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Book of abstracts
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Oral presentations

**DAY 1: TUESDAY 30 MAY**

**Cannabis use and behaviors in Canada, United States, Australia, and New Zealand: Findings from the International Cannabis Policy Study**

**Trends in cannabis products and consumer patterns of use: Understanding the impact of cannabis legalization in Canada**

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In 2018, Canada became only the second country after Uruguay to legalize ‘non-medical’ cannabis at the federal level. This presentation will examine how the Canadian cannabis market has evolved since legalization using population-level data over a 5-year period. Data will be presented from the International Cannabis Policy Study, a series of national surveys conducted annually since 2018 with 236,025 respondents aged 16-65 from four countries: Canada, the United States (US), Australia, and New Zealand. ICPS surveys included detailed measures of patterns of use, product forms, and a range of policy-relevant outcomes, with consistent measures over time and across countries. The presentation will examine changes in Canada immediately pre-legalization and in the first four years post-legalization in patterns of use for each of 9s product categories, including frequency of use, ‘poly’ product use, and changes in the profile of consumers. The presentation will also consider how regulatory measures—such as THC limits and product standards implemented in Canadian provinces—have influenced consumer use of higher THC products, including vaping products and ‘solid extracts’. Trends in Canada will be compared with trends in US states that have and have not legalized ‘recreational’ cannabis, as well as Australia and New Zealand, in which only medical cannabis is legal. Finally, the presentation will consider implications for cannabis regulatory frameworks within legal markets, including transitioning consumers from ‘illegal’ to ‘legal’ retail sources.

**Examining the effect of provincial policies on transitions to the legal retail market in Canada**

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The legal cannabis market in Canada has advanced since legalization. Retail markets are determined by the provinces rather than at the federal level in Canada and therefore, legal markets and consumers transition to the legal market may vary across the provinces. Findings will be presented from four
years of data post-legalization (2019-2021) from the International Cannabis Policy Study, a repeat cross-sectional study. The presentation will focus on respondents who had consumed cannabis in the past 12-months (n2019=5,069; n2020=5,011; n2021~5,000). The current presentation will provide a summary of transitions to the legal cannabis market based on sales and national survey data. Data will be presented on home cultivation, legal sourcing of cannabis products, and perceptions of cannabis obtained from legal sources (vs. illegal) in terms of perceived quality, price, safety of using, and safety of buying. For each measure, provincial and national-level changes from 2019, 2020, and 2021 will be presented. Data will also be presented on the relationship between home cultivation, legal sourcing and perceptions of legal cannabis and individual level factors, such as frequency of cannabis use. Legal sourcing and consumer perceptions are an important factor in the transition to legal markets, both as a reflection of changing retail access, and as an individual level predictor of purchasing behaviours. The Canadian experience offers important lessons to other jurisdictions examining cannabis legalization.

Translating, modelling and evaluating cannabis policy reform

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Background – In New Zealand, gangs are increasingly linked to retail illegal drug selling and it is claimed they purposively suppress the availability of cannabis in favor of the more profitable methamphetamine.

Aims – (1) Explore predictors of higher levels of gang involvement in retail illegal drug markets. (2) Investigate whether higher levels of gang involvement and number of gangs are predictors of differences in the price, potency and accurate sale weight of different drug types compared to lower levels of gang involvement.

Methods – An online convenience drug survey (New Zealand Drugs Trends Survey) was broadly promoted via Facebook™ from November 2018 to March 2019 (n=10,966). Respondents were asked to what extent gangs control the sale each drug type (1=none-5=only gangs), how many different gangs were selling in the area (1=many-4=one), and how price, potency and weight provided by gangs compared to non-gang sellers. Results – Region was a significant predictor of extent of gang involvement in drug selling. Higher methamphetamine availability and conversely lower cannabis availability was associated with higher gang involvement. Higher relative price of cannabis was positively associated with extent of gang involvement and lower number of different gang sellers. Lower sale weight of cannabis was positively associated with greater gang involvement and lower number of different gang sellers. Weaker cannabis potency was associated with lower number of different gang sellers. Conclusions - Economic theory of monopoly offers important explanations of the findings.

Trends in social norms surrounding cannabis use following non-medical legalization in Canada

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Social norms play an important role in cannabis use in regard to initiation among young people and perceived stigma among people who use cannabis. ‘Non-medical’ (i.e., ‘recreational’) cannabis use was legalized in Canada in October 2018; however, to date, there is little evidence on how social norms have changed following legalization in Canada, or in other jurisdictions that have legalized cannabis.
Data will be presented from the International Cannabis Policy Study, a series of national surveys conducted annually since 2018. The presentation will report data from 58,045 Canadian respondents from the year immediately prior to cannabis legalization (2018) compared to the three years post-legalization (2019-2021). Data will be presented on measures of injunctive norms (perceived approval of marijuana) and descriptive norms (comfort openly using marijuana in different social contexts). The findings will also present differences in social norms among important sub-populations, including by socioeconomic status (education and income adequacy), demographics (age, sex, and race), and by cannabis use, including people authorized for medical cannabis use compared to ‘recreational’ consumers. Overall, the presentation will provide novel findings on the extent to which federal cannabis legalization affects trends in social norms in the immediate post-legalization period.
Drug supply: networks of suppliers for legal and illegal substances

What works to prevent illicit drug production and trafficking? Reflections on the methodological challenges associated with assessing the effectiveness of organised crime prevention

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Since the late 1990s, European governments have sought to develop a preventative approach to tackling organised crime and related illicit activities – including illicit drug production and trafficking. Yet, limited empirical evidence is available to determine ‘what works’. This paper discusses the state-of-the-art related to evaluative literature on instruments aimed at preventing organised crime and engages with some of the methodological challenges associated with this exercise. It draws on a research project carried out by RAND Europe and commissioned by the Dutch Research and Documentation Centre (WODC), which sought to identify and review existing evaluative literature on instruments aimed at preventing drug trafficking and production, human trafficking, and arms smuggling. The paper presents an overview of the research findings and reflects on the authors’ experience conducting this research and the study’s limitations. First, it highlights the poor quality of evidence available, and the methodological hurdles associated with evaluative research related to organised crime. Then, it questions whether the notions of ‘organised crime’ and ‘prevention’ are useful for designing instruments aimed at tackling the related phenomena. Finally, it concludes with recommendations for future evaluations of policy instruments and reflections on bridging the gap between government needs and academic research.

Analyzing illegal psychostimulant trafficking networks using noisy and sparse data

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This paper applies analytical approaches to map illegal psychostimulant (cocaine and methamphetamine) trafficking networks in the US using purity-adjusted price data from the System to Retrieve Information from Drug Evidence (STRIDE) dataset. We make two assumptions for any two connected nodes: (i) the purity-adjusted price is lower at the origin than at the destination and (ii) price perturbations are transmitted from origin to destination, resulting in more price co-movement between the two nodes than between two unconnected nodes. We then adopt a two-step analytical approach: we formulate the data aggregation problem as an optimization problem to temporally match data in different states to analyze co-movement, then construct an inferred network of connected states and examine its properties. We find, first, that the inferred cocaine network created from the optimally aggregated dataset explains 46% of the anecdotal evidence, compared to 28.4%
for an over-aggregated and 14.5% for an under-aggregated dataset. Second, our network reveals a number of phenomena, some aligning with what is known and some previously unobserved. To demonstrate the applicability of our method, we compare our cocaine data analysis results with parallel analysis of methamphetamine data. These results likewise align with prior knowledge but also present new insights about locations not previously identified based on the anecdotal evidence. Our findings show that an optimally aggregated dataset can provide a more accurate picture of an illicit drug network than can suboptimally aggregated data.

