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Depenalisation, diversion and decriminalisation: a realist review and programme theory of alternatives to criminalisation for simple drug possession

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Abstract

Alternatives to criminalisation for the simple possession of illicit drugs are increasingly of interest to policy makers. But there is no existing theoretically based, empirically tested frameworks that can inform development and evaluation. This article presents a realist programme theory of such alternatives. It bases this on a realist review which followed the Realist And Meta-narrative Evidence Syntheses: Evolving Standards (RAMESES). It describes the systematic process of searching the literature in English on nine relevant countries (Australia, Czech Republic, Denmark, Germany, Jamaica, Netherland, Portugal, UK, USA) for information on alternative measures in three categories: depenalisation; diversion; and decriminalisation. It shows how these measures – in theory and in practice – combine with pre-existing social conditions and institutional contexts to trigger mechanisms across three causal pathways (normative; criminal justice; and health and social services). It shows how some commonly posited causal processes are more empirically supported than others. Alternative measures can reduce harms imposed by criminal justice processes without increasing drug use of related health and crime harms, but this depends on specific combinations of contexts, mechanisms and outcomes.

Keywords

Drugs; depenalisation; diversion; decriminalisation; realist review; programme theory

Introduction

The international consensus on how to deal with illicit drug use is fractured (Bewley-Taylor, 2012; McLean, 2017). The idea that simple drug possession (with no intent or attempt to supply) should be dealt with through criminalisation can no longer be taken for granted. Publics and policy makers are looking for alternative approaches. Researchers hope to inform this search. But there are no theoretically informed, empirically tested frameworks for them to use. This article aims to fill this gap by providing a realist programme theory of alternatives for dealing with simple drug possession, based on a realist review of literature published in English.

As noted by Pacula et al (2015), several existing reports provide comparisons in drug use prevalence between jurisdictions which have or have not 'decriminalised' drugs or 'liberalised' drug policy (Cecho, Baska, Svihrova, & Hudeckova, 2017; Hughes, Matias, & Griffiths, 2018; Kotlaja & Carson, 2018; Maloff, 1981; Rogeberg & Stevens, 2016; Simons-Morton, Pickett, Boyce, ter Bogt, & Vollebergh, 2010; Stevens, 2016; 2019; Vuolo, 2013). Those studies that do look at other outcomes tend not to examine directly the mechanisms or contexts that produce them (e.g. Babor & et al, 2018; Waddell & Wilson, 2017), although there are some exceptions (e.g. Beletsky et al., 2016; Caulkins & Kleiman, 2018). These studies suggest that some implementations of alternatives have actually increased the use of criminal justice sanctions. No study has explicitly applied a realist ontology to this topic by examining configurations of context, mechanism and outcome (Pawson, 2001).

Realist analysis is suitable for examining programmes that are 'large, complicated and messy'. It examines the 'web of causal processes which, in combination, generate the outcomes' (Shearn, Allmark, Piercy, & Hirst, 2017, p. 4). A programme theory makes explicit this process of generative causation. It is 'an abstracted description and/or diagram that lays out what a program (or family of

programs or intervention) comprises and how it is expected to work' (Wong, Westhorp, Pawson, & Greenhalgh, 2013, p. 24).

In this article, we present just such a theory for interventions which provided alternatives to criminalisation for dealing with simple possession of illicit drugs (i.e. the substances listed in the schedules of the 1961 *Single Convention on Narcotic Drugs* and its successor conventions). We place these alternatives into three broad categories of depenalisation, diversion and decriminalisation. We define depenalisation as reduction of the use of existing criminal sanctions. This is a *de facto* intervention because it does not require changes to legislation. We define diversion as *de facto* initiatives or *de jure* legislation which direct people away from criminal sanctions and towards educative, therapeutic or social services. Decriminalisation is the *de jure* removal of criminal sanctions for the possession of drugs for personal use. These sanctions may be replaced by civil penalties (e.g. fines for 'infractions'), by measures that divert people towards health or social support, or by no sanction at all. So within these three categories, we find six different types of alternative measure (see Table 1).

Policies on drugs are often highly complex with multiple components and consequences. Some way of focusing the programme theory is required. One way of doing this, according to Wong et al (2013), is to focus on questions and outcomes that are of most relevance to the end users of the research. In this case, we achieved this by carrying out the research for a working group convened by the Irish government to consider alternatives for dealing with simple drug possession. This became a 'stakeholder group' (Wong, 2018, p. 134) for the review. Our discussions with this group focused the review on the following questions: How can alternative measures for dealing with simple drug possession (a) avoid giving people who use drugs a conviction and criminal record for drug possession in a way that:

- b. Avoids increasing the health harms of drug use?

- c. Does not increase the scale and violence of organised criminal involvement in drug supply?
- d. Maintains the possibility to intervene in public drug use?
- e. Diverts people who need it into treatment (without swamping the treatment system with people who do not need treatment)?
- f. Is cost-effective?

Implicit in these questions is an initial rough programme theory (IRPT, Shearn et al., 2017) that guided our initial research. This IRPT is illustrated in Figure 1. It shows how the questions set by the Irish policy makers focused on particular putative mechanisms. These include the idea that, in the socio-legal context of Ireland, criminalisation for drug possession causes harms by imposing a criminal conviction and record, but also limits the health and crime harms related to drug use, with the assumed mechanism being that criminalisation reduces drug use prevalence, which reduces health and criminal harms related to drug use (questions (a) to (c)). Question (d) reflects a concern about drug-related activities, such as public consumption, which may cause secondary harms, and has normative implications. Question (e) assumes that there is a need for some state intervention to direct some (but not all) people who use drugs into treatment. Question (f) reminds us of policy makers' concern for costs to society.

Insert Figure 1 here

Below we describe the methods by which we carried out our realist review, which we report according to the RAMESES publication standards (Wong, Greenhalgh, Westhorp, Buckingham, & Pawson, 2013). Before doing so, we should note the importance of ontological assumptions, as well as explicit research questions, in the creation of a realist programme theory (Cruickshank, 2003). Here, we adopt the critical realist ontology of Archer (1995). This suggests a cyclical, 'morphogenetic' process of the reproduction and adaptation of social structure, culture, agency and

action. Alternatives to criminalisation operate through combinations of contexts and mechanism within the structural and cultural conditions of social systems, which they go on to affect through their implementation and outcomes.

Methods

Realist review is apt for synthesising policy-relevant information on interventions which are complex, can involve several components, are applied in varying contexts, and where restrictive research designs - such as randomised controlled trials (RCTs) - are rare. This review combines information from a variety of sources, including quantitative and qualitative research.

Using RAMESES and other work by Pawson (2002, 2006), Saul et al (2013) described 10 stages in the process of realist review, the tenth of which is dissemination (partly achieved by this article). Here we describe how we performed the first nine stages.

1. *Development of the project scope:* The initial project scope was set by the Irish government, which sought to gain knowledge on advantages and disadvantages of the alternatives for dealing with simple possession of drugs from the experience of other jurisdictions. They confirmed the exclusion from the review of alternative ways of dealing with production and sale of such substances, such as legalisation of sale for medical or recreational use (Hughes, 2018).
2. *Development of specific research questions:* Early in the project, we read relevant policy documents and engaged in telephone discussions with members of the stakeholder group. These discussions focused our review on the questions and IRPT described above. These informed our selection of relevant countries. Question (a) led to exclusion of alternatives that

maintained the use of convictions and the imposition of criminal records for first offences of possession – such as drug courts (Nolan, 2002) and California’s Proposition 36 (Inciardi, 2004).

The countries selected were: four countries which – like Ireland - have a common law system that have implemented at least one alternative measure (i.e. Australia, Jamaica, the USA and the UK); and five European countries that have implemented alternatives and that we judged likely to provide relevant information on their contexts, mechanisms and outcomes. Based on existing reviews, we chose the Czech Republic, Denmark, Germany, the Netherlands and Portugal.

3. *Identification of how the findings and recommendations will be used:* Findings were initially used to inform Irish government considerations of policy in this area, and now can also inform the wider body of policy makers and researchers in the field. While our report to the Irish government (Hughes, Stevens, Hulme, & Cassidy, 2018) focused on the practical advantages and disadvantages of various alternatives, this article focuses on the development of a programme theory which can be applied across them. We apply this more general programme theory to specific types of alternatives in a separate article (Hughes, Stevens, Hulme, & Cassidy, in preparation).

4. *Development of search terms:* Based on the specific research questions and selected country cases, we specified the terms to be used in a systematic search of the literature, as follows:

- [country OR state] AND (drug OR cannabis OR marijuana OR heroin OR cocaine) AND
- (decriminali* OR depenal* OR liberal* OR diversion OR warning OR expiation OR civil OR infringement OR expiation OR law OR policy) AND (possess* OR use) AND (evaluat* OR effect* OR impact*) NOT
- (pharma* OR medic*).ⁱ

These search terms were deliberately designed to be over-inclusive. Many documents were subsequently excluded for lack of relevance.

5. *Identification of articles and documents for inclusion in the review:* In June 2018, we used these terms in searching three bibliographic databases (Web of Science, Scopus, Criminal Justice Abstract) and two grey literature bibliographies; one held by the International Society for the Study of Drug Policy and the other being the drug law reform bibliography at UNSW's Drug Policy Modelling Program. We extended the search by also searching Google Scholar for all documents that cited the selected documents identified in the bibliographic and grey literature searches. Finally, we consulted country-specific experts to identify relevant documents not identified through our other search processes. The period covered by the search includes the modern era of drug control, dating back to the 1961 UN *Single Convention*.

