45] For description of the CEN Scheme, refer to Chapter 3 and 4.
[46] These percentages add up to more than 33% as some experience multiple consequences.

into the criminal justice system. After receiving a criminal record, 19% experienced further police enquiries, 13% being found guilty of a non-cannabis related offence and 9% for another minor cannabis offence. Lenton *et al.* (1998) claim that this may be a result of the computer access to offenders' records.

British respondents in May *et al.* (2002, p.33) also perceived the criminal record as a turning point. First offenders mostly reported that their arrest for possession did have little effect on their lives. But what they did fear was getting a criminal record if they would be caught again, especially the consequences for their chances of finding a job. Another common effect was the impact it would have on their family relationship. Still, it did not affect their cannabis use.

Aside from the effects of a criminal record, Zimmer and Morgan (1997, p. 45-46) show that cannabis users can encounter other consequences too, once they are known as a user. In the US, for example, civil sanctions for cannabis use can be imposed by businesses, schools and social service agencies. Exact numbers on the extent to which this occurs are not available, but some examples can be given. A first example comes from the workplace, where urine-testing programs are sometimes implemented. Job applicants who test positive for drug use are usually denied employment. Current workers who test positive may be fired, even if there is no evidence of drug use at work or impaired performance. These measures are for drug use in general, but cannabis is often the drug detected.

Secondly, schools can also monitor students for drug use and can exclude those who test positive from extracurricular activities or even suspend them from school. The New York Times, for example, reported on 29th December 2001 that 43,436 of 9.8 million applicants for student aid in the US for the 2001-2002 school year were rejected for all or part of the year or risked automatic denial because of drug use.

A third example of possible consequences of a cannabis offence in the US is related to the "One Strike and You're Out" law (enacted by Congress in 1996, P.L. 104-120, Sec. 9). This law allows federal housing authorities to consider drug and alcohol abuse and convictions by people and their family members when making decisions to evict them from or deny access to federally subsidised housing. Although this law emphasises rehabilitation and treatment, it is often 'less reasonably applied, leading to additional hardship for the families of drug offenders' (Iguchi *et al.*, 2002, p. 148).

Finally, cannabis users can lose their driver's licence when tested positive for cannabis use. In the US, more than half the states have enacted the 'possess a joint, lose your license' laws. Driving licenses are withdrawn even if the user was not intoxicated during

driving (Zimmer and Morgan, 1997, p. 44). This practice occurs in Europe too, for example in Italy and Germany. According to German law it is punishable to drive while intoxicated and thereby endangering other persons or their possession respectively to being unfit to drive because of intoxication. In some cases, proof of use is sufficient, even if proof of inability to drive is lacking. Based on a 1985 survey which pointed out possible 'flash backs' after cannabis use, judges decide to take the driver's license of users (BISDRO, 1995; Bieniek, 1997).

These effects of cannabis criminalisation might occur apart from the punishment received from the criminal justice system, but to what extent is so far unknown. This has consequences for the estimate of the population that is affected by cannabis policy. On the one hand, the population could in reality be smaller, as not all people in the estimated population of cannabis arrestees will receive a criminal record. On the other hand, the population could be larger than the estimate, as some sanctions can occur even without arrest. These are areas where more research is needed.

6.5   Cannabis use and the legitimacy of law enforcement

Criminalisation of cannabis use also affects the relationship between police officers and the public. It influences the legitimacy of law enforcement in two ways. First, a number of people will see punishment for cannabis use as unfair, which negatively influences their respect for law enforcement (e.g. May *et al.,* 2002, p.36). Secondly, cannabis laws can be selectively enforced by police officers who single out certain groups for cannabis control. Some group characteristics will correlate with cannabis use, making this selective search effective, while other group characteristics will not, putting an unfair risk of arrest on already marginalised groups such as ethnic minorities (e.g. May *et al.,* 2002; Zimmer and Morgan, 1997*)*.

In New Zealand, the Health Committee (2003, p. 35) indicated that the frequency with which the police are invoking its power to search for and seize controlled drugs without warrant (see Section 4.4) appears to be increasing. In 2001, there were 4,994 searches without warrant, compared with 3,870 in 2000, 3,517 in 1996, and 2,026 in 1992. In 2001, 83% of these cases were related to cannabis offences. The Health Committee stated that "the Auckland Council for Civil Liberties, for example, commented that criminalisation has resulted in police resource being tied up 'persecuting cannabis users' through random searches, with a negative impact on civil liberties".