**Like birds of a feather? Network analysis on the connectedness between the cannabis, tobacco, alcohol and pharmaceutical industries**

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Despite legalizing cannabis in Canada, Uruguay and parts of the United States, the debate on legalizing cannabis is still ongoing. Several countries opted for a commercial model regarding cannabis regulation. Research showed that the legalization of both medical and recreational cannabis directly affects the sales of alcohol, tobacco and medicines, each in a different manner. Therefore, the alcohol, tobacco and pharmaceutical companies have vested interests in the upcoming cannabis industry. Legalization of cannabis can be seen as both a threat or an opportunity to the other industries. To study this relationship, a network analysis was conducted. Annual reports, newsletters, etc. of various cannabis companies were studied. This analysis revealed that the tobacco, alcohol and pharmaceutical industry try to take advantage of the upcoming cannabis industry to keep their sales and revenue as high as possible. They do this by introducing new products, but also by collaborations and large investments into the cannabis industry. Next to the network analysis, the flow of employees between the industries was researched. It became clear that in the top management positions of the cannabis companies, most of the employees had a professional history in the alcohol, tobacco or pharmaceutical industry. It can therefore be assumed that much knowledge and practices flow from these industries into the cannabis industry. As such, we conclude that these mature industries consider the legalization of cannabis as an opportunity they aim to take advantage of.

**Unraveling some modern mysteries about illegal drug supply**

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A standard approach to understanding drug markets has been the Risks and Prices model (Reuter and Kleiman, 1986); a dynamic version of the static model was developed by Caulkins and Reuter (2011). Both versions assume drug markets move to equilibrium and that drug trafficking organizations can fairly be modelled as profit-motivated enterprises, though not necessarily fully informed. More recent empirical studies and the emergence of new market forms (e.g., on-line sales, cryptomarkets) have increased the need for more robust models that take account of such distinctive aspects of illegal drug markets as: (a) Why have illegal drug markets been so “conservative” in terms of product offerings? Fentanyl has been around for sixty years, but it has only become a major substitute for heroin in very
few countries. And in Canada and the US where illegally manufactured fentanyl has become very serious problem, there has been significant geographic variation in its penetration. (b) Markets for specific drugs (e.g., cocaine, heroin) in different cities and countries differ in both purity and (purity-adjusted) prices, and these differences are sometimes stable over time. We have identified other puzzles about drug markets that we believe could be approached through the lens of Evolutionary Economic Theory (EET: Nelson and Winter, 1982). EET focuses attention on entrepreneurial decision making and the heterogeneity of enterprises. This paper presents our first effort to fit stylized facts about illegal drug markets into the capacious framework of EET.
Drugs, prohibition and prisons in Asia and beyond

Changes in drug use following prison entry

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Many people who enter prison have recently used drugs, a substantial portion of whom will continue to do so while incarcerated. To date, little is known about changes in drug use following prison entry and what factors may contribute to the (dis)continuation of drug use inside prison. In this study, self-reported data were collected from a random sample of 1326 prisoners in Belgium. Associations between individual-level factors and in-prison drug use were examined among participants who used drugs in the 12 months prior to their imprisonment. One in three (35%) participants reported in-prison drug use. A strong association between drug use before and during imprisonment was observed, with 52% continuing their drug use while incarcerated. There were important changes in the types of drugs used following entry to prison, with a tendency for people to switch from stimulants to depressants. Factors independently associated with continuation (versus cessation) were young age, polydrug use, treatment history, and poor mental health. A different pattern of results emerged for initiating drug use while in prison. Addressing drug use during imprisonment provides an opportunity to simultaneously improve public health and safety.

Long term imprisonment for drug trafficking in Southeast Asia: Politics, polices, practices and populations

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The amount of people in prison (8%) and their duration of imprisonment is globally increasing since 2010 (Penal Reform International, 2021). While there has been a trend towards the decriminalization of drug use and possession and a decrease in the use of the death penalty for drug related offences globally, the imprisonment of people involved in illegal drug markets for trafficking and production continue to be a significant factor in prison population growth. Of the 11 million prisoners worldwide, 2.5 million of them are convicted of drug related offences (ibid). This increase in sentences of life and long term imprisonment has been associated with the decline in the use of the death penalty with 2020 seeing the lowest number of executions worldwide (ibid). However within South East Asia, reduction in the use of the death penalty can only in part explain the increasing use of life or long-term imprisonment. Data accessibility and transparency issues continue to hinder our understanding of judicial and prison experiences within the region. This paper explores the evolving, yet sometime stagnant, regional politics on drug use and trafficking. The polices and practise – mandatory minimum sentences, pre-trial detention, drug offences as a barrier for early release and alternative measures – that extend prison sentences. Moreover, the populations who continue to be disproportionately caught in the net of these punitive polices – foreign nationals, those with disabilities and women. References Penal Reform International, (2021) Global Prison Trends.
**Problematic implementation of restorative justice for drugs use offence in Indonesia**

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The government of Indonesia stipulated “restorative justice” (RJ) as the priority of Medium-Term Development Plan of 2020 – 2024. This is questionable as the Government considers RJ as solution for prison overcrowding, including for drug use offence. In fact, UNODC has stated that RJ may be too pointless in cases of victimless crimes for which other approaches can be used. However, in 2021, the National Police enacted internal regulation Number 8/2021 on RJ for drug use offence.

**Method:**
This research examines the legal framework of National Police regulation Number 8/2021 on RJ for drug use offence and its implementation in 3 cities: Jakarta, Makassar, Medan with qualitative approach. The data is collected through in-depth interviews and focus group discussions with 92 resource persons from multiple stakeholders such as investigators, rehabilitation centre, PWUD, etc.

**Findings:**
There is a substantial problem of RJ understanding within the stakeholders, RJ is defined merely as the drop-case/termination of case, neglecting the core “restoration” concept of RJ. The technical regulations to further implement RJ are inconsistent. In Jakarta, there is a local procedure which regulates the mechanism differently. The lack of accountability is also found, the police has the authority to drop the case without substantial judicial supervision that illicitly legitimates corruptions and extortions of PWUD. The mechanism of destruction of drugs as evidence is also problematic.

**Discussion:**
It is urgent to restore the RJ concept in Indonesia especially as it is rashly implemented for drug use offence, the decriminalization needs to be mainstreamed.

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**Who is paying for the prohibitionist drug laws in Latin America?**

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In Latin America, drug offenses are the main cause of imprisonment for women. These are often the weakest link in the production and distribution chain, and consequently the most affected. Laws in this area have brought harmful and irreparable socioeconomic consequences both for women deprived of their liberty, who are the most vulnerable, as well as for their families and children. In this research, a quali-quant analysis is carried out, accompanied by a legal analysis, to measure the socio-economic and legal impact that harms these women. In addition, the comparative experience of countries in the Latin American region is reviewed. The main preliminary findings for Chile indicate the disproportionate incarceration of women, mostly single mothers, with an average of 3 children, heads of household with low socioeconomic resources. This reality extends across the region. The problem of criminalization, added to the lack of visibility policies with a gender approach, has caused people deprived of liberty in general, and women in particular, to suffer greatly from the consequences of this legal-social-cultural punishment. The research provides a public policy proposal with a non-punitive legal basis, which views drugs from the point of view of health, safety, protection and social development.
Drug policy through a historical and international lens

Doomed to fracture? The global drug policy space between dissonances and reconfigurations, lessons from the 2016 ungaSS process