6. *Quality review:* Wong (2018, p. 144) suggests that 'rather than spend time rating the "quality" of the collected data' on hierarchical scales, realist reviewers should 'instead focus on finding sufficient relevant data to build a plausible programme theory underpinned by arguments that have coherence'. Such data should be 'trustworthy', in that they are empirically based, sceptically treated, and corroborated from multiple sources. So our sixth step involved initial assessment of the identified documents to select all those that were likely to produce information that was relevant to the specific research questions. Figure 2 shows the process of document identification and selection, according to the PRISMA format (Liberati et al., 2009). The full list of documents included in the review is available as an online appendix.ⁱⁱ

Insert figure 2 here

7. *Extraction of data from the literature:* Data were extracted from the selected documents into an extraction template spreadsheet. This became the basis for data synthesis and analysis, with referral back to original and related documents where necessary. This enabled us to refine the IRPT to produce a more detailed – although still provisional – programme theory, as laid out below. In order to meet Wong’s (2018) suggestion to provide as much as possible of the data that has been used to inform the programme theory, the completed data extraction spreadsheet is available online at <http://doi.org/10.22024/UniKent/01.01.66>.

8. *Validation of findings with content experts:* We validated emerging findings through discussion with the stakeholder group and external experts. The inclusion of these additional perspectives meant that the review benefitted from these experts substantive knowledge of the reviewed jurisdictions, as well as our own.

9. *Synthesis of the findings in a final report:* Here we present the programme theory that we developed in synthesising the extracted data. Our iterative synthesis of the information we gathered involved comparing repeatedly across documents, jurisdictions, and examples of alternatives to criminalisation. By using a qualitative comparative truth table (Ragin, 2000), we divided the examples of alternatives that we found into the six types, as listed in Table 1, across the three broad categories of depenalisation, diversion and decriminalisation.ⁱⁱⁱ As the titles of the examples included in this table show, some of these measures apply to cannabis only, while others apply to a wider range of drugs.

Insert Table 1 here

Programme theory

In our synthesis, we found the contexts, mechanisms and outcomes that are included in Figure 3, and italicised and described in more detail below.

Insert Figure 3 about here

Contexts

Contexts are features of systems which enable or disable causal mechanisms (Pawson & Tilley, 1998; Westhorp, 2018). The adoption of a critical realist ontology directs our attention towards the ‘material and ideational conditions’ (Archer, 1995, p. 199) of the social systems in which alternatives to criminalisation operate. Following Archer, we can divide these conditions into two analytically separate but mutually influencing categories: *structural* and *cultural* properties. The first of these conditions draws our attention to the ‘political economy of drug policy’ (Stevens, 2011). The distribution of power and resources in a society will determine who controls whose consumption. The second highlights the cultural role of morality in shaping policies and their effects (Zampini, 2018). For example, Ireland’s current consideration of alternative measures to criminalisation follows a broader process of social liberalisation, which has included referendum votes to legalise gay marriage (in 2015) and abortion (in 2018). Cultural values shape the nature of policy reform.

These social conditions will also influence the form and effects of institutional contexts. At the institutional level, the *political environment* and *legal system* are obviously important contexts for the development and implementation of alternatives. One example of the influence of cultural properties on political and legal contexts is provided by the differential implementation of decriminalisation in different parts of Germany. Possession of small amounts of drugs was decriminalised by a ruling of the German federal constitutional court in 1994 (Holzer, 2017). However, it was left to the *länder* to decide what weight limits to set. The southernmost *länder* –

which tend to be more morally conservative – retained very low limits (e.g. 6 grams of cannabis), while others adopted higher limits (between 10 and 30 grams) (Bollinger, 2004).

The jurisdiction's legal system is also a very important context for alternative measures. Some forms of decriminalisation (e.g. that adopted by Portugal in 2001) require there to be a system of administrative law so that new non-criminal sanctions can be established. In Portugal, this includes options to suspend licenses (e.g. to drive or possess firearms) (Quintas & Fonseca, 2002). In other jurisdictions with a more limited system of administrative law (e.g. Czech Republic, Jamaica and several US states) civil penalties are limited to the use of fines, akin to citations for motoring 'infractions'. Some systems of decriminalisation – as evidenced by Germany – require no new offences be established, while other alternatives do not involve legal changes (depenalisation and *de facto* diversion), as has been adopted in the UK and Australia (sometimes alongside *de jure* reforms in the latter case).

The scale and nature of the *illicit market for drugs* has important implications for the development and effects of control policies (Caulkins & Kleiman, 2018). One theory suggests that the extent and social distribution of drug use plays a part in causing alternative measures to be adopted. Lempert (2010) argues that as the prevalence of illicit drug use rises – especially when this occurs among people of 'high social status' – so 'moral dissonance' between prohibition and its widespread ignoring grows. Criminalisation comes to be considered as obsolete and so is abandoned.

Alternative measures are often introduced as a response to a combination of high levels of drug use with high levels of *use of criminal sanctions*. In many cases, the wish to spend less of the resources of the criminal justice system on low level drug offences was an explicitly stated motivation for introducing alternative measures. This was evident, for example, in descriptions of reforms in Nebraska (Suggs, 1981), the UK (Shiner, 2015), and South Australia (Ali et al., 1998). The Czech

Republic was an exception as its decriminalisation (of all illicit drugs) was introduced at a time when drug use and sanctions remained low. The policy here was part of a broader democratic shift in the post-communist era to limit the role of the criminal justice system (Zábranský, 2004).

The *culture and priorities of the police and prosecutors* provide an important context for these alternatives, as they will affect implementation. For example, since 1999 all Australian states and territories have adopted diversion (*de facto* or *de jure*), with broad support from police services (Hughes & Ritter, 2008). Conversely, in the USA, police have often not used alternative measures to reduce the use of sanctions. Several states that have formally decriminalised possession of small amounts of cannabis have higher rates of arrest for cannabis possession than others which have not, as police retain considerable autonomy in the decision to arrest, with Nevada and New York providing prominent notable examples (Pacula et al., 2005; Logan, 2014). In both Seattle and Albany, some police officers were reluctant to divert offenders through the Law Enforcement Assisted Diversion (LEAD) programmes due to their view that this constituted ‘enabling’ of addiction (Collins, Lonczak, & Clifasefi, 2015; Worden & McLean, 2018). If the culture of the police is resistant to the use of alternatives, this can be addressed by training and incentives, or by shifting from *de facto* reforms to *de jure* alternatives that reduce the opportunities for discretion in police decision making (Arredondo et al., 2017; Hughes, Seear, Ritter, & Mazerolle, in press.).

Interactions between contexts can also affect how causal mechanisms operate. For example, Goetz and Mitchell (2006) observed that the effectiveness of diversion through the Baltimore Substance Abuse Systems was hampered by arguments between police and health agencies over funding, leading to only four people entering the scheme during its first year. Conversely, a number of reforms (e.g. the Australian Illicit Drug Diversion Initiative and the Portuguese decriminalisation) have been coupled with new money for treatment, harm reduction or social services, which has facilitated smoother implementation (Hughes & Ritter, 2008; Quintas & Arana, 2017). This shows

that the outcomes of diversion will depend on relationships between policing systems and other agencies, as well as the capacity of *healthcare and welfare systems* to provide effective treatment and to support social integration.

The final context we note is *research and evaluation capacity*, both to feed into the design of reforms and to ensure any problems with implementation are identified and rectified. The Czech Republic provides an interesting example of the difference research can make. It introduced decriminalisation in 1990, but then shifted to a more restrictive version - with criminal penalties for possession of 'greater than small' amounts - in 1999 (Belackova & Stefunkova, 2018). A government-funded external evaluation of the new reform concluded that the new law met none of the objectives (reducing use, reducing availability, reducing social costs), and that it led to many perverse impacts (Zábranský, Mravčík, Gajdošíková, & Milovský, 2001). This contributed towards the return of a less restrictive reform. Australian governments have also invested in research into alternatives to criminalisation, leading to identification and rectification of some implementation issues. This also aided policy transfer and expansion (Ali et al, 1998; Hughes et al, in press). Research evidence is often ignored (Hughes, 2007; Monaghan & Boaz, 2018), but capacity to fund and learn from it is a contextual factor that can aid effective policy development (Hyshka, 2009).

Mechanisms

Mechanisms are triggered by the interaction of interventions with contexts.

They form part of what Pawson and Tilley (1998, p. 161) describe as 'causal pathways'. Each pathway may involve multiple mechanisms. Different types of alternative to criminalisation – and different implementations of each type – may trigger different combinations of mechanisms. Figure 1 includes the most relevant mechanisms that we identified in our review of the literature. In order to strike a balance between complexity and comprehensibility, we display three causal pathways at

the heart of our programme theory in Figure 3. These are the normative (CP1), criminal justice (CP2), and health and social service (CP3) causal pathways. They each cover overlapping sets of mechanisms that share common features. We found evidence of these mechanisms in arguments presented in the literature both for and against alternative measures.