May *et al.* (2002, p. 36) state that cannabis use is one of the offences which is most likely to bring people into 'adversial' contact with the police, while it has increasingly become an unexceptional facet of daily life. This erodes police legitimacy, as enforcement of cannabis laws are perceived as unreasonable by those who get caught

and their relatives. Based on interviews with convicted cannabis users, the authors show large differences in satisfaction with the police between cannabis users and non-users in England and Wales.

In Australia the same picture emerges. Here a comparison is made between two groups (Lenton *et al.,* 1998): one group who just received a notice for their cannabis use and a second group that received a criminal record. Both groups could regard themselves as normally not criminal. As shown in Figure 6.2, significant differences occur between the two groups. The people who received a criminal record became less trusting and respectful and more fearful and hostile towards the police.

Figure 6.2: Two groups of cannabis offenders and their relation with the police
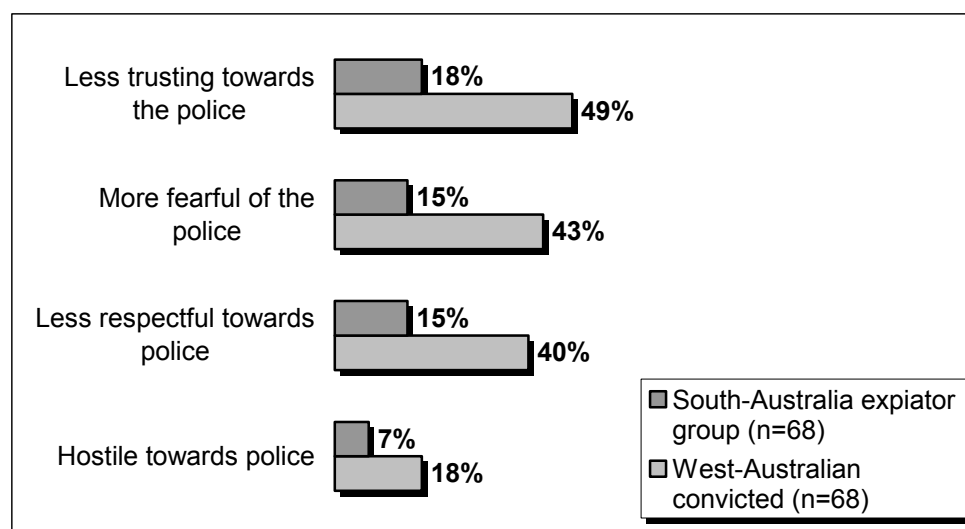
Source: Lenton *et al.,* 1998.

A second factor influencing the perceived legitimacy of the police is the selective way in which the laws are enforced: some individuals are more likely to be stopped, searched and arrested than others. A study conducted in Canada (Nolin and Kenny, 2002, p. 360) revealed that the following factors play a role in stop and search for drugs: the appearance of passengers in the vehicle, the model and value of the vehicles, the persons driving habits and a computer check of the license plate indicating that the owner has a criminal record. Officers are allowed to stop people to ensure they have the proper documentation and this may lead to the discovery of an offence, which legitimises a search. Physical appearance also plays a major role in stop and search of pedestrians. According to the researchers, the danger here is marginalisation of certain groups and a danger of alienating certain groups from the police.

The US National Household Survey on Drug Abuse by the Department of Health and Human Services (1994) also indicates that ethnic minorities in the US have a much

higher chance of being arrested for cannabis possession. While Blacks and Hispanics constitute approximately 20% of cannabis users, they accounted for 58% of cannabis offenders sentenced under federal law (Zimmer and Morgan, 1997, p.40).

In New Zealand, data reveal that Maori convictions and apprehensions for cannabis offences are disproportionate to the Maori percentage of the population and Maori cannabis use rates. In 2001, Maori made up 14.5% of the New Zealand population, but received 43% of the convictions for using cannabis. Table 6.2 lists data on recorded Maori and non-Maori apprehensions in general and cannabis-related apprehensions in particular. The authors state that the data "would appear to bear out the idea that Maori are both disproportionately apprehended both in general and for cannabis-related offences in relation to the population (Health Committee, 2003, p. 28-29).

Table 6.2: Maori and non-Maori apprehensions figures (31 December 2001)

Ethnicity	All recorded apprehensions	Recorded cannabis apprehension
Maori	81,392 (41.44%)	8,502 (39.35%)
Non-Maori	115,008 (58.65%)	13,102 (60.65%)
Total	196,400 (100%)	21,604 (100%)

Source: Health Committee, 2003, p. 29.