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The global drug policy space is commonly analyzed as hierarchical, anchored in three UN Conventions and revolving around a most centralized UN Commission on Narcotic Drugs (CND)-whose action remains constrained by strong path dependency. Yet, recent evolutions positively tested the adaptive capacity of the CND and drug policy stakeholders (UN agencies, Member States and civil society organizations alike) to reposition, reshuffle and reclaim a contested drug policy agenda then in-the-making. From the 2012 presidential calls for debate challenging unprecedently century-long policy models viability, to the comprehensive 2016 UNGASS roadmap, and then contorted 2019 “complementarity” of engagements despite national “free-ridings” on cannabis, drug policy stakeholders, CND included, managed somehow to shake up the global drug policy agenda, its regular calendar, and policy-making routines as led by/in Vienna. Based on first-hand corpus of a doctoral research (CND sessions observations, documentation, and 90+ interviews between 2013-2019), this paper documents contemporary reconfigurations of the global drug policy space resulting from these key episodes. Adopting a process-tracing approach while attempting a CND sociology looking at micro-level UNGASS preparations, it discusses analytical models reading that space as a strict “prohibition regime” (Nadelmann 1990) within which any alternative ideas is doomed to “fracture” or reproduce a conservative consensus (Bewley-Taylor 2012). While questioning drug policy space’s adaptive and transformative capacities, it argues that recent evolutions unlocked extra-ordinary “analytical or critical spaces” that opened avenues for drug policy entrepreneurship and reconfiguration dynamics, even in a risky, nonlinear, uncertain way, that positively tested “Vienna-led” consensus-building patterns and even participated to transforming global drug policy contours.

A new synthesis history of multilateral drug control

John Collins
Global Initiative Against Transnational Organized Crime, Switzerland

This presentation draws on the recently published book, Legalising the Drug Wars Regulatory History of UN Drug Control (Cambridge University Press, 2021). It presents a novel historiographical and international analysis of the multilateral drug control system as governed by the United Nations. Drawing on extensive archival research and a new international relations complex regime theory analysis, the work challenges many preconceived notions of power dynamics, state interests and bureaucratic compromise in the process of creating the global drug regulatory system. Through its mixed methodology approach it helps unravel some of the varied and complex inter and intra state interests which informed global policy formulation. The work has important implications for UN reform discussions as it provides a more nuanced theory of change for reforming national and international drug laws.
Heroin and history: competing perspectives on opiates at Canada’s commission of inquiry into the non-medical use of drugs, 1969-1973

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Modern drug policy debates are marked by notable parallels with the past. In this paper, I examine these continuities through the lens of Canada’s Commission of Inquiry into the Non-Medical Use of Drugs (Le Dain Commission – LDC). While the 1969-1973 inquiry is often remembered for its recommendations on cannabis, opiates represented a major area of Commission interest. The first part of this paper uses the inquiry’s Montreal public hearings as a case study, demonstrating how participants of all stripes debated themes that remain salient today. I identify three competing views on people who use opiates: a criminalizing model, a paternalistically benevolent medical perspective, and a minority view centring human dignity. I also highlight instances of drug exceptionalism at the hearings, as well as disagreements over substitution- versus abstinence-based services. Despite this ideological heterogeneity, however, I note that people actively dependent on opiates were not represented at the Montreal hearings – a phenomenon that too often persists in modern drug policy spaces. In the second part of the paper, I turn to the Commissioners’ own debates over heroin and methadone, as well as their ensuing policy recommendations. While LDC leaders cast opiates as dangerous, addictive, and worthy of some form of legal controls, they nevertheless recognized opiate substitution as a legitimate treatment. Remarkably, several of the Commissioners even espoused support for heroin-assisted maintenance – a service that remains controversial today. Throughout the paper, I draw connections between past and present drug discourses, highlighting how today’s policymakers might draw valuable insights from history.

Regional cooperation and drug policy in East Asia

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Under what conditions do regional regimes emerge as frameworks for interstate cooperation? Regimes as “set of implicit or explicit principles, norms, rules, and decision-making procedures around which actors’ expectations converge in a given area of international relations”, have been theorized as mechanisms for multilateral cooperation in international relations. The competing explanations for this phenomenon emphasize the role of power, self-interest, or knowledge exchange as necessary elements behind their emergence. Much of the empirical research on regimes has looked at the international level with regional analyses limited to issues such as security or trade. However, a surge in regional cooperation has resulted in the formation of regional regimes on various transnational issues that require policy harmonization among states. While some regions have developed their regimes adapted to their geopolitical contexts, others have failed to do so despite the existence of such institutional agreements, and cooperation remains bilateral or ad-hoc. The reasons for this behavior remain unclear. This dissertation addresses the existing research gap by testing competing explanations for the emergence of regional regimes on narrow issue areas. To do so, it analyses the case of the Association of Southeast Asian Nations (ASEAN) and cooperation on drug policy. By employing a qualitative research design that uses process tracing, QCA, and DA, the research reviews existing formal and informal agreements where ASEAN, selected member states, and key regional partners have set the basis for cooperation on drug policy. The object is to identify whether and under what conditions a regional regime on drugs developed and the mechanisms for policy transfer between the regional organization and its member states.
Findings from the 2020-21 global cannabis cultivation research consortium survey on domestic cannabis cultivation

What can we learn from low-tetrahydrocannabinol cannabis growers in Europe? A comparative transnational study of 1635 small-scale cannabis growers from Italy and Switzerland

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Background: The emergence of the low-Tetrahydrocannabinol (THC) cannabis (LC) legal market in Europe, alongside an already ongoing trend of domestic cultivation of high-THC cannabis (HC), may have diversified the profile of growers. Accordingly, this study aims to investigate LC growers’ (LCG) characteristics, growing experience and motivations for further comparison with HC growers’ (HCG). Methods: The Global Cannabis Cultivation Research Consortium conducted an online web survey of mostly small-scale growers in 18 countries (n=11507) in 2020-2021. We performed comparative bivariate and multivariate analysis between participants who have only grown HC plants in the previous year and those who have either grown LC only or alongside HC. Results: LCGs differ significantly from HCGs. LCGs are more likely to be older than HCGs and to grow cannabis for their own medical use or for others’. Compared to HCGs, LCGs are less likely to grow for recreational use and to have problematic cannabis use. Additionally, LCGs are more likely to have greater cultivation experience than HCGs, growing for longer, more extensively, better covering their own use and with a wider production of by-products, such as oils; they were also more likely than HCGs to have been in contact with law enforcement regarding their cultivation. Conclusion: LCGs present significantly more growing experience when compared to HCGs and should be considered a distinctive group of growers. Altogether, our results suggests that the emergence of the legal LC market has more likely drawn or converted previous HCGs into growing LC rather than attracting new individuals towards the cultivation of cannabis.

Reductions in self-reported use of chemical fertilisers by web-samples of mostly small-scale cannabis growers 2012-2020

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Background: There is an unfolding recognition of the adverse impacts the use of potentially harmful chemical pesticides, fertilisers and ‘nutrients’ by cannabis growers. Of major concern has been
Plant Growth Regulators (PGRs), many which have been banned from food crops for decades. These have been found unlsted in a number of cannabis growing supplements targeted at cannabis growers. These products are manufactured and marketed by a multi-million-dollar legal industry that flies under the regulatory radar. This paper describes the cannabis growing practices used by small-scale recreational cannabis growers in 18 countries and specifically their self-reported use of chemical fertilisers and builds on our 2012 findings in 3 countries. Methods: Web survey data from 11,323 current and recent cannabis growers collected by our Global Cannabis Cultivation Research Consortium (GCCRC) in 2020 and where possible compared to our 2012 findings. Results: In 2020 26% of growers reported use of chemical fertilisers down from 44% in 2012. Multivariate analysis indicated that in 2020 the unique predictors of use of chemicals included growers who sold their cannabis, male growers and those growing under artificial light in soil, or non-soil, media. Conclusion: There has been a decrease in reported use of chemical fertiliser use among our mostly small-scale grower samples from 2012-2020. Whether this reflects growing recognition of problems of chemical fertiliser use or social desirability responses is unclear. There needs to be better regulation of this legal cannabis fertiliser market to empower growers to reduce the toxicity of cannabis they grow, distribute and consume.