Normative causal mechanisms operate through attitudes and beliefs about the values of drugs and the people who use them. They are similar to the mechanisms invoked by situated action theory (Wikström & Sampson, 2006) and later developments of control theory (Gottfredson, 2011), which argue that rule-breaking is partly explained by what people believe is right to do in a given situation. A common argument in the field – at least among politicians and the media – is that criminalisation and its alternatives ‘*send a message*’, especially to young people. This was a prominent debating point in the decision of the Danish government to re-penalise drug possession in 2004, reversing the de-penalisation of 1969 (Houborg, 2010, 2017). It was argued that relaxing penalties for possession increased drug use by sending the message that it was safe and acceptable, and so undermined social controls (even though trends in drug use were in line with those in other European countries).

This is related to the concept of *stigma*, defined by Goffman (1963, p. 4) as an attribute that is seen as ‘deeply discrediting’. If drug use is stigmatised, this may reduce people’s willingness to take drugs; alternative measures might increase drug use by reducing such stigma (McKeganey, 2010). But another effect of stigma may be to discourage people who use drugs from entering treatment, as doing so means taking on the stigmatised identity of a drug user (Radcliffe & Stevens, 2008). The first of these is a directly normative causal mechanism. The second combines normative processes with the health and social service causal pathway. For example, an intended outcome of the Portuguese decriminalisation of drug possession was to reduce the role of stigma in keeping people away from treatment services and impeding social reintegration (Hughes & Stevens, 2010).

Both 'sending messages' and stigma will affect potential users' *attitudes towards the safety and acceptability of drug use*. Cuskey et al (1978) found increases in favourable attitudes to cannabis following decriminalisation in Oregon and California. They suggested that this might lead to greater use not only of cannabis, but also of other drugs. In Western Australia, however, decriminalisation through the cannabis infringement notice scheme did not reverse a national trend towards seeing cannabis as more harmful (Fetherston & Lenton, 2007). And back in the USA, Johnston et al (1981) did not find that decriminalisation in several states led to lower disapproval or perception of risk of cannabis use.

Cuskey et al's (1978) suggestion posits the *gateway effect*; a highly controversial mechanism in the field of drug policy. The gateway theory suggests that use of one drug causally increases the use of other drugs (Degenhardt et al., 2010). This theory was used by Kelly and Rasul (2014) in their study of the temporary depenalisation of cannabis in Lambeth (a borough of London) in 2001/2. They did not directly observe an increase in use of cannabis or other drugs. But they assumed that the reduction of deterrence of cannabis use led to an increase in use of cannabis and so of more harmful substances, leading to the increase in hospital admissions from use of these drugs which they did observe. Such an increase was not seen in Denmark prior to the repenalisation of drug possession. There was an increase in reports of 'experimental' (e.g. 'ever tried') use of cannabis. But levels of recent ('last month') cannabis use, use of other drugs, and of drug-related harms were stable or falling (EMCDDA, 2004).

The gateway effect is related both to normative and criminal justice causal pathways. A commonly posited causal mechanism in drug policy, as used by Kelly and Rasul (2014), is that reducing *deterrence* increases drug use. Deterrence theory suggests that its effects rely on *perceptions of the certainty and severity of punishment* (Kleiman, 2009). These rest on the ability of police to catch a substantial proportion of people who use drugs, which has been shown to be near impossible in

practice (Hughes, Moxham-Hall, Ritter, Weatherburn, & MacCoun, 2017; Nguyen & Reuter, 2012). Deterrence also relies on people's knowledge of the penalties in force, which is often far from perfect (Ipsos MORI, 2002; Johnston et al., 1981; MacCoun, Pacula, Reuter, Chriqui, & Harris, 2009; 2015; Younger-Coleman et al., 2017). For example, MacCoun et al (2009) found that perceptions of the penalties applied did not vary substantially between US states that did or did not formally decriminalise cannabis possession. In Jamaica, awareness of decriminalisation was found to be particularly low among the group that is usually of most concern in drug policy; young people (Younger-Coleman et al., 2017).

Some governments, including Ireland, are concerned that reducing penalties for drug possession may encourage *prohibited activities* - such as the public use of drugs - which may corrode respect for the law and 'send a message' about the acceptability of drug use. Many jurisdictions, however, retain the ability to prohibit activities related to drug use, even while reducing or removing penalties for simple possession. Vermont and other US states still prohibits the public use of cannabis. Indeed, the continued prohibition of having cannabis 'open to public view' in New York is what enabled the police there to make large numbers of arrest for low level drug offences, despite decriminalisation of possession itself (Levine, 2009).

Another important mechanism operates through the *use and cost of criminal justice processes*. Concern about the harms imposed by these processes are a primary stated motivation for the development of alternative measures. Criminal justice processes impose harm directly. Stops, searches, arrests, charges, convictions, sentences (be they fines, community penalties, or imprisonments) all represent restrictions of liberty that people would rather avoid. They can also lead to lasting damage to future prospects, as suggested by the secondary deviance, labelling and 'negotiated order' perspectives (Lemert, 1951; Matza, 1964; McAra & McVie, 2012). They require the spending of resources, including the time of police, courts, probation services and prisons. So

reducing the use of these processes for drug possession can reduce the harms and costs of the criminal justice system. It can also be used to *shift policing to other forms of crime*. This was, for example, an explicit aim of the Lambeth cannabis warning scheme (Adda, McConnell, & Rasul, 2014), and of the Portuguese decriminalisation (Quintas & Arana, 2017). However, some reforms can lead to more rather than fewer criminal justice processes.

Such '*net-widening*' (Cohen, 1985) can occur when the reduction in time and inconvenience for police officers in making and processing an arrest incentivises them to use more of the less burdensome process (May, Duffy, Warburton, & Hough, 2007). This has been observed with several forms of alternative measure. In England and Wales, the use of warnings climbed rapidly above the former number of arrests for cannabis possession both during the Lambeth scheme and after warnings went national in 2004 (Adda et al., 2014; Shiner, 2015). Following the introduction of the South Australia Cannabis Expiation Notice Scheme, there was a 2.5-fold increase in recorded expiable cannabis offences in the nine years to 1996. This also led to more people being imprisoned for failure to pay their expiation fee (Christie & Ali, 2000). Such issues were lessened after they were identified through research and evaluation. Warnings fell in England from 2008/9 as they stopped being counted towards central police targets for 'offences brought to justice' (Shiner, 2015).

Criminal justice processes may also reduce drug and other crimes if they lead to a reduction in *recidivism*. The criminal justice causal pathway includes mechanisms – such as deterrence, net-widening and the reduction of damage to job prospects through reduced criminalisation – which may either increase or decrease reoffending. This may also be reduced through the health and social service causal pathways, as reduced offending is a common effect of successful drug treatment (Babor & et al, 2018). The causal mechanism of reducing recidivism therefore appears in both the criminal justice and health/social service causal pathways.

It is often argued that drug use is primarily a health and social issue so increasing *access to treatment and social services* will lead to better outcomes than criminal justice sanctions. This may be facilitated by alternative measures which explicitly include diversion to services. It may also be increased by other measures which reduce the stigma associated with drug use, while relying on voluntary service access outside of the criminal justice system.

Some jurisdictions have developed processes for *triage*; assessing and selecting those people who need referral to treatment. The Portuguese ‘committees for the dissuasion of addiction’ (CDTs) offer a quintessential example. They include lawyers, psychologists and social workers and make an assessment of people referred to them by the police (Quintas & Fonseca, 2002). They consider the majority not to be dependent, but refer people who are dependent to treatment centres.

‘Provisional suspension of proceedings’ with no sanction or referral to treatment was used for between 59 and 68% of cases in the period 2001 to 2009, with between 18 and 31% involving suspension with referrals to treatment (Hughes & Stevens, 2010).

An important mechanism in the health and social service causal pathway is *the effectiveness of the services* accessed. For example, some forms of drug treatment are more effective than others in reducing crime and improving health. The evidence base for opioid substitution therapy (OST) in reducing drug-related deaths is stronger than that for abstinence-based approaches, especially detoxification alone (ACMD, 2016). In some places (e.g. the Netherlands, Germany, UK, Portugal), possession offenders with opioid problems who are diverted to treatment from criminal justice processes are much more likely to enter OST than in others (e.g. several states of the USA, where access to OST is more limited). The attractiveness of services is also important, which is where some of the newer approaches that provide social support (e.g. employment assistance) in addition to or instead of treatment may have more appeal, particularly to young people who use cannabis (Collins et al., 2015; Lammy, 2017).

As this section has shown, there is a complex array of mechanisms that can be triggered by alternative measures. Some of them directly affect each other within causal pathways (e.g. access to effective services may reduce problematic drug use) while others reach across the causal pathways we have identified (e.g. normative stigma is affected by criminal justice processes and may affect service access). They all interact with the contexts in which they operate, leading to a range of potential outcomes.

Outcomes

The list of outcomes included in our programme theory (as illustrated in Figure 3) is not exhaustive. Others that were mentioned in the literature included drug driving, the over-policing of ethnic minorities, police corruption and police legitimacy. Here we have focused on the outcomes that were most relevant to the policy questions agreed with our stakeholder group.

Outcomes could theoretically be improved or worsened by alternative measures to criminalisation, depending on specific combinations of contexts and mechanisms. Some phenomena could be considered as both mechanism and outcome. Improving *social integration* and reducing *levels of drug use* may be outcomes in their own right. But they are also social processes which go on to influence other outcomes.