6.6   Consequences of cannabis policy for non-users

Cannabis policy does not only affect cannabis users, but also the rest of society. Criminalising cannabis use on the one hand can lead to higher costs of law enforcement and a black market, while decriminalising could lead to public disturbance caused by unwanted cannabis use in public. Within the scope of the current research, we do not study all consequences of cannabis policy for society as a whole. Societal costs due to the use of cannabis itself, such as health care costs or traffic accidents, are outside the scope of the research. However, we will briefly discuss some examples of monetary costs, associated crime and public nuisance that are identified in the literature.

One of the ways in which cannabis policy has an effect on non-users is through tax money. For various countries, estimates are made on the basis of total law enforcement costs and the share of enforcing cannabis laws in the total. According to May *et al.* (2002), for example, one in seven offenders in England and Wales were arrested for the possession of cannabis, which puts a heavy burden on the police force. The authors make rough estimates of the involved costs on the basis of police workload, number of drug offences, average time to carry out and administer an arrest, etc. They estimate the total costs of a single case on the basis of: the stop and search, the arrest, conveying back to the station, booking in, repeat search, placing the arrestee in a cell,

compiling files and taking photographs, DNA and fingerprints. For the UK, one case costs about ten hours or £500. Their most cautious estimate of police costs involved in cannabis policy amounts £38 million, half a percent of the total annual police budget, or 500 full-time equivalents (May *et al.,* 2002, p. 38). Another example comes from Australia, where McDonalds and Atkinson (1995, p. 16) estimated the annual costs of enforcing legislation of minor cannabis offences to be AUS$ 329 million in the period 1991-1992, approximately 73% of the total costs of illegal drug enforcement for the year. A final example comes from New Zealand, where it is estimated that cannabis law enforcement accounted for 19 million New Zealand dollars of the police budget of 790 million New Zealand dollars in 2000-2001, or approximately 2% of total police activities. Slightly more than half of this budget (52.8%) is spent on minor cannabis offences (Health Committee, 2003, p. 31-33).

Making cannabis use and trade illegal gives way to a black market. It has been suggested that this black market will lead to more associated crime such as physical violence (i.e. violence caused by illegal trade, not by use of the drug it self). A forthcoming study by Hall and Pacula shows that, while this is the case for the cocaine and heroin market, the cannabis market is not associated with violence. For example, whereas ethnographic studies in New York showed that cannabis dealers dominated the parks and streets in the early 1980s, this market did not result in many violent conflicts. This is indicated by the fact that only 1.4% of all drug-related homicides were related to cannabis. In recent decades the cannabis trade went more indoors, leading to less public nuisance.

A decriminalisation policy could also lead to public nuisance due to open use and trade of cannabis. The coffee shop policy in the Netherlands gives an opportunity to observe whether the stringency of cannabis laws has consequences for non-users. One topic of interest here is the public nuisance caused in areas where coffee shops are resided. Korf *et al.* (2001, p. 26-27) show a clear trend in this regard. First, due to decriminalisation of cannabis use and trade, the number of coffee shops in the Netherlands grew rapidly in the 1980s and in the beginning of the 1990s. This caused a feeling of powerlessness among local policy makers, as they could not prevent this growth. According to a survey, 30% of local policy makers stated that the inhabitants of their municipality experienced public disturbance from coffee shops. Then, by the end of the 1990s, a new law defined the kinds of public disturbance a local government could act upon and delivered ultimate power to local governments to close down sites that did not meet the criteria.

Since the end of the 1990s, the Dutch research agency Intraval is monitoring public drug nuisance in the Netherlands. Intraval concludes that public nuisance caused by

coffee shops is limited, that it declined between 1996 and 2000, and remained stable between 2000 and 2002 (Snippe, Oldersma and Bieleman, 2002). Even in the city of Amsterdam, where about 211 coffee shops and 86 hash cafés are located, no notable public nuisance was reported. These findings are based on police reports and questionnaires. Nuisance and incident reports were not significantly higher in coffee shop areas. Additionally, surveys on public nuisance showed that coffee shops were not named spontaneously as a relevant item (Rigter *et al.,* 2003, p. 40).