Victimization and retaliation among cannabis growers

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Cannabis growers commonly report having their crops looted, equipment stolen, and property vandalized. Illegal growers do not have access to police and courts to resolve disputes for fear of attracting attention to their illicit activity. Thus, to counter these predations, illicit growers respond in various ways, including in some cases with violence. To date, little cannabis market research has explored the nature and extent of these patterns of predation and retaliation. To complicate matters, an increasing number of national and US state jurisdictions have legalized personal and/or commercial cannabis cultivation, sales, and use. The legal regime under which growers operate can change the structure and incentives for market-based conflict. We hypothesize that cannabis markets in general will be less violent than other drug markets, and that legal cannabis growers will experience less market-based conflict than illegal growers. We also posit that within legal markets, compared to commercial cultivators, small-scale growers will experience less conflict and more peaceable outcomes when conflict does occur. To explore these questions, we use a web-based survey data of 5,843 current and recent cannabis growers collected across 13 countries by our Global Cannabis Cultivation Research Consortium (GCCRC) in 2020. Descriptive statistics and multivariate modeling approaches are used to report on relevant outcomes and associations. We find that cultivators who grow only cannabis experience less theft and other predation compared to growers who also engage in other illicit drug markets. We also find less conflict and violence occurs in legal versus illegal markets. Policy implications are discussed.
Global patterns in cannabis growers’ distribution practices: Findings from web-survey of mostly small-scale cannabis growers 2012-2020

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Background: In many countries, the illegal supply of cannabis is today dominated by domestically grown cannabis, and we can assume that a sizeable share of these are small-scale growers. Based on a survey-study in 18 countries, this presentation provides insights into the global patterns in small-scale cannabis growers’ supply practices, and thus their participation in the wider cannabis market.

Methods: Data is drawn from an online web survey of predominantly small-scale cannabis growers in 18 countries (n=11,507), conducted by the Global Cannabis Cultivation Research Consortium (GCCRC) in 2020-2021. We use descriptive statistics to explore key similarities and differences in growers’ involvement in supply of cannabis from own production. Results: Findings show that many small-scale cannabis growers engaged in distribution of surplus products, making them in effect ‘grower-distributors’. Importantly, social rather than profit-oriented supply is by far the most common mode of distribution among small-scale cannabis growers, albeit one fifth had in fact sold surplus products in the past year. However, intent to make money is, notably, not a major driver for many of the growers who participated in our surveys, and most had sold to friends and often for relatively meagre profits. Conclusion: Based on the findings from our study, we produce a typology outlining the supply patterns and socio-economic characteristics of different types of grower-sellers, and we discuss how the findings can inform our understanding of ‘unintentional’ pathways into drug dealing as well as the larger process of import substitution.
Online platforms – analysing drug markets, police crackdowns and insights for harm reduction

Reddit discussions of co-use of methamphetamine and fentanyl

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Background. People who use drugs PWUD often discuss issues related to drug behaviors, practices, and preferences on social media platforms such as Reddit. Reddit discussions offer unique insights into hundreds of thousands of conversations about the use of opioids and stimulants. Reddit platform supports forums focused on specific topics (sub-reddits). We considered 6 years of discussion data from several specific sub-reddit forums (Opioids, OpioidRecovery, and other) to examine trends in discussions about concurrent, sequential, and accidental co-use of opioids and stimulants. Methods. Using our Natural Language Information Extraction tool, we extracted discussions containing opioids and stimulants. Special attention was given to the combinations of cocaine and heroin (a.k.a. speedball) and combination of methamphetamine and fentanyl (a.k.a. goofball). We measured temporal trends and conducted qualitative thematic analysis of the sample of the discussions. Results. Discussions about fentanyl and methamphetamine increased from 2016 to 2021, while discussions about cocaine started decreasing after 2018. Key themes in the discussions included polysubstance use (e.g., "speedballs" and "goofballs"), concern about stimulants purportedly containing fentanyl, discussions of special reasons for concurrent versus sequential use, and accounts for accidental use of fentanyl-laced stimulants. A growing number of discussions were related to potentially protective effects of methamphetamine against strong opioid-use sedation leading to perceptions among some PWUD that stimulants could be protective against overdoses involving opioids (fentanyl). Analysis of social media discussions can shed light on specific practices, preferences and beliefs and could inform harm reduction workers about potentially protective and potentially harmful beliefs and practices.

A case study of a dark web fentanyl trafficking organization

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This paper uses detailed, transaction-level data to analyze a prominent, darkweb fentanyl wholesale operation. For almost a year, the organization sustained an impressive sales growth rate of approximately 15% weekly, compounded. Price levels were stable but exhibited steep quantity discounts. Increasing order sizes by a factor of ten reduced the price per pill by approximately 25% for Oxycodone and 50% for Xanax. The organization did not provide substantial discounts to returning customers. Prices were essentially the same for pills advertised as “Fentanyl – Roxy Oxycodone” and “Roxy Oxycodone”; i.e., the adjective “fentanyl” did not appear to earn a premium or penalty. Piece rates pay to the individual who knew how to press pills were an important component of overall costs; by contrast, commissions paid to the AlphaBay marketplace accounted for only 2-3% of gross revenue.
That a group with limited prior experience was able to make millions of dollars in a year using a simple distribution strategy that entailed little risk from contact with either suppliers or customers, while maintaining price markups that were as large or larger than those observed in conventional cocaine and heroin markets, suggests that it might be very difficult to constrain supply by shutting down individual organizations, as opposed to undermining confidence in the dark web markets themselves.

“Like aspirin for arthritis”: A qualitative study of deterrence in people who use and sell drugs

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Crackdowns are law enforcement strategies based on the principles of deterrence theory which stipulate that offenders are rational actors who will refrain from crime if perceived risks are higher than perceived benefits. Studies have shown that the effects of police street drug crackdowns are mostly short-termed and followed by considerable displacement. In the early 2010s, an important part of illicit drug trades moved online, to cryptomarkets. Law enforcement agencies have responded by engaging in online drug crackdowns. In this study, we focus on the perceptions of Darkweb users in order to determine, in a qualitative “data-driven” perspective, whether police online crackdowns may have a cyber-deterrent effect by analyzing 1,796 forum posts. Our results show that these events trigger psychological and practical consequences that participants claim to have a conditional, although minor, deterrent effect. In the majority of cases, Darkweb users claimed to engage in several forms of spatial and tactical displacement. We discuss practical implications for law enforcement as well as empirical and theoretical avenues for future research.