On levels of drug use, the evidence of the effect of alternative measures has been summarised by MacCoun et al (2009) as 'fairly weak and inconsistent'. This quote directly applies to decriminalisation in US states, but can also be applied elsewhere. In Europe, no consistent effect on levels of cannabis use has been observed following reductions or increases in penalties for possession (Hughes, Matias, & Griffiths, 2018). The increase in cannabis use that Kelly and Rasul

(2014) assumed in their study of hospital admissions in Lambeth did not occur when depenalisation was extended across England and Wales through the national implementation of the cannabis warning scheme in 2004 (Braakmann & Jones, 2014; Shiner, 2015). Indeed, there was a reduction in hospital admissions for cannabis psychosis (Hamilton, Lloyd, Hewitt, & Godfrey, 2014).

In Portugal, youthful cannabis trends following decriminalisation were similar to those observed in Poland, which increased penalties rather than reducing them (Krajewski, 2013). Heroin use reportedly fell (Hughes & Stevens, 2010). Increases in cannabis use in the Netherlands did not immediately follow the depenalisation of possession in 1976, but came after commercialisation of sale through 'coffee shops' (MacCoun, 2011). In the Czech Republic, trends in use of cannabis, opioids and amphetamines show little relationship with the various changes that have been made to decriminalisation since it began in 1990 (Zeman, Štefunková, & Trávníčková, 2017). Studies in Australia (Cameron & Williams, 2001; Damrongplisit, Hsiao, & Zhao, 2010; Donnelly, Hall, & Christie, 1995, 2000; Hales, Mayne, & Swan, 2004; McGeorge & Aitken, 1997; Shanahan, Hughes, & McSweeney, 2017) and the USA (Gruza et al., 2018; Johnston et al., 1981; Miech et al., 2015; Miron, 2002; Pacula, Chiqui, & King, 2003; Single, Christie, & Ali, 2000) have given a mixed picture. A few found increases in cannabis use, while many did not.

Pacula et al (2003; 2015) argued that US studies were generally not robust and had significant problems in making comparisons between states, as some of the 1970s decriminalisation states retained the use of criminal penalties and imprisonment, blurring the distinction between criminalisation and decriminalisation. Also relevant was citizens' imperfect knowledge of the laws in force, as discussed above. Study of some recent decriminalisations – which occurred between 2008 and 2014 – did not find an increase in youthful cannabis use (Gruza et al., 2018). Overall, the findings on the impact of alternative measures on the level of illicit drug use suggest that the causal mechanisms that are often posited to increase consumption (e.g. 'sending a message', reducing

stigma, and reducing deterrence) do not consistently have this effect in the contexts covered by this review.

Social integration is an outcome that includes the harms that often motivate concern over criminalisation; i.e. the harms done by criminal convictions and records in limiting employment prospects, restricting opportunities to travel internationally, and to secure accommodation (Bretteville-Jensen et al., 2017). European studies tend to show that alternatives to criminalisation do indeed reduce the use of arrests. In Portugal, not only arrests but also imprisonments fell, leading to a reducing in prison overcrowding (Hughes & Stevens, 2010), despite the fact that prison sentences were imposed on a small proportion of possession offenders before decriminalisation (Laqueur, 2014).^{iv} In the USA, results were more mixed. However, the more recent decriminalisations studied by Grucza et al (2018) reduced drug-related arrests by at least 50 per cent in Massachusetts, Connecticut, Rhode Island and Vermont. In Maryland, arrests fell by a quarter. Moreover, studies of the shift in Denmark from depenalisation to penalisation showed a significant increase in criminal justice processing of drug law offenders (Møller, 2010).

While criminal justice processes may harm social integration, alternative measures may prevent these harms from occurring. Hales et al (2004) studied the 'social functioning' (including housing, employment and social support) of people who entered the *de jure* Queensland Illicit Drug Diversion Initiative. They found it to be stable. People who entered the South Australia cannabis expiation notice decriminalisation scheme showed better outcomes in terms of employment, accommodation and relationships than those who received criminal convictions (Lenton, Humeniuk, Heale, & Christie, 2000). Shanahan et al's (2017) survey of people dealt with through decriminalisation with civil penalties or *de facto* police diversion for cannabis use/possession across eight states/territories of Australia produced similar findings, although it should be noted that those who were charged rather than diverted or given a warning were more criminally active at baseline.

Reductions in problematic drug use and increased social integration can affect levels of offending and so of *other crimes*. For example, research in Seattle has shown a 58% reduction in recidivism among Law Enforcement Assisted Diversion participants, when compared against a similar group that went through the traditional criminal justice process (Collins et al., 2015). Payne et al (2008) showed similar reductions in recidivism of between 53% and 63% from police drug diversion in Australian. The RCT of the Turning Point programme in the West Midlands of England found 68% fewer subsequent court cases for all crimes among programme participants than those who were randomised to be prosecuted in the usual way (Lammy, 2017).

Some of the available evidence suggests that alternative measures can be effective in reducing other crimes by diverting police attention to them. Adda et al (2014) tested this directly in the case of Lambeth. They found that the introduction of cannabis warnings was associated with a decrease in the recorded levels of robbery, burglary, theft and handling of stolen goods, fraud, forgery and criminal damage. Such reductions in other crimes were not found in studies of depenalisation in California (Deangelo, Gittings, & Ross, 2018; Ross & Walker, 2017), but this may have been due to the lack of overall impact of this programme in actually reducing arrests for cannabis possession (Deangelo et al., 2018). Across the USA, Huber et al (2016) found an association between state-level decriminalisation and higher recorded rates of burglary and robbery. But this study suffered from the problems identified by Pacula et al (2003; 2015) and Logan (2014). It included states – like Nevada and New York – which did not have lower arrest rates for cannabis offences in the ‘decriminalised’ group. Maier et al (2017) found no significant differences in recorded rates of any crime between states that had or had not decriminalised cannabis possession.

As alternatives for possession do not affect drug supply, their effect of the presence of *organised* crime in illicit drug markets may be limited. The mechanism that Huber et al (2016) postulated for

the increase they observed in robbery and burglary was that these are crimes related to the cannabis market. They speculated – but did not demonstrate – that reducing penalties for cannabis possession increases demand. In the absence of a legalised market, they suggested – but again did not directly observe – an increase in cannabis price, and so an increase in crimes committed to pay for it. This posited causal chain should increase the scale, profitability and violence related to organised crime, as increased profitability would increase the incentives of organised crime groups to use violence to control markets that are not legally regulated; Goldstein’s (1985) ‘systemic’ violence. However, neither Huber et al (2016) nor Maier et al (2017) observe an increase in homicide in decriminalised US states. A previous study found a reduction in violence in states that decriminalised cannabis in the 1970s (Newman & Newman, 2015).

Homicides did increase in the few years immediately after the decriminalisation of possession in Portugal, but had returned towards their 2001 level by 2011 (Laqueur, 2014). There was also an increase in the weight of some drugs seized by the authorities in this period, even though the number of seizures fell (Hughes & Stevens, 2010). This is consistent with the stated intention of the Portuguese policy to shift law enforcement from low-level possession to higher levels of the market (involving smaller numbers of larger seizures). It may exemplify the ‘criminogenic’ impact of disrupting organised crime groups, as offenders compete violently to replace arrested high-level suppliers (Bowling, 2010). Contrary to Huber et al’s postulate, some prices for illicit drugs in Portugal fell after decriminalisation (Félix & Portugal, 2017; Laqueur, 2014).

Several alternative measures show reductions in drug-related *health harms*. Portugal provides the clearest example, with substantial reductions in drug-related deaths, HIV and viral hepatitis infections after 2001 (Félix, Portugal, & Tavares, 2017; Gesaworld, 2013). It should be noted that some of these reductions began before 2001, and Portugal adopted a type of alternative that combined the posited de-stigmatising effects of decriminalisation with the service access effects of

diversion. It also expanded health service, social integration initiatives and welfare support in general. The Netherlands has also succeeded, with a combination of measures, which include depenalisation for cannabis and *de facto* diversion for other illicit drugs, in limiting health harms related to illicit drugs. It has relatively low levels of problematic drug use, drug injecting, drug-related HIV and mortality (Grund & Breeksema, 2017; van Ooyen-Houben & Kleemans, 2015). Germany and the Czech Republic also show relatively low rates of drug-related deaths and HIV infections following decriminalisation, again in a context of relatively high coverage of health and social services.

Social integration, the costs and harms of criminal justice processes, other crimes, organised crime and health harms will all have an influence on the *total social costs* of drug use and policy. Gonçalves et al (2015) found a reduction in total social cost following decriminalisation in Portugal, despite the increased expenditure on the drug treatment services to which some people were diverted. These increased treatment costs were mostly cancelled out by reductions in the costs of dealing with viral hepatitis and HIV. Policing costs remained relatively stable, but there were substantial reductions in drug-related court cases and imprisonments, with less lost income and productivity due to such incarceration. In the Czech Republic, Záborský et al (2001) found that the change to a more restrictive form of decriminalisation in 1999 significantly increased the costs of responding to illicit drugs.

The RCT of the Turning Point diversion scheme showed that the average cost of a case diverted to a therapeutic intervention was 45% lower than cases prosecuted as normal, taking into account the costs of the interventions and court processing (Slothower et al., n.d.). Shanahan et al (2017) found the costs of Australian cannabis cautioning to be 47% lower than arrests. Other researchers have also found cannabis decriminalisation with civil penalties in South Australia and *de facto* police

diversion for cannabis in New South Wales to be substantially less costly than arrest (Ali et al., 1998; Baker & Goh, 2004).