6.7   Conclusions

The studied literature shows that large numbers of cannabis users are arrested for cannabis possession, some of whom suffer negative consequences related to the arrest. It is, however, presently impossible to quantify the social consequences these offenders face. Most of them receive a warning or a fine, while few are incarcerated. Those who received a criminal record are most likely to experience negative consequences for employment, accommodation, their relationships, civil rights and driver's licences. But the number of criminal records is unknown. In some countries, such as the US, users might suffer other consequences, even without a criminal record, which can be attributed to the mere detection of cannabis use. This includes, for example, employees who lose their jobs, students who are refused access to a university or people losing subsidised housing.

Little evidence is found on social consequences for the rest of society. It can be suggested that cannabis laws lower the legitimacy of law enforcement and that police costs are high. But, no real evidence exists. Associations with a violent drug market due to prohibition prove to be weak, as well as evidence on public nuisance caused by a liberal policy. Therefore, the main group of people affected by cannabis policy is the large group of cannabis users who are punished for an offence they do not themselves perceive as criminal.

The social consequences of cannabis policy play a role in the debate on (de)criminalising cannabis use. Some policy makers will take a pragmatic cost-benefit standpoint. Others will see cannabis policy as a moral issue, sending the message that cannabis use needs to be discouraged at any cost. To put the debate on an evidentiary basis, the following issues need further investigation:

- The population affected by cannabis arrests. How many people are once or more often arrested for cannabis use? How many people received a criminal record? How many were incarcerated? How do these numbers compare to the total population of cannabis users and to the populations of countries?

- Cumulative punishment: To what extent do other consequences occur aside from punishment by criminal justice? How many people with a criminal record for mere cannabis use experienced negative consequences for employment, study, accommodation, relationships, travel, etc.?
- To what extent does cannabis policy have a marginalising effect? Do some social groups, for example ethnic minorities, have a higher chance of being: (a) stopped and searched, (b) arrested, (c) prosecuted and (d) convicted of cannabis use?

PART III: Discussion and recommendations

Chapter 7: Discussion and recommendations

In this concluding chapter, we first summarise what we have learned and then formulate recommendations for going forward towards an ultimate goal of cannabis policy that is feasible and has the likelihood of achieving the goals set forth by policy makers.

7.1 What have we learned?

In our review, we first looked at what is known about the relationship between formal cannabis policy and cannabis policy as implemented, and then at the question whether implemented policy affects the prevalence of cannabis use and what the consequences for both individual cannabis users and society are.

Formal cannabis policy and cannabis policy as implemented. Chapter 4 shows that there are real variations in formal policy amongst nations, and amongst regions within nations that are structured along federal lines (e.g., the US, Australia, Germany). Moreover, any notion of coherent implementation of policy at the local level is optimistic; not only is there a sizable gap between formal policy and policy as implemented in a number of countries/regions, but there is no evidence that any country or region has achieved uniform implementation in its several jurisdictions.

The studies examined show that there are various factors that contribute to the sizable gap between formal cannabis policy and cannabis policy as implemented. One factor is that national policy regimes allocate responsibility for policy enforcement. They can officially assign discretionary power to, for example, regional police authorities, enforcement officials, prosecutorial officials, and judicial officials. These officials may opt for a more punitive or more permissive approach, depending on their own or their organisation's agenda. Another factor is limitations in financial or human resources, which might impede implementation of the formal policy.

The discrepancy between formal cannabis policy and cannabis policy as implemented has consequences for our ability to understand the relationship between policy, prevalence of cannabis use and consequences. Interpretation of the consequences of formal policy is impossible without knowing how that policy is implemented. Unless the implementation practices are known, analysis is tricky at best.

Cannabis policy and prevalence of cannabis use. Given the discussion immediately above, it is not surprising that there can be no definitive statement made regarding policy and the prevalence of cannabis use. Moreover, the range of policies as

implemented is presumably more narrow than the continuum of formal policy from "prohibition" to "decriminalisation" would suggest, thus limiting our possibilities to assess the relative effectiveness of implemented policies. Within this restriction, our overall conclusion is that the evidence does not support the notion that policy and prevalence of cannabis use are strongly connected. Neither does the evidence support a definitive lack of connection, but the weight of the evidence, leans towards a lack of connection.

Part of the problem in establishing the connection between policy and prevalence is the variety of ways in which prevalence is measured. In many studies prevalence is measured in three ways: ever used, used last year and used last month. However, longitudinal and internationally comparable data on these three measures are lacking for many European countries, impeding a sound analysis of the connection between policy and prevalence. Moreover, each of these measures has a different meaning for understanding policy. Therefore, any comparisons across policy regimes must be interpreted with caution.