Exploring the services of influencers promoting performance and image enhancing drugs: Ambiguities in market roles and services’ legal status

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Background: Like many other goods and services, androgenic anabolic steroids (AAS) and other performance or image enhancing drugs (PIEDs)—some of which are also psychoactive, addictive and/or prohibited under national doping and drug laws—are increasingly discussed and promoted by social media influencers. These are a new type of third-party endorsers who (aim to) influence audience attitudes through videos and other social media and often endorse brands for a fee. Little, however, is known about the narratives influencers spread on PIEDs and the services they offer. Aims: Against this background, the study has been intended to identify the most prominent worldwide influencers specialized in PIEDs and to examine the services they provide. Methods: The authors first scraped the clean internet and then conducted a six-month-long content analysis of the 20 most prominent influencers’ websites and social media platforms. The study was funded by the Dutch Anti-Doping Authority. Findings: The most prominent influencers specialized in PIEDs are all current or former body-builders, most of them are male and based or from the US, though the most successful one is from Germany. While some of them predominantly provide legal, albeit not always correct, advice on PIEDS, others offer services that have an ambiguous legal status or are undoubtedly illegal, because they advertise and sell counterfeited or unauthorized medicines. Conclusions: The study concludes that influencers play an ambiguous role in the current PIEDs market and recommends policymakers and law enforcement agencies to single out and target the clearly mala fide criminal entrepreneurs.
Global insights on MDMA and psychedelics

The future of psychedelic policy

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The psychedelic policy landscape is rapidly changing. Despite federal prohibition in the US, about a dozen cities, three states, and Washington DC, have relaxed laws and/or policies related to some psychedelics since 2019. These policy changes range from deprioritizing enforcement of some psychedelic laws to licensing guides to legalizing personal cultivation and sharing of plant-based psychedelics for unsupervised consumption. And changes are not limited to the US. Quebec recently announced the government will provide health coverage for psychedelic-assisted therapy and Australia will soon allow psychiatrists to prescribe MDMA and psilocybin for specific treatment-resistant mental health disorders. While evidence suggests some psychedelics can benefit some individuals in terms of wellbeing and mental health, they might aggravate certain mental health conditions for some people—especially if used in unsafe settings or by patients for which such therapies might be contraindicated. To help facilitate emerging policy discussions and evaluations, this presentation will address three areas: 1) Highlighting the similarities and differences with cannabis reforms (e.g., the focus on using these substances for medical purposes, the role that veterans play in pushing reforms, and, in the US, the role of ballot initiatives). 2) Developing a framework for thinking about supply options. RAND’s previous work on supply options and design considerations for cannabis provides a useful starting point that will be further developed and adapted for psychedelics. 3) Offering ideas about how to augment survey instruments so jurisdictions will be in a better position to monitor psychedelic markets and evaluate potential policy changes.

Policy analysis of psilocybin rescheduling in Australia

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This paper analyses the hurdles that were overcome on the path towards psilocybin reclassification in Australia in February 2023. This study reports on Australia’s successful rescheduling of psilocybin from a prohibited to a therapeutic substance by the Therapeutic Goods Administration and examines the obstacles during the policy change process. I review 30 newspaper articles from the Australian Associated Press (AAP) and The Guardian and analyse them for identified problems, solutions, and the identity of those quoted before and after the TGA’s 2023 reclassification. I find that the reinterpretation and accessibility of solutions play a major role in policy changes around psilocybin in Australia. Moreover, the data collected from this sample illustrates the influence of a key policy entrepreneur – psychedelic-therapy advocacy group, Mind Medicine Australia – and a media landscape that charts the impact of salience and incremental shift in attitudes surrounding psilocybin. This case is important because it represents a first-of-its-kind adoption of a rescheduling regime for psilocybin as a medicinal substance.
The policy subsystem being analysed is Australian drug reform, specifically relating to psilocybin-assisted therapy. I utilise John Kingdon's Multiple Streams Theory (MST) of converging problem, politics, and policy as a framework. In all, this paper explores how the above obstacles lead to a missed discretionary policy window, but were rectified, resulting in a landmark policy change.

Ecstasy use discussion in Dutch current affairs TV programs. A methodological exploration of automatic speech recognition metadata

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The Netherlands is known for a lenient party drug policy climate and for high ecstasy (MDMA) use prevalence. In 2020, ecstasy use prevalence in The Netherlands was higher than in any other European country. This topic deserves investigation, as recently the question whether the illegal yet widely used party drug should be regulated instead of banned is recurring in political, public and scientific contexts. In this paper, recent Dutch current affairs television programs are analyzed to untangle the reputation of ecstasy in The Netherlands. Research about ecstasy in historical media debates has shown that Automatic Speech Recognition or ASR (speech-to-text) enrichment can be used to explore radio debates in a way that is comparable to how newspaper debates can be researched using Optical Character Recognition metadata, offering great potential for cross-media public debate research: topics can be researched in their socio-historical context across print news and radio news. Now, the CLARIAH Media Suite is unlocking the Dutch digitized public television archive for similar research with searchable ASR metadata. The television programs can be analyzed using techniques such as keyword search, timeline visualization and word frequency lists. This raises a methodological question to go with the question about ecstasy's reputation: how can the coverage of ecstasy use in a fundamentally visual data archive be effectively explored with search techniques that are based exclusively on the spoken word? Answers are sought by comparing the results of close analysis of relevant television programs with the findings based on ASR metadata analysis.
Drug consumption rooms: insights from France, Switzerland, and UK

The role of welfare state in drug consumption room's implementation process: The case of France

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Background: In France, the controversy on drug consumption rooms (DCRs) is still tense. In this paper we will argue that DCRs have the potential to change the political environment for public health and public order, because they can affect the distribution of responsibility for harm reduction, by collectivizing responsibility for drug policies through Welfare regimes. Methodology: The paper is based on ethnographic-based research conducted in Paris including PWIDs, residents, politicians, harm reduction providers, police officers’ experiences, attitudes and opinions of DCRs over the last 10 years. The methodology includes ethnographic observations, semi-structured interviews (N=160) and media analysis. We use Benoit’s framework, which shows that how governments address drug-related risks is connected to how they address other forms of socioeconomic risks, such as illness or social precarity. Results: In France, a social movement of residents has emerged and created a controversy around DCRs. Residents’ collectives who are against DCRs’ implementation in their living area stated that the Welfare State needed to prioritize residents instead of “favoring” the protection of PWID, in the name of “democracy”. At the opposite, Residents collectives who are in favor of DCRs supported the idea that implementation of the DCR was a way to collectivize the management of risks that improved the health and well-being of PWID as well as the daily lives as residents. Despite this controversy that is very present in the media discourse, the repressive French drug policy has not prevented the creation of DCRs thanks to the “humanitarian imperative” of protecting the most vulnerable groups of society in line with a French model of a paternalistic and centralized Welfare State. Conclusion: Difficulties in cohabitation with local residents can sometimes make public authorities hesitate to implement DCRs, due to the NIMBY phenomenon, but it may also become an instrument for civic cohabitation.

How to operate and the impacts of an unsanctioned safe injecting site

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To describe the service model of an unsanctioned safe injection site (SIS) in Glasgow. Scottish drug-related deaths are the highest on record, and the largest outbreak of HIV among people who inject drugs (PWID) in the UK has been ongoing in Glasgow since 2015. Description of challenges faced operating a mobile unsanctioned SIS including a) vehicle and physical supplies, b) services provided, c) staffing and financial model, d) need for and lack of wider support as service demand grew. The first vehicle, a minibus purchased with personal savings and small donations, was converted by modifying the interior, obtaining sterile injecting equipment, overcoming insurance challenges, and COVID precautions including PPE and creating a space where PWID feel comfortable and heard. Mechanical
problems in January 2021 forced change, and a former ambulance was converted to provide the new service. Staffing was voluntary, with two main volunteers. Other potential volunteers from the local University were stopped from doing so. Funding was by donation. Rules included using your own drugs, and agreeing to an overdose intervention if needed. Discuss and conclusions: An overdose prevention service can successfully operate alongside local police, businesses, and residents in the UK. It was an important focal point and supportive space for local PWID. However, the lack of formal support ultimately led to increased pressure, and the closure of the service. In total 894 injections were recorded, however, over 1000 were supervised. There were nine overdoses reversed.