The evidence reviewed here suggests that alternative measures in several contexts have tended to reduce the costs of criminal justice processes and have not consistently increased levels of drug use or related harms. So it is reasonable to suggest that they tend to reduce the overall social costs of illicit drugs and drug policy. But these effects, as we have shown, do not happen automatically in every application of depenalisation, diversion or decriminalisation. Rather, they depend on the way in which differently designed measures interact with pre-existing contexts to trigger causal mechanisms.

In line with Archer's morphogenetic approach, the outcomes then go on to influence the conditions and institutional context in which these and other measures operate in future, in a complex, dynamic system. Reducing harms and costs of criminalisation frees up resources to spend on more effective forms of social integration, as appears to have happened in Portugal. In the USA, decriminalisations of cannabis possession in the 1970s and more recent legalisations of medical marijuana were accompanied by changing attitudes towards cannabis among the general population (Schwadel & Ellison, 2017). These normative mechanisms have gone on to affect the cultural conditions and political environments in which cannabis supply is now being legalised for non-medical use in several states, superseding some decriminalisations (e.g. in California and Vermont).

Limitations

Even more than for most realist studies, the findings presented here must be considered provisional. This is due to limitations in the quality of the data and the nature of the research designs they are based on. Other researchers have noted the general weakness of, for example, data on the

prevalence of drug use (Kilmer, Reuter, & Giommoni, 2015). These data are not only poorly comparable across countries, but have limited validity and reliability in their own geographical setting, with different methods producing different estimates (Giommoni, Reuter, & Kilmer, 2017).

Other researchers (Bretteville-Jensen et al., 2017; Pacula et al., 2015) have noted the inconsistent quality and general lack of rigour in studies of the effects and costs of alternative measures for drug possession. These are complex programmes, which are often not amenable to standard approaches for increasing internal validity, such as RCTs. Policy makers have rarely funded such studies even where they could be run. Most of the studies in the field are observational in nature, leaving them open to the bias and confounding that often affect such research designs (Grimes & Schulz, 2002).

Another limitation is the restriction of our document search to the English language. There is much information published in other languages, which would be very helpful in building and refining programme theory on alternative measures. We hope realist studies in other languages will be carried out and synthesised with this programme theory.

This article presents the first realist review of alternatives to simple possession. It deliberately focused on a select number of countries that could provide useful, policy-focused information on contexts, mechanisms and outcomes. In so doing it both mitigates some of the limitations of previous research, such as their focus on only outcomes, or on one country, or one type of reform.

Conclusion

The relative strength of this article is that it has adopted a theoretically informed and methodologically systematic approach to producing policy-relevant information on alternative measures. It also contributes to the field of 'realist criminology' (Matthews, 2014) and to the

growing number of realist reviews (Berg & Nanavati, 2016). We have gone beyond existing reviews by providing a programme theory of alternative measures for dealing with simple drug possession. This 'web of causal processes' is illustrated in Figure 3. It can be summarised as follows. Structural and cultural properties of social systems influence the institutional contexts in which alternative measures operate. The implementation of alternative measures in these contexts triggers mechanisms in three causal pathways (normative, criminal justice, and health and social services). These alternatives work through complex combinations of contexts and mechanisms to produce differing outcomes. These outcomes then go on to affect the conditions and institutional contexts within which measures in response to drug possession operate.

Not all the theorised mechanisms are supported by the evidence we reviewed. We do not find strong evidence that reducing punishments for drug possession consistently increases drug use. Other theorised mechanisms are more strongly supported. Many implementations of alternative measures have reduced arrests and convictions for low-level drug offences. In doing so, they have reduced harms and costs incurred by the criminal justice system. There is little evidence that they increase health harms related to drug use, partly due to the lack of a consistent effect in increasing the prevalence of drug use. Some alternative measures in some contexts (e.g. those which divert people to effective treatment or social services) can reduce health and crime harms. We find little evidence that these alternative measures increase the scale or violence of organised crime. As they do not directly affect drug supply, it is unlikely that they do much to reduce such harms. Overall, it is possible – but not inevitable – for alternative measures to reduce overall social costs related to illicit drug use.

This review also suggests lessons about the contexts under which policy makers are likely to see better outcomes from reform. They includes achieving awareness and support from the public, police and prosecutors for particular reforms, simultaneous investment in treatment and social

services, and funding and use of research and evaluation. We recommend that policy makers and researchers use and refine the provisional programme theory we provide in designing and evaluating alternatives to criminalisation for dealing with drug possession.

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References

- ACMD. (2016). *Reducing opioid-related deaths in the UK*. London: Home Office.
- Adda, J., McConnell, B., & Rasul, I. (2014). Crime and the Depenalization of Cannabis Possession: Evidence from a Policing Experiment. *Journal of Political Economy*, 122(January), 1130–1202.
- Ali, R., Christie, P., Hawks, D., Sutton, A., Hall, W., & Allsop, S. (1998). *The social impacts of the Cannabis Expiation Notice Scheme in South Australia: Summary report*.
- Archer, M. S. (1995). *Realist Social Theory: The Morphogenic Approach*. Cambridge: Cambridge University Press.
- Arredondo, J., Strathdee, S. A., Cepeda, J., Abramovitz, D., Artamonova, I., Clairgue, E., ... Beletsky, L. (2017). Measuring improvement in knowledge of drug policy reforms following a police education program in Tijuana, Mexico. *Harm Reduction Journal*, 14(1), 72.
- Babor, T. F., & et al. (2018). *Drug Policy and the Public Good. 2nd edition*. Oxford: Oxford University Press.
- Baker, J., & Goh, D. (2004). *The Cannabis Cautioning Scheme Three Years On: An Implementation and Outcome Evaluation*. Sydney: NSW Bureau of Crime Statistics and Research.
- Belackova, V., & Stefunkova, M. (2018). Interpreting the Czech drug decriminalization: The glass is half full – Response to Cerveny, J., Chomynova, P., Mravcik, V., & van Ours, J.C. (2017).

- Cannabis decriminalization and the age of onset of cannabis use. *International Journal of Drug Policy*, 52, 102–105.
- Beletsky, L., Wagner, K. D., Arredondo, J., Palinkas, L., Magis Rodríguez, C., Kalic, N., ... Strathdee. (2016). Implementing Mexico's "Narcomenudeo" Drug Law Reform. *Journal of Mixed Methods Research*, 10(4), 384–401.
- Berg, R. C., & Nanavati, J. (2016). Realist Review: Current Practice and Future Prospects. *Journal of Research Practice*, 12(1), 1–28.
- Bewley-Taylor, D. R. (2012). *International Drug Control: Consensus Fractured*. Cambridge: Cambridge University Press.
- Bollinger, L. (2004). Drug Law and Policy in Germany and the European Community: Recent Developments. *Journal of Drug Issues*, 34, 491–510.
- Bowling, B. (2010). Criminal Iatrogenesis. Presentation to the conference of the *British Society of Criminology*. Leicester.
- Braakmann, N., & Jones, S. (2014). Cannabis depenalisation, drug consumption and crime – Evidence from the 2004 cannabis declassification in the UK. *Social Science & Medicine*, 115(0), 29–37.
- Bretteville-Jensen, A. L., Mikulic, S., Bem, P., Papamalis, F., Harel-Fisch, Y., Sieroslowski, J., ... Costa Storti, C. (2017). *Costs and unintended consequences of drug control policies. Report by the expert group on possible adverse effects and associated costs of drug control policies*. Starsbourg: Pampidou Group, Council of Europe.
- Cameron, L., & Williams, J. (2001). Cannabis, alcohol and cigarettes: Substitutes or complements? *Economic Record*, 77, 19–34.
- Caulkins, J. P., & Kleiman, M. (2018). Lessons to be Drawn from U.S. Drug Control Policies. *European Journal on Criminal Policy and Research*, 24(2), 125–144. <https://doi.org/10.1007/s10610-018-9376-3>.
- Cecho, R., Baska, T., Svihrova, V., & Hudeckova, H. (2017). Legislative norms to control cannabis use in the light of its prevalence in the Czech Republic, Poland, Slovakia, and Hungary. *Central European Journal of Public Health*, 25(4), 261–265.
- Christie, P., & Ali, R. (2000). Offences under the Cannabis Expiation Notice scheme in South Australia. *Drug and Alcohol Review*, 19, 251.
- Cohen, S. (1985). *Visions of Social Control*. Cambridge: Polity Press.
- Collins, S. E., Lonczak, H. S., & Clifasefi, S. L. (2015). *LEAD program evaluation: Criminal justice and legal system utilization and associated costs*. Seattle: University of Washington
- Cruickshank, J. (2003). *Realism and sociology: anti-foundationalism, ontology and social research*. London: Routledge.
- Cuskey, W. R., Berger, L. H., & Richardson, A. H. (1978). The effects of marijuana decriminalization on drug use patterns: A literature review and research critique. *Contemporary Drug Problems*, 7, 491.
- Damrongplasit, K., Hsiao, C., & Zhao, X. (2010). Decriminalization and Marijuana Smoking Prevalence: Evidence From Australia. *Journal of Business & Economic Statistics*, 28(3), 344–356.
- Deangelo, G. J., Gittings, R. K., & Ross, A. (2018). Police incentives, policy spillovers, and the enforcement of drug crimes. *Review of Law and Economics*, 14(1). <https://doi.org/10.1515/rle-2016-0033>.
- Degenhardt, L., Dierker, L., Chiu, W. T., Medina-Mora, M. E., Neumark, Y., Sampson, N., ... Kessler, R.