The majority of studies focus on the relation between cannabis policy and prevalence, and do not study the frequency of cannabis use by individual users. However, when studying the consequences of cannabis use, one should be able to distinguish between heavy users and casual users.

Even if there were systematic relationships between implemented policy and cannabis prevalence, these would not be conclusive evidence for a causal link. As we discussed in Chapter 1, policy is influenced by the cultural context of a nation, and the prevalence of cannabis use may also be related to that context. Therefore, it might be impossible to entirely disentangle the relationship between cultural context, policy and prevalence.

Cannabis and social consequences. In Chapter 6, we examined what is known about the social consequences of policies regarding cannabis use, from the perspective of the users and the communities in which users live. Here, there is some conventional evidence available, for example on the number of arrestees. In other areas where evidence would be desirable, for example on the fates of arrestees, it is largely missing.

It might be expected that the more nominally punitive a policy, the more users will face criminal sanctions. But this is not certain; per capita arrests, fines and other sanctions are not highly correlated with formal policy, and when the vagaries of

definitions and data collection are taken into account, the relationship is even more tenuous.

Experiencing the criminal justice system has negative consequences for cannabis users beyond the correction of drug taking behaviour. Criminal records and other sanctions reach beyond the actual penalties themselves into almost every aspect of the user's life (for example, finding a job and finding housing), typically in a negative way. Whether these consequences to the user are beyond what would be considered proportional to the offence of cannabis use is a matter for public debate; evidence that the weight of that debate is on the "unfair" side is in the frequency across countries of systematic attempts to dissociate cannabis use from the criminal justice system. Additionally, to the extent that sanctions for cannabis use are viewed as excessive, the perceived legitimacy of the entire criminal justice system may suffer.

The negative consequences to the community of cannabis regulation have not been extensively examined. What evidence exists does not support an hypothesis of extensive harms to a community from cannabis use per se. The effect of regulation is another story. However, the evidence is so scant that no firm conclusions may be drawn.

The costs of enforcement of cannabis policy have not been extensively examined. A few jurisdictions have provided some figures; however the cost-effectiveness of various policies cannot be yet determined. This is an important gap in information that requires filling.

Quality of the evidence. Regarding the three main questions of the review, there is no dearth of opinions, and the range of these opinions is broad. As we have reported in the previous chapters, the evidentiary basis of these opinions is quite narrow; indeed, the breadth of opinions is probably at least in part a result of the narrowness of the evidence. Moreover, because of the nature of the topics, the evidence can never approach the strength of scientific validity of a randomised controlled trial, or even a case control study. Instead, evidence-based studies attempt to understand the relationship between policy and cannabis by longitudinal studies (mostly surveys of different individuals from the same population), "natural experiments" where uncontrolled differences amongst populations may be found, and internal regression analyses of single or multiple populations. Although these types of studies are less than the standards that the Cochrane Collaboration[47] or other researchers committed

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[47] The Cochrane Collaboration exists to "prepare, maintain and promote the accessibility of systematic reviews of the effects of healthcare interventions". It assesses the methodological quality of each of the studies included in its database. For more information, see <http://www.cochrane.org>.

to evidence-based policy might prefer, they are probably about as good as can be obtained.

What is not about as good as can be obtained is the consistency of approaches to collecting evidence. Although attempts to harmonise data collection for purposes of examining policy towards drugs has been for over 20 years in Europe the objective of many organisations (e.g. the Pompidou Group, the EMCDDA, and WHO-Europe), we are still not there, either within nations (with some exceptions) or across national boundaries. Although the technical quality of data collection and analytic sophistication has greatly increased over the years, it is still not as good as it could be. The conventional wisdom is to state that, because of the efforts of the abovementioned organisations, that things will get better, but that conventional wisdom has been with us for too long, without the magnitude of improvement predicted.

7.2 What needs to be done?

Our literature review showed that the scientific evidence regarding the effectiveness of cannabis policy as implemented is limited, and we believe that it is thus fair to assume that policy-making regarding possession and use of cannabis is not based on solid evidence. The summary of the evidence examined does not lead to the ability to make any recommendations regarding the implementation of policy. It must be admitted that we simply do not know enough about how policy affects cannabis prevalence and consequences. Therefore, the recommendations below are aimed at getting to know enough about the relationship between cannabis policy, implementation and outcomes. Perfect understanding is not possible, but fortunately, it is also not required. With some effort, enough understanding can be obtained to guide coherent policy making.