**Evaluating the effects of supervised consumption sites on housing prices in Montreal, Canada using controlled interrupted time series and a hedonic price model**

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**Background:** In 2017, Montreal, Canada, introduced four supervised consumption sites (SCS). Opponents argued the SCSs would attract PWUD to the sites’ communities, contributing to their physical and aesthetic deterioration, and reductions in residential real estate values. **Methods:** We used a controlled interrupted time series design to evaluate the effects of Montreal’s SCSs on local residential real estate. We linked the Quebec Professional Association of Real Estate Brokers’ housing sales data, with Statistics Canada’s census tract data and neighbourhood proximity measures. We restricted analysis to sales between 1 January 2014 and 31 December 2021, and those within 1000m of a SCS (treated) or a men’s homeless shelter (control). We applied hedonic price models to control for internal (i.e., number of bed/bathrooms, unit size) and external attributes (e.g. proximity to grocery stores, transit, primary schools; and neighbourhood demographics); and included a spatio-temporal lag to account for correlation between sales. **Findings:** During the observation period, there were 2,008 sales in the treated group and 4,821 sales in the control group. After controlling for internal and external attributes, we observed no level effect in the price of homes sold near recently implemented SCSs compared with control sales (-0.58%, 95% CI: -4.7%, 3.6%; p-value=0.7877), but monthly sales values increased 0.45% (95% CI: 0.29%, 0.61%; p-value <0.0001) faster in treated neighborhoods. **Interpretation:** Although we found no immediate effect of SCSs on residential real estate values, housing prices close to SCSs rose faster than those in control neighbourhoods, suggesting community wide benefits of their implementation.

**Real time drug checking in a facility with a drug consumption room: Is it useful and what does it tell us about the drug market?**

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Real time drug checking in a facility with a drug consumption room (DCR): is it useful and what does it tell us about the drug market? **Method:** We used a new portable non-destructive technology (NIRLab) providing real time analysis of the most widely used drugs. People using the DCR in Lausanne/Switzerland were informed about the drug checking and how it was provided: anonymously, in a closed room, combined with a discussion about harm reduction practices. **Data (discussion and
drug analysis) were collected with their permission. Results During seven sessions the intervention was used 43 times by 24 men and 4 women, all long-term drug users who provided 54 samples for analysis (36 cocaine HCL, 6 crack and 12 heroin). The average duration of the intervention (30mn on first encounter and 10mn on successive visits) allowed to address harm reduction issues regarding purity and dosages, cutting agents, mixing drugs and other health issues. Cocaine samples had high purity levels on average (67%) with large variations (46%-85%). When combining real weight and purity the quantity of pure cocaine in typical street level doses (sold as 200mg) varied from 60 to 160mg. Similar but lower variations were observed with heroin. Conclusion Real time drug checking in DCRs provides an opportunity to address risk behaviours in a more informed way. It also allows an insight into some of the main features (price, quantities, purity) of the market.
Driving drug policy reform – politicians, public opinion and advocacy groups

Pink tide, purple haze: drug policy reform and Latin America’s left-turn

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What are the implications of the resurgence of the “Left” in Latin America for the future of drug policy reform in the region? Is there an “elective affinity” between progressive governments and progressive drug policies? To answer these questions, we assess the relationship of Latin America’s “pink tide” and drug policies between 2002 and 2022. While other morality policies, such as abortion and same-sex marriage, have been studied, the relationship between political orientation and drug policy remains underexplored. To fill this gap, we analyze electoral programs and drug policies implemented throughout the region. We find surprisingly little evidence for the existence of an “elective affinity” between progressive governments and progressive drug policies in Latin America. Rather, our study reveals insignificant political support among and substantial differences between left-leaning governments regarding drug policy. Leftist governments in Latin America can be classified as either 1) reactionary (implementing and enforcing punitive drug policies); 2) reserved (neither prioritizing the issue of drug policy reform nor pursuing change); 3) reactive (drug policy reforms occurring but in response to social mobilization or judicial challenges). While we find that almost all “right” drug policies are proposed and pursued by “left” governments, most “left” candidates and governments do not endorse or implement the “right” drug policies. Thus, based on its recent past, the resurgent Latin American Left is unlikely to produce the “right” drug policies in the foreseeable future.

Policy preferences for the legalisation and regulation of cannabis in South Australia

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The United Nations have long prohibited the cultivation, supply and possession of psychoactive substances such as cannabis. But the last decade has seen a profound shift in legal responses towards cannabis across the globe. In the Australian context there has been growing public support for cannabis legalisation and the Australian Capital Territory has legalised home cultivation and consumption of cannabis. But there remain large gaps in knowledge about what reforms the public and stakeholders would support in other states. Given cannabis legalisation is not a binary choice and there are a large array of models and policy options, this paper will analyse policy preferences for cannabis legalisation and regulation in South Australia - one of the first places in the world to adopt a civil penalty scheme for cannabis home cultivation and personal possession. Using a general population survey, including samples of people who use and do not use cannabis, it will explicate the perceived efficacy
The role of civil society coalitions in changing Colombian and Mexican cannabis policy in the 21st century

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This research analyzes the role of civil society organizations, NGOs, user groups, growers and businessmen-understood as advocacy and discursive coalitions- in networks of adjacent action situations in the process of change in cannabis policy in Colombia and Mexico during the XXI century. From the review of laws that regulate cannabis policy, judicial decisions in this regard, legislative initiatives and executive decrees, as well as fifty-one interviews, I identify the beliefs and narratives that lead to advocacy and discursive coalitions for creating enabling environments for cannabis policy change at different levels of the belief system. In Mexico, discursive coalitions have promoted narratives in favor of the rights of users, patients and growers. This has allowed advocacy coalitions to seek changes in medical political beliefs by allowing the importation of medicinal derivatives, and in individual freedom beliefs by allowing personal cultivation. For its part, in Colombia the narratives have sought to create and develop a national cannabis industry for the international market. Currently, progress is being made in the recognition of personal users as customers of a mostly national market, for which reason there have been changes in the policy market belief, both for medical and adult consumption. However, in both cases, the main confrontations between the advocacy coalitions have been over policy changes at the level of secondary beliefs, like who should grow the flower, produce the medicine and where it can be consumed.
region of Belgium—a country that still criminalizes possession of any quantity of drugs, even if it grants lowest prosecution priority to the possession of small amounts of cannabis for personal consumption. Moreover, we investigate the explanatory power of perceived wrongfulness and harmlessness and values for public and police officers’ drug-related criminal policy preferences. Our results are based on an online survey, yielding responses from 2,500 Flemish residents, and 400 police officers working in Flanders. Our analyses revealed substantial differences in drug-related criminal policy preferences between (and among) the general public and police officers, with, generally speaking, the former supporting more lenient policies than the latter. In both groups, perceived wrongfulness was a strong, consistent predictor of preferred punitivity of drug-related criminal policies; the effects of perceived harmlessness and values were less consistent and weaker
Insights into drug use and drug policy in Africa and beyond

Illicit drug use, social capital, and persistence in crime among adult prisoners in Taiwan

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Substance dependence complicates the process of desistance from crime (Laub & Sampson, 2003: 284; Schroeder, Giordano, & Cernkovich, 2007). Negative consequences caused by drug abuse in the domains of family, work, and social networks have shown to make crime more likely sustain. The current study examines the relationship between illicit drug use and persistence in crime relying on a sample of Taiwanese prisoners. The data of 617 incarcerated adults (mean age=42.67) surveyed during April 2021 and January 2022 were analyzed. 347 (valid percent=56.6) respondents reported have ever used illicit drugs and 266 (valid percent=43.4) respondents reported have never. Our results reveal that having ever used drugs is associated with more numbers of convictions, particularly for those who started to use drugs at a younger age. The possible mechanisms contributing to the effect of drug use on offending measured with social bonds and networks are further investigated. It is found that deviant/criminal peer association accounts for some but not all of the negative effect of drug use on persistent criminal involvement, suggesting that drug use exerts an unique impact on the process of crime persistence. Policy intervention on addressing the problem of drug use is likely to improve social safety more than expected.