- C. (2010). Evaluating the drug use “gateway” theory using cross-national data: consistency and associations of the order of initiation of drug use among participants in the WHO World Mental Health Surveys. *Drug and Alcohol Dependence*, *108*(1–2), 84–97.
- Donnelly, N., Hall, W., & Christie, P. (1995). The effects of partial decriminalisation on cannabis use in South Australia, 1985 to 1993. *Australian Journal of Public Health*, *19*(3), 281–287.
- Donnelly, N., Hall, W., & Christie, P. (2000). The effects of the Cannabis Expiation Notice scheme on levels and patterns of cannabis use in South Australia: evidence from National Drug Strategy Household Surveys 1985–95. *Drug and Alcohol Review*, *19*, 265–269.
- EMCDDA. (2004). *Denmark: New development, trends and in-depth information on selected issues*.
- EMCDDA. (2017). *Cannabis legislation in Europe*. Lisbon: European Monitoring Centre for Drugs and Drug Addiction.
- Félix, S., & Portugal, P. (2017). Drug decriminalization and the price of illicit drugs. *International Journal of Drug Policy*, *39*, 121–129.
- Félix, S., Portugal, P., & Tavares, A. (2017). *Going after the addiction, not the addicted: The impact of drug decriminalization in Portugal*. IZA DP No. 10895. Retrieved from <http://ftp.iza.org/dp10895.pdf>
- Fetherston, J., & Lenton, S. (2007). *Effects of the Western Australian cannabis infringement notice scheme on public attitudes, knowledge and use: Comparison of pre-and post change data*. Curtin University of Technology, National Drug Research Institute. Retrieved from <http://ndri.curtin.edu.au/ndri/media/documents/publications/T177.pdf>
- Gesaworld, S. A. (2013). *External evaluation of the National Strategy for the Fight Against Drugs 2005–2012 (PNCDT)*. Retrieved from http://www.emcdda.europa.eu/document-library/externalevaluation-national-plan-against-drugs-and-drug-addiction-2005-2012-pncdt-portugal_en
- Giommoni, L., Reuter, P., & Kilmer, B. (2017). Exploring the perils of cross-national comparisons of drug prevalence: The effect of survey modality. *Drug and Alcohol Dependence*, *181*(June), 194–199.
- Goffman, E. (1963). *Stigma: Notes on the Management of Spoiled identity*. New York: Simon & Schuster.
- Goldstein, P. (1985). The drugs-violence nexus: A tripartite framework. *Journal of Drug Issues*, *15*, 493–506.
- Gonçalves, R., Lourenço, A., & Silva, S. N. da. (2015). A social cost perspective in the wake of the Portuguese strategy for the fight against drugs. *The International Journal of Drug Policy*, *26*(2), 199–209.
- Gottfredson, M. R. (2011). Sanctions, situations, and agency in control theories of crime. *European Journal of Criminology*, *8*(2), 128–143.
- Grimes, D. A., & Schulz, K. F. (2002). Bias and causal associations in observational research. *Lancet*, *359*(9302), 248–252.
- Grucza, R., Vuolo, M., Krauss, M., Plunk, A., Agrawal, A., Chaloupka, F. J., & Bierut, L. (2018). Cannabis decriminalization: A study of recent policy change in five U.S. states. *International Journal of Drug Policy*, *59*, 67–75.
- Grund, J. P., & Breeksema, J. J. (2017). Drug policy in the Netherlands. In R. Colson & H. Bergeron (Eds.), *European Drug Policies: The Ways of Reform*. New York: Routledge.
- Hales, J., Mayne, M., & Swan, A. (2004). *Evaluation of the Queensland Illicit Drug Diversion Initiative*

- Police Diversion program: Final report*. Kent Town, South Australia: Health Outcomes International Pty Ltd and Turning Point Alcohol and Drug Centre.
- Hamilton, I., Lloyd, C., Hewitt, C., & Godfrey, C. (2014). Effect of reclassification of cannabis on hospital admissions for cannabis psychosis: A time series analysis. *International Journal of Drug Policy*, 25(1), 151–156.
- Holzer, T. (2017). German drug policy. In R. Colson & H. Bergeron (Eds.), *European Drug Policies: The Ways of Reform* (pp. 100–113). London: Routledge.
- Houborg, E. (2010). Control and welfare in Danish drug policy. *Journal of Drug Issues*, 40(4), 783–804.
- Houborg, E. (2017). Danish drug policy. In R. Colson & H. Bergeron (Eds.), *European Drug Policies: The Ways of Reform* (pp. 73–86). London: Routledge.
- Huber, A., Newman, R., & LaFave, D. (2016). Cannabis control and crime: Medicinal use, depenalization and the war on drugs. *B E Journal of Economic Analysis & Policy*, 16(4), 35. <https://doi.org/10.1515/bejeap-2015-0167>
- Hughes, B., Matias, J., & Griffiths, P. (2018). Inconsistencies in the assumptions linking punitive sanctions and use of cannabis and new psychoactive substances in Europe. *Addiction*, 2155–2157.
- Hyshka, E. (2009). Turning failure into success: What does the case of Western Australia tell us about Canadian cannabis policy-making? *Policy Studies*, 30(5), 513–531.
- Inciardi, J. A. (2004). Proposition 36: What did you really expect? *Criminology & Public Policy*, 3(4), 593–598.
- Ipsos MORI. (2002). Lambeth cannabis policing experiment. Retrieved from <http://www.mori.com/polls/2002/polfound.shtml>
- Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1981). Marijuana decriminalization: The impact on youth 1975-1980. Ann Arbor: Institute for Social Research
- Kelly, E., & Rasul, I. (2014). Policing cannabis and drug related hospital admissions: Evidence from administrative records. *Journal of Public Economics*, 112, 89–114.
- Kelly, E., & Rasul, I. (2014). Policing cannabis and drug related hospital admissions: Evidence from administrative records. *Journal of Public Economics*, 112(August 2013), 89–114.
- Kilmer, B., Reuter, P., & Giommoni, L. (2015). What can be learned from cross-national comparisons of data on illegal drugs? In M. Tonry (Ed.), *Crime and Justice, Volume 44*. Chicago: University of Chicago Press.
- Kleiman, M. A. R. (2009). *When Brute Force Fails: How to Have Less Crime and Less Punishment*. Princeton: Princeton University Press.
- Kotlaja, M. M., & Carson, J. V. (2018). Cannabis Prevalence and National Drug Policy in 27 Countries: An Analysis of Adolescent Substance Use. *International Journal of Offender Therapy and Comparative Criminology*, <https://doi.org/10.1177/0306624X18814184>
- Krajewski, K. (2013). The Tale of Two Drug Policy Approaches – Polish and Portuguese drug policies during 2000s and their effects. In A.Kuhn, P.Margot, M.F.Aebi, C.Schwarzenegger, A.Donatsch, & D.Jositsch (Eds.), *Criminology, Criminal Policy and Criminal Law in an International Perspective. Essays in Honour of Martin Killias on the occasion of his 65th birthday* (pp. 233–246). Berne: Stämpfli Verlag.
- Laqueur, H. (2014). Uses and Abuses of Drug Decriminalization in Portugal. *Law & Social Inquiry*. 40(3), 746–781.

- Lemert, E. M. (1951). *Social Pathology*. New York: McGraw-Hill.
- Lempert, R. (2010). Toward a Theory of Decriminalization. *University of Michigan Public Law and Legal Theory Working Paper Series*, 209. <https://doi.org/10.2139/ssrn.1662653>
- Lenton, S., Humeniuk, R., Heale, P., & Christie, P. (2000). Infringement versus conviction: The social impact of a minor cannabis offence in SA and WA. *Drug and Alcohol Review*, 19, 257–264.
- Levine, H. G. (2009). *New York City's Marijuana Arrest Crusade ... Continues*. New York: City University of New York.
- Liberati, A., Altman, D. G., Tetzlaff, J., Mulrow, C., Gøtzsche, P. C., Ioannidis, J. P. A., ... Moher, D. (2009). The PRISMA statement for reporting systematic reviews and meta-analyses of studies that evaluate healthcare interventions: explanation and elaboration. *BMJ*, 339, b2700.
- Logan, W. A. (2014). After the cheering stopped: Decriminalization and legalism's limits. *Cornell Journal of Law and Public Policy*, 24, 319.
- MacCoun, R. J. (2011). What can we learn from the Dutch cannabis coffeeshop system? *Addiction*, 106(11), 1899–1910.
- MacCoun, R. J., Pacula, R. L., Reuter, P., Chiqui, J., & Harris, K. (2009). Do citizens know whether they live in a decriminalization state? State marijuana laws and perceptions. *Review of Law and Economics*, 5(1), 347-371.
- Maier, S. L., Mannes, S., & Koppenhofer, E. L. (2017). The Implications of Marijuana Decriminalization and Legalization on Crime in the United States. *Contemporary Drug Problems*, 44(2), 125–146.
- Maloff, D. (1981). A Review of the Effects of the Decriminalization of Marijuana. *Contemporary Drug Problems*, (Fall), 307.
- Matthews, R. (2014). *Realist Criminology*. Basingstoke: Palgrave Macmillan.
- Matza, D. (1964). *Delinquency and drift*. New York, NY: John Wiley and Sons.
- May, T., Duffy, M., Warburton, H., & Hough, M. (2007). *Policing cannabis as a Class C drug: An arresting change?* York: Joseph Rowntree Foundation.
- McAra, L., & McVie, S. (2012). Negotiated order: The groundwork for a theory of offending pathways. *Criminology and Criminal Justice*, 12, 347–375.
- McGeorge, J., & Aitken, C. K. (1997). Effects of cannabis decriminalization in the Australian capital territory on university students' patterns of use. *Journal of Drug Issues*, 27(4), 785–794.
- McKeganey, N. (2010). *Controversies in Drugs Policy and Practice*. Basingstoke: Palgrave.
- McLean, K. (2017). A kind of peace: Tracking the reflexive and resilient drug war. *International Journal of Drug Policy*, 51, 117-120.
- Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J., & Patrick, M. E. (2015). Trends in use of marijuana and attitudes toward marijuana among youth before and after decriminalization: The case of California 2007–2013. *International Journal of Drug Policy*, 26(4), 336–344.
- Miron, J. A. (2002). *The effect of marijuana decriminalization on the budgets of Massachusetts Governments, with a discussion of decriminalization's effect on marijuana use. Report to the Drug Policy Forum of Massachusetts*. Boston: Harvard University.
- Monaghan, M., & Boaz, A. (2018). Evidence from realist reviews, its influence and impact. In N. Emmel, J. Greenhalgh, A. Manzano, M. Monaghan, & S. Dalkin (Eds.), *Doing Realist Research* (pp. 167–184). London: Sage