Recommendation 1: Spend more money on basic information acquisition, and spend it wisely. The dominance of the non-European Anglo-Saxon community (e.g. the US, and Australia) in the scientific community studying policy and drugs is not only because they are willing to spend proportionally more money on studies, but also because they have been more systematic in their approach to collecting and analysing data. There is as yet nothing approaching the American National Longitudinal Survey in Europe, and there needs to be.

Recommendation 2: Start understanding the range of how policies are implemented and why different implementation choices are made. We know that implementation varies. We do not know how it varies by jurisdiction, what the full range of variation is, and why variations occur. Full comprehension of this matter on an

EU-scale is a vast undertaking. A more modest beginning can be made by looking at a select number of countries and a select number of jurisdictions in these countries to get a systematic flavour of how much variation there is. In the process, a method can be developed that can be expanded, first to other jurisdictions within the first set of countries and then to other countries. Such information can be collected by interviewing professionals involved in the implementation of cannabis policy. Annex B gives an overview of issues that need to be addressed when such an effort is undertaken.

Recommendation 3: Where differences in "real policy" (in the sense of the policy that is implemented at the local level) can be established, conduct comparative studies of cannabis use, using common measures. Again, to do this on an EU-wide basis is not yet feasible, so starting small is the desirable first step. To the extent that the same implementation strategy is found across different nations (and national policies) and different implementation strategies are found within one nation or region, this study can bring evidence to bear on the question of the effect of policy on cannabis prevalence.

Recommendation 4: Where the differences in cannabis policy as implemented can be found, multidisciplinary studies of the costs of different implementation regimes to the society should be examined, again using common data measures across jurisdictions. The societal costs of different implementation regimes should be measured in terms of the monetary costs of enforcement, the attitudes towards enforcement, the crime rate attributed to cannabis and the nuisance to the community of cannabis users. Studies carried out in fulfilment of this recommendation will complete the structure needed for as evidence-based a level of comparison of policies as is reasonably possible. Again, the full examination of the question will take time, and starting small is the only way to start on the path of success.

Recommendation 5: To gain more insight in the outcomes of cannabis policy, data should be collected on the consequences for cannabis users. Currently not much is known about the outcomes of cannabis policy for cannabis users. Therefore, we believe it is important to collect the following data:
  o Chance of being arrested for cannabis use;
  o Sanctions in practice for those arrested: criminal record, caution, incarceration, fine, etc.
  o Other consequences: obligatory treatment, losing driver's license, etc.
If done well, such data might eventually lead to the development of a new set of indicators reflecting the stringency of cannabis policy. When better indicators for the

stringency of cannabis policy in actual practice are available, it is possible to gain more insight in the connection between informal cannabis policy and prevalence.

Recommendation 6: Create opportunities for policy makers with differing beliefs about what effective policy should and could constitute to come together and discuss their viewpoints in a non-threatening way. Debates amongst advocates for different current policies typically generate more heat than light, as the advocates defend their current positions in light of the problems that they are currently facing. Opportunities for discussing these matters on a level playing field are rare, because the evidence to create that level playing field is not available. However, if the previous recommendations are implemented and an evidentiary base begins to emerge, this can be used as a vehicle to engage the policy actors in a non-defensive, future-oriented discussion where possibilities of moving from current positions to harmonised ones that still remain faithful to national cultural bases might be possible.

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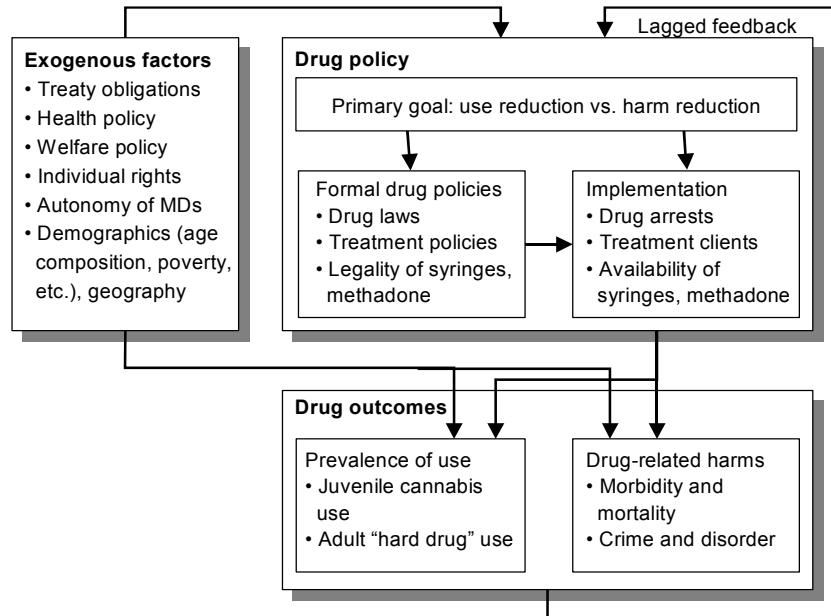
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Annex A: Original analytical framework