Perceived harms and protective behavioural strategies among khat chewers: A qualitative study in Jimma, Ethiopia

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Background: Previous studies of khat use mainly focused on its negative aspects, and attempts to investigate the protective behavioural strategies (PBS) employed by the khat-using population are rare. This study focuses on the harms that chewers associate with khat use, and the behavioural strategies they practise to prevent or minimize these harms. Methods: A community-based qualitative study was conducted using a snowball sampling technique to recruit a diverse sample of khat-chewing participants (N=102) in Jimma city, Ethiopia. Face-to-face in-depth interviews were carried out with the participants. Results: Participants identified a variety of harms likely to result from chewing khat. These include impacts on their finances, work, social life, and health. The PBS that participants employed to avoid or minimize the risks were classified into four themes based on their temporal sequence with khat-chewing sessions: prior to chewing, during chewing, after chewing, and general PBS covering the whole of their khat-chewing career. The study discusses these themes and the role they play to prevent or minimize the adverse consequences of chewing khat. Conclusion: Khat-related harms are avoidable if khat users implement appropriate strategies prior to, during and after chewing, and if they apply PBS to khat-related factors (e.g. type, amount and frequency), set factors (e.g. reason for using and health behaviour) and setting factors (e.g. place of use, when used, with whom used and social norms) throughout their khat-chewing career.
Treatment, policing, and fear among people who inject drugs in Kyrgyzstan

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Background: Kyrgyzstan is a Central Asian leader in HIV prevention among people who inject drugs (PWID), including methadone maintenance treatment (MMT) provision. However, only 4% of PWID are enrolled in MMT, and the disproportionate use of drug law enforcement in Kyrgyzstan may limit access, consistent with other settings. We investigated the association between policing and MMT use among PWID in Kyrgyzstan. Methods: The Kyrgyzstan Intersectional Stigma Study is a PWID cohort in Kyrgyzstan’s capital of Bishkek and the surrounding Chuy oblast. Baseline surveys solicited experiences with policing, MMT, and related domains. We used multivariable logistic regression to identify factors associated with the outcome, defined as recent (i.e., past 6 months) police interactions. Results: Overall, 279 participants were included (median age = 40; Interquartile Range: 35–46); 24.7% were women, and 23.6% were HIV-seropositive. Among participants, 16.1% reported recent police interactions; 8.2% reported recent MMT enrollment and 33.7% reported past history but not current MMT enrollment. In multivariable analysis, recent police interactions were significantly associated (p < 0.05) with less-than-daily injection drug use (Adjusted Odds Ratio [aOR]: 4.35, 95% Confidence Interval [CI] = 1.04-18.12), past history (but not current) MMT enrollment (aOR = 2.25, 95% CI = 1.01-5.02), and considering police the greatest health threat (aOR = 4.63, 95% CI = 1.76-12.21). Discussion: PWID reporting recent police interactions were more likely to have ceased MMT enrollment and to perceive police as a primary threat. Reducing the impact of policing on PWID health is needed to maximize Kyrgyzstan’s comprehensive response to HIV.
Small-scale cannabis cultivation and distribution experiences

Challenges and realities of Australian backyard cannabis cultivation under a semi-legalised regime

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A new wave of global regulatory reform has opened up legal and decriminalized ways of obtaining and using cannabis, with a growing number of countries sanctioning cannabis cultivation for personal use. Yet even in reform, some locations continue to conceptualize cannabis ‘the drug’ with attendant notions and ideas of criminality. This is apparent in the first Territory in Australia to legalize domestic cannabis cultivation for personal use that has done so with a range of strict prescriptions such as banning “artificial” cultivation and limiting the number of allowable plants. Using photoelicitation methodologies and in-depth semi-structured interviews, we explored the realities of legal ‘backyard’ cannabis cultivation with ten cannabis gardeners in Australia. We found that current patterns, behaviours and experiences of cannabis cultivators challenge biosocial imaginings of cannabis as expressed in debates on legislation and in the cannabis laws. Through this work we offer lessons for policy makers in making more coherent policy that better accounts for cannabis ‘the plant’ and that better attends to the nature of cannabis and the realities of domestic cultivation.

From Compassion to Commercial: what got left behind in the transition to legal cannabis in Canada

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Compassion Clubs began providing storefront access to medical cannabis in Canada in 1997, shortly before Canada formally recognized cannabis as having medical benefits in 2001. Medical and non-medical cannabis dispensaries proliferated before cannabis was legalized in 2018. Compassion Clubs bear remarkable similarities to the Cannabis Social Clubs (CSCs) found throughout Europe and South America. By creating opportunities to access cannabis under existing constitutional pathways, innovating in the absence of formal regulations, utilizing a non-profit approach, and creating relationships with consumers and cultivators, the two models have demonstrated the successful functioning of a non-commercial approach to cannabis. Although developed in criminalized contexts, these models have much to offer in a legalized environment. While Canada’s legalization of cannabis was a victory for advocates of cannabis reform, the relationships and ethos of the Compassion Clubs and cannabis dispensaries were abandoned in favour of a profit-seeking system that alienated consumers, retailers, and cultivators from each other. In this chapter we highlight the history of Compassion Clubs and cannabis dispensaries, compare Compassion Clubs and CSCs, and identify challenges faced in transitioning to a regulated recreational market. We propose aspects of non-commercial cannabis distribution that could inform the ever-evolving cannabis policy discussion in Canada and beyond.
Civil disobedience and alternative access to medical cannabis in Brazil: The role of patient associations

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The regulation of cannabis for medicinal purposes in Brazil has a weak legal governance. The country doesn’t have a law establishing a clear regulation on the subject, but only technical standards issued by the National Health Agency. In this context, non-profit associations of cannabis patients are building their own policy implementation paths in a gray zone of legality, often in conflict with the state, with the use of innovative instruments to guarantee access to cannabis for medical purposes. The literature on regulation models still lacks analysis of these cases and their contribution to what can be defined as a “bottom-up governance of cannabis”. Our aim is to understand the evolution of this alternative access to medical cannabis in Brazil, as well as its characteristics, dynamics, and challenges. For that, we conducted a qualitative analysis using data collection from an online form survey, semi-structured interviews with leaders of patient associations and advocates and field research. Our conclusion is that Brazil has an alternative bottom-up governance of cannabis created by the leadership and entrepreneurship of patient associations and other social actors. In part, this movement is based on the idea of civil disobedience to the drug law, which is considered unfair. This alternative regulation allows for a more democratic access to cannabis-based medicines in contexts of social inequality. However, these groups are still subjected to state repression. Furthermore, their actions do not break with the broader racist/class prohibitionist framework regarding cannabis and other drugs.