- Newman, A. E., & Newman, J. A. (2015). Financial and social impacts of decriminalizing marijuana: A state statistical analysis aided by GIS mapping. Retrieved from https://www.researchgate.net/publication/281641003_Financial_and_Social_Impacts_of_Decriminalizing_Marijuana_A_State_Statistical_Analysis_Aided_by_GIS_Mapping
- Nguyen, H., & Reuter, P. (2012). How Risky Is Marijuana Possession? Considering the Role of Age, Race, and Gender. *Crime & Delinquency*, 58(6), 879–910.
- Nolan, J. L. (2002). *Drug Courts: In Theory and in Practice*. New York: Aldine de Gruyter.
- Pacula, R. L., Chriqui, J. F., & King, J. (2003). *Marijuana decriminalization: What does it mean in the United States?* NBER Working Paper No. 9690. Retrieved from <https://www.nber.org/papers/w9690>
- Pacula, R. L., MacCoun, R., Reuter, P., Chriqui, J., Kilmer, B., Harris, K., ... Schäfer, C. (2005). What does it mean to decriminalize marijuana? A cross-national empirical examination. *Advances in Health Economics and Health Services Research*, 16, 347–369.
- Pacula, R. L., MacCoun, R., Reuter, P., Chriqui, J., Kilmer, B., Harris, K., ... Schäfer, C. (2015). What Does it Mean to Decriminalize Marijuana? A Cross-National Empirical Examination. *Substance Use: Individual Behaviour, Social Interactions, Markets and Politics*, 16, 347–369.
- Pawson, R. (2002). Evidence-based policy: The promise of “realist synthesis.” *Evaluation*, 8(3), 340–358.
- Pawson, R. (2006). *Evidence-based policy: a realist perspective*. London: Sage.
- Pawson, R., & Tilley, N. (1998). *Realistic Evaluation*. London: Sage.
- Quintas, J., & Arana, X. (2017b). Decriminalization: Different Models in Portugal and Spain. In E. U. Savona, M. A. R. Kleiman, & F. Calderoni (Eds.), *Dual Markets* (pp. 121–143). New York: Springer International Publishing.
- Quintas, J., & Paulo Fonseca, E. (2002). Portugal country report. In D. Ballotta, N. Dorn, B. De Ruyver, C. Black, K. Van Impe, & T. Vander Beken (Eds.), *Prosecution of drug users in Europe*. Lisbon: EMCDDA.
- Ragin, C. C. (2000). *Fuzzy Set Social Science*. Chicago: University of Chicago Press.
- Ross, A., & Walker, A. (2017). The impact of low-priority laws on criminal activity: Evidence from California. *Contemporary Economic Policy*, 35(2), 239–252.
- Saul, J. E., Willis, C. D., Bitz, J., & Best, A. (2013). A time-responsive tool for informing policy making: Rapid realist review. *Implementation Science*, 8, 103.
- Schwadel, P., & Ellison, C. G. (2017). Period and Cohort Changes in Americans’ Support for Marijuana Legalization : Convergence and Divergence across Social Groups Period and Cohort Changes in Americans’ Support for. *The Sociological Quarterly*, 58(3), 405–428.
- Shearn, K., Allmark, P., Piercy, H., & Hirst, J. (2017). Building Realist Program Theory for Large Complex and Messy Interventions. *International Journal of Qualitative Methods*, 16(1), 160940691774179.
- Shiner, M. (2015). Drug policy reform and the reclassification of cannabis in England and Wales: A cautionary tale. *International Journal of Drug Policy*, 26(7), 696–704.
- Simons-Morton, B., Pickett, W., Boyce, W., ter Bogt, T. F. M., & Vollebergh, W. (2010). Cross-national comparison of adolescent drinking and cannabis use in the United States, Canada, and the Netherlands. *International Journal of Drug Policy*, 21(1), 64–69.
- Single, E., Christie, P., & Ali, R. (2000). The impact of cannabis decriminalisation in Australia and the

- United States. *Journal of Public Health Policy*, 21(2), 157–186.
- Slothower, M., Neyroud, P., Hobday, J., Sherman, L., Ariel, B., Neyroud, E., & Barnes, G. (n.d.). *Presentation. The Turning Point Project: Implementation and 2-year Outcomes*. Cambridge: University of Cambridge.
- Suggs, D. L. (1981). A qualitative and quantitative analysis of the impact of Nebraska's decriminalization of marijuana. *Law and Human Behavior*, 5(1), 45.
- van Ooyen-Houben, M., & Kleemans, E. (2015). Drug policy: The "Dutch Model." In M. Tonry (Ed.), *Crime and Justice: A Review of Research, Vol 44* (pp. 165–226). Chicago: University of Chicago Press.
- Vuolo, M. (2013). National-level drug policy and young people's illicit drug use: A multilevel analysis of the European Union. *Drug and Alcohol Dependence*, 131(1–2), 149–156.
- Waddell, K., & Wilson, M. G. (2017). *Rapid Synthesis: Examining the Impact of Decriminalizing or Legalizing Cannabis for Recreational Use*. Hamilton, Canada: McMaster Health Forum/Michael G. DeGroot Centre for Medicinal Cannabis Research.
- Westhorp, G. (2018). Understanding mechanisms in realist evaluation and research. In N. Emmel, J. Greenhalgh, A. Manzano, M. Monaghan, & S. Dalkin (Eds.), *Doing Realist Research* (pp. 41–58). London: Sage.
- Wikström, P.-O. H., & Sampson, R. J. (2006). *The Explanation of Crime: Context, Mechanisms and Development*. Cambridge: Cambridge University Press.
- Wong, G. (2018). Data gathering in realist reviews: Looking for needles in haystacks. In N. Emmel, J. Greenhalgh, A. Manzano, M. Monaghan, & S. Dalkin (Eds.), *Doing Realist Research* (pp. 131–145). London: Sage.
- Wong, G., Greenhalgh, T., Westhorp, G., Buckingham, J., & Pawson, R. (2013). RAMESES publication standards: Meta-narrative reviews. *BMC Medicine*, 11(21), 1741.
- Wong, G., Westhorp, G., Pawson, R., & Greenhalgh, T. (2013). Realist synthesis. RAMESES training materials. The RAMESES Project. Retrieved from https://www.ramesesproject.org/media/Realist_reviews_training_materials.pdf
- Worden, R. E., & McLean, S. J. (2018). Discretion and diversion in Albany's LEAD program. *Criminal Justice Policy Review*, 29(6–7), 584–610.
- Younger-Coleman, N., Cumberbatch, C., Campbell, J., Ebanks, C., Williams, D., & O'Meally, V. (2017). *Jamaica National Drug Use Prevalence Survey 2016: Technical report for the OAS/CICAD & NCDA*. Retrieved from: <http://www.cicad.oas.org/oid/pubs/JamaicaNationalHouseholdDrugSurvey2017ENG.pdf>
- Zábranský, T. (2004). Czech drug laws as an arena of drug policy battle. *Journal of Drug Issues*, 34(3), 661–686.
- Zábranský, T., Mravčík, V., Gajdošíková, H., & Milovský, M. (2001). *Impact analysis project of new drugs legislation. Summary final report*. Retrieved from https://www.tni.org/files/publicationdownloads/czech_evaluation_2001_pad_en.pdf
- Zampini, G. F. (2018). Evidence and morality in harm-reduction debates: can we use value-neutral arguments to achieve value-driven goals? *Palgrave Communications* 2018 4:1, 4(62), 1–10.
- Zeman, P., Štefunková, M., & Trávníčková, I. (2017). Increase in figures on drug offences in the Czech Republic: An epidemic of drug crime or something else? *Česká Kriminologie (Czech Criminology)*, 2(1), 1–13.