Figure A.1: Analytical framework of drug policy

Source: MacCoun and Reuter, 2001, p. 211.

Annex B: Actor perspectives in future research on the consequences of different cannabis policy implementation regimes

One of the problems of cannabis policy is that vertical integration of policy - in the sense of working from general policy principles to specific policy guidelines to the "street-level" implementation of policy - is certainly not understood; it follows that the extent to which it is deficient is also unknown. In order to understand this vertical integration, comparative research must be conducted that follows the threads of policy through each of the different major classes of actors - for each of the types of policy principles formulated by the countries of interest. Although the threads of policy remain constant during the research discourse, the specific questions addressed to the different classes of actors can vary considerably, depending on their perspectives. Additionally, it is important to gather information about how each class of actor understands the perspective of the other classes of actors with whom they must interact.[48] We present here some of the questions faced by each class of actor, that would be the basis for any comparative study of vertical integration.

Policymaker perspectives
- o What is the basis of decisions made by national, regional and local government? To what degree are decisions evidence-based and to what degree do other factors play a role in the decision-making?
- o To what degree is regional and local policy delineated from national (higher level) policy, and to which extent is it fine-tuned to regional or local characteristics? To what degree do regional or local authorities have freedom to fill in or deviate from national policy? How does official discretion and autonomy differ from discretion and autonomy in practice?

Law enforcement administration perspectives
- o What priority is given to the enforcement of cannabis laws on possession and use?
- o Which factors determine the priority that is given to cannabis policy enforcement? (e.g. use; problematic use; related problems (hard-drugs, theft, nuisance, etc.); deterrent effect of sanctions).
- o On what evidence is priority for cannabis policy enforcement based? (e.g. official data; experiences; higher-level orders; etc.).

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[48] Loo, M. van het, J.P. Kahan, J.A.K.Cave, C. Meijer (2000). *Measuring the Roles, Structures and Co-operation of Drug Demand Reduction Services: Results of a Preliminary Study*. Leiden: RAND Europe Report RE-2000.07, July 2000.

- o Which policy tactics enhance the chance of discovering cannabis possession? For example, stop and search policy in the UK increased the number of cannabis arrests.
- o What is the discretionary power given to police officers? To what extent do officers have a choice to ignore or investigate signs of cannabis use?

"Street-level" law enforcement perspectives

- o How informed are police officers about formal policies for cannabis possession?
- o Do cannabis arrests mainly occur as an outcome of deliberate strategy, or rather as a by-product of other investigation?
- o What determines how officers react to suspected use or possession of cannabis?
- o What problems do police officers face when trying to enforce cannabis policies in day-to-day practice, particularly in local and regional settings?

Jurisdictional (criminal justice system and non-criminal justice administrative bodies) perspectives

- o Which factors will influence how an identified cannabis user/possessor is treated?
- o To what are consequences for cannabis users/possessors based upon the legal guidelines or idiosyncratic considerations?

Relationship of perspectives to statistical data.

Each of the perspectives above should be analysed for its relationship to not only the other perspectives, but also the local data on identification (through arrest, warnings, or other actions) and treatment of cannabis users and possessors. This includes cautions/arrests/prosecutions/convictions/discharges, but also referrals to drug treatment, actions by non-criminal justice administrative or counselling bodies, and the patterns of referral amongst the different components of the system.

Although the research proposed in this annex is limited to the main actors in dealing with cannabis possessors and users, it is of interest, as research capacity permits, to obtain information on the perspectives of the cannabis users, possessors and even sellers themselves, as well as different components of the general population. However, this is of secondary importance to the needs specified here.