Cannabis policy reforms in Africa: Emerging trends and developments

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The punitive and prohibitive regulation of cannabis in Africa has for long served to position it as both illegal and yet also immoral – resulting in its historical classification as a “dangerous and dependence producing drug” in many of the continent’s countries. Influenced by the US-led war on drugs and various international governance institutions such as the UNODC, the socio-economic contribution that cannabis can make to the development of the continent has been limited, despite its utility. Nevertheless, cannabis has and continues to provide livelihoods for many people even despite its continued illegality. Increasingly since 2017 however it has experienced a ‘rebirth’ and been the focus of renewed interest as a potentially valuable commodity that is already extensively cultivated in many countries. In several African countries cannabis is now legal, albeit only for medical and industrial purposes. While the attendant policy reforms that embrace cannabis are welcomed, questions are emerging concerning their ability to facilitate broad-based benefits and participation of smallholder producers, especially those currently producing cannabis illegally. However, little is known about the reforms as the literature on cannabis reform focusses on the global North. Using preliminary data on the nexus between drugs and development in four African countries (Kenya, Zimbabwe, South Africa and Nigeria) we grapple with questions related to the development of ‘new’ cannabis markets in Africa, the potential for inclusivity, and the implications of the current cannabis policy developments to Africa’s agrarian futures.
Drug policy changes and challenges in the Global South

Trends in ketamine use and supply in East and Southeast Asia

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The use of the dissociative ketamine has been documented in developed drug markets in Europe and North America. While this drug remains popular in certain segments, its popularity and use has increased rapidly in parts of East and Southeast Asia, making an important substance of misuse. According to drug use surveys and counts of registered users, ketamine has been one of the most popularly reported drugs in the People’s Republic of China, Hong Kong SAR, and Taiwan province of China. A review of seizure data and clandestine laboratory detections reported to UNODC shows that East and Southeast Asia dominate annual global ketamine seizure totals. Law enforcement have dismantled several large-scale laboratories in several countries in the region. The detection of labs has shifted in the last decade; while China reported most labs early on, efforts in that country appear to have encouraged illegal producers to move to neighboring Southeast Asia. Myanmar, Thailand, and Cambodia have reported increasing seizures that has correlated with use of ketamine. A review of studies of ketamine use in the region reports marked differences in dosages consumed and routes of administration when compared to Europe and North America. In Asia, ketamine is often taken at lower doses than those required to produce a full dissociative state (e.g., “k-hole”) and is sometimes smoked. While ketamine is not controlled internationally, its low price and increasing availability appear to make it a mainstay in drug markets in East and Southeast Asia. Likewise, the ease of production and increasing globalization make Southeast Asia an important source for illegally manufactured ketamine.

Convergence of crime in the Amazon: An opportunity to rethink drug policies in fragile ecosystems within broader policy frameworks

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Abstract: The Amazon Basin is threatened by record-breaking deforestation and degradation, virtually all of it illegal. The countries hosting the largest share of the Amazon Basin - Brazil, Colombia, Peru, and Bolivia - are particularly at risk of forest and biodiversity loss. They are also at the intersection of a complex ecosystem of organized crime that is accelerating the environmental devastation. Cocaine production and trafficking are surging, while criminal networks traditionally focused on drug production and trafficking are diversifying. Drug trafficking groups in Brazil, Colombia, Peru and to a lesser extent Bolivia are leveraging illegal and legal supply chains to expand their operations; they are one component of a constellation of criminal actors involved in land grabbing, timber smuggling, illicit mining, and wildlife trafficking. Such illicit activities are frequently accompanied with convergent crimes ranging from corruption and money laundering to homicide and violence. Taken together, they pose a menace to national and subnational governments, their security and environmental protection
In the Amazon Basin, agencies, rights defenders and vulnerable communities and wider sustainable development prospects may need to be integrated into a broader policy framework that addresses other crimes and environmental protection issues.

Incomplete peace and cocaine Dutch disease

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Violence and conflict are one of the main barriers for development and economic growth. In this paper we explore the effect of the Colombian Peace Agreement with the oldest Latin American guerrilla and the effect of the coca crops’ boom on rural economic activity. During the Peace Negotiations, the delegates announced economic benefits to coca growers that unintendingly increased exogenously coca crops. Exploiting this exogenous variation, nightlights to measure economic activity and a difference-in-difference strategy, we identified positive effects of the Peace Agreement (7.3%-11.2%) and the coca boom (9.7%-10.4% increase for a standard deviation increase in the probability of receiving the announced economic benefits) on rural economic activity. Hence, consistent with previous studies suggesting economic costs of conflict, we estimate a positive and economically significant peace dividend. As the coca crops’ boom represented a positive income windfall, we explore the effects of our variables of interests on long-run growth determinants such as human capital, environmental capital, licit crops production, and homicides. Our results suggest a negative effect of the Peace Agreement on homicides rate. Nevertheless, we find a reduction in licit crops, school enrollment and an increase in deforestation due to the coca crops expansion. We contribute to the existing literature on post conflict societies by exploring the Peace Agreement economic effect in Colombia and the impact of an illicit income windfall on rural development.

Examining illegal methamphetamine manufacture in Afghanistan a feasibility study by Unodc's illicit crop monitoring program

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Background: Use and manufacture of methamphetamine in Afghanistan has increased in recent years. Afghanistan remains the world's largest producer of opium poppy and some research has pointed to the use of the local ephedra plant, which grows wildly, as a key source of ephedrine used in the manufacture of methamphetamine. However, questions remain as to the nature of methamphetamine production. Methods: To assess illegal methamphetamine production in Afghanistan, UNODC details trends in large seizures and summarizes forensic analysis of retail-level seizures in the country. Data on methamphetamine prices and other information on production from Afghanistan are examined. Authors review literature on the ephedra plan, including its phenology and use in illicit manufacture of methamphetamine. This is augmented with a summary of various routes of methamphetamine production (plant or chemical). To appreciate the scale of illegal methamphetamine production, several scenarios are considered regarding source materials: 1) entirely plant based; 2) entirely chemical; or
3) some combination between plants and chemicals. Findings: Starting in 2019, there has been a substantial and sustained increase in methamphetamine seizures in and around Afghanistan. Most recent qualitative analysis of retail-level tablet seizures in Afghanistan suggest chemical inputs, with two percent likely indicating plant-based inputs. Conclusion: Production of methamphetamine from ephedra does occur in Afghanistan. However, analysis of retail seizures suggests the predominance of chemical inputs. Many factors regarding use of ephedra for methamphetamine production, including the extent of plant growth and quality, harvesting, means of processing, and alkaloid content, are still not well understood and will need to be studied.
Measuring drug policy and its implementation: General perspectives and applications to cannabis policy

Current issues in legal measurement

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In drug policy research, the “policy” (most often in the form of a law) is typically the independent variable. In sophisticated causal inference designs, laws may also be included as mediator, or multiple policies may be combined into some sort of index or scale. No matter how the study is constructed, proper measurement of the law is indispensable for validity of all the analysis that follows. Nonetheless, we continue to see basic errors in legal measurement in the literature, with all the problems that entails, including the diffusion of flawed but very policy-relevant studies. The presentation will look at several examples of flawed measurement and the ensuing – and avoidable – complications. With this foundation, the presentation reviews standards for scientific legal measurement emerging from the field of legal epidemiology, the scientific study of the health effects of laws and legal practices. Topics covered will include basic procedures for legal measurement, determination of effective dates and distinction between effective dates and other temporal milestones in the legal process, the fundamental importance of distinguishing between measurement and categorization (and how that is done), distinguishing between “policy” and law and the implications for both practice and technical nomenclature, current sources of open science legal data for drug policy research, and future directions, including efforts to develop AI tools for legal measurement.

The Washington State (USA) legislative saga to address public health concerns of high-thc cannabis: A concept mapping study

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Cannabis legalization in some U.S.A states has catapulted the mass production of concentrates, highly processed products with THC concentrations ranging from 50-90%. In Washington State (WA), cannabis concentrate sales represented 35% of the market in 2020, up from 9% in 2014. A major public health concern is that these products will increase cannabis-related harms such as use disorders, psychotic symptoms, and accidental poisonings. This paper provides a historical narrative of unsuccessful efforts to regulate high THC cannabis products in WA and the results of a study requested by the WA State Legislature to understand perspectives of WA stakeholders on the topic. Concept mapping, a mixed-methods research approach that supports people-centered policy decisions was utilized. The goal of the study was to explore stakeholders’ concern level and support of policies to address the increasing availability