Figure 1: Initial rough programme theory of alternative measures for dealing with drug possession

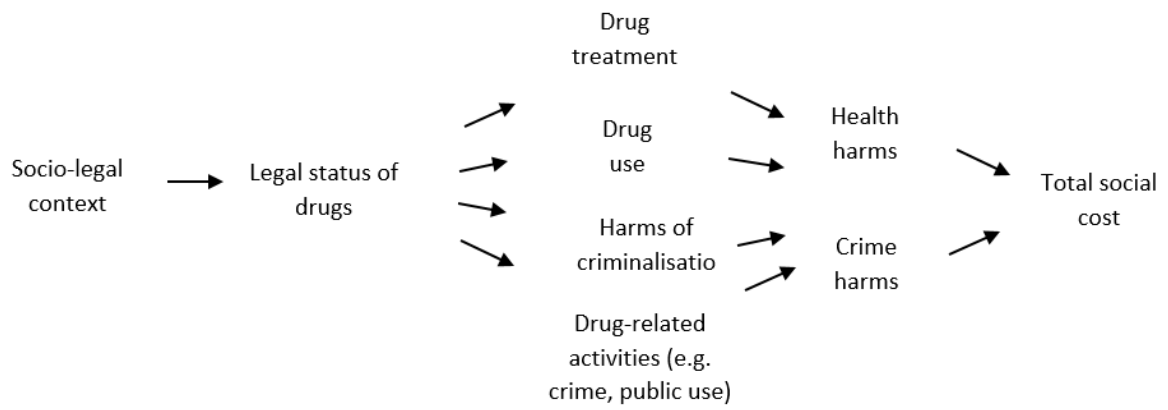


Figure 2: Results of identification of documents on alternatives for dealing with simple drug possession

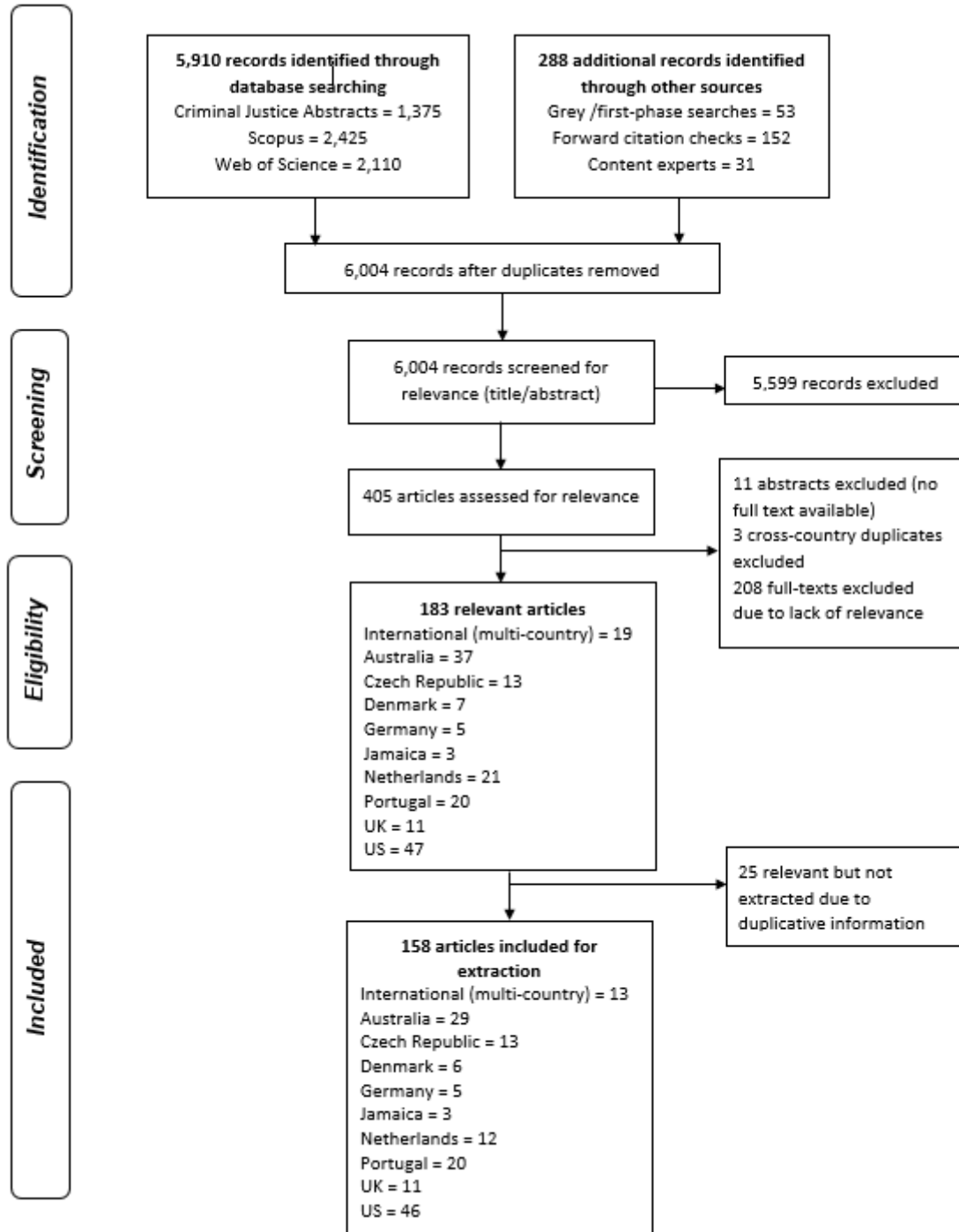


Figure 3: Programme theory of contexts, mechanisms and outcomes of alternative measures for dealing with drugs possession

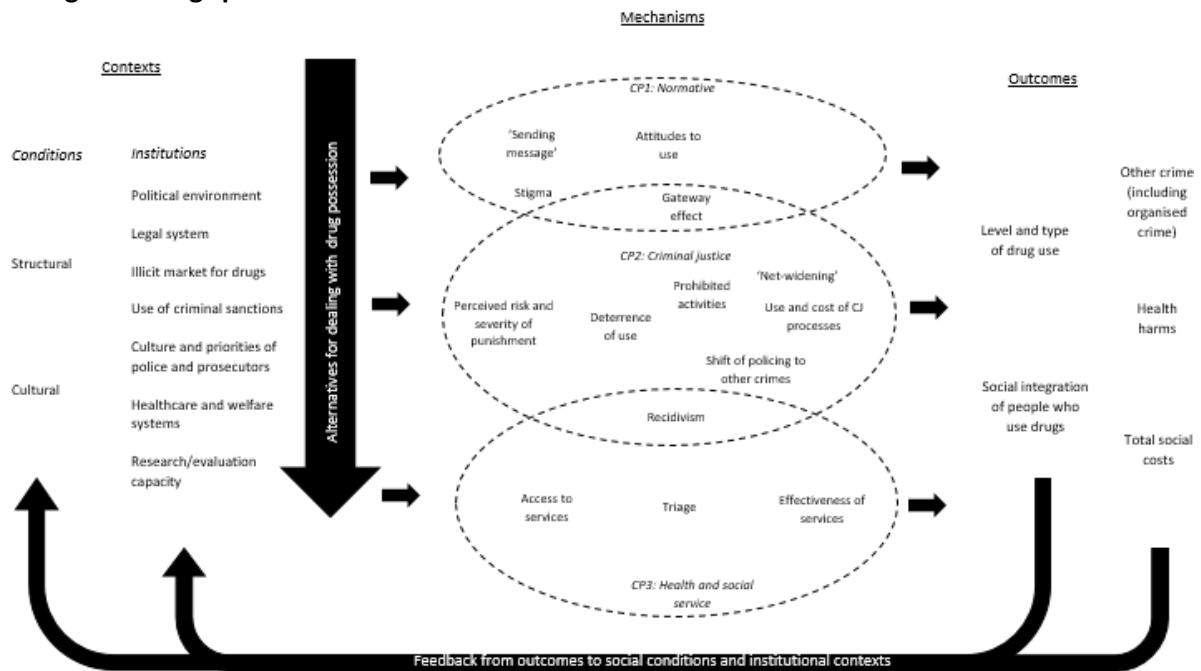


Table 1: Types of alternative to criminalisation for drug possession

| <i>Type</i> | <i>Examples</i> |
|---|---|
| Depenalisation | Netherlands <i>gedoogbeleid</i> 'tolerance policy' (cannabis), US police 'deprioritisation', UK cannabis and khat warnings, Denmark warnings (1969-2004). |
| Diversion (<i>de facto</i>) | Police diversion schemes in most Australian states, Netherlands diversion ('hard' drugs only), English police diversion schemes in Durham, West Midlands and Avon, US LEAD program, Baltimore pre-booking scheme. |
| Diversion (<i>de jure</i>) | South Australian Police Drug Diversion Initiative, Queensland Police Drug Diversion Program & WA Cannabis Intervention Requirement |
| Decriminalisation with targeted diversion to health/social services | Portugal and some US states (e.g. Maryland, Connecticut & Nebraska). |
| Decriminalisation with civil or administrative sanctions | Czech Republic, Jamaica, Cannabis Expiation Notice schemes in three Australian states (ACT, SA, NT), several US states (e.g. Ohio, Mississippi, Massachusetts, Rhode Island). |
| Decriminalisation with no sanctions | Germany (by virtue of constitutional court ruling) and Vermont USA (since 2018). |

ⁱ The italic words for country and state were replaced with the names of the actual jurisdictions we had selected and the search was run separately for each jurisdiction. The asterisks denote 'wild' word parts, which allow the database search to include words which have the same stem, but different endings (e.g. decriminalisation and decriminalizing, effectiveness and effects).

ⁱⁱ The full list of selected documents is Appendix 1 of the 'read me' document at: <http://doi.org/10.22024/UniKent/01.01.66>

ⁱⁱⁱ See Stevens et al (in preparation) for details of this typology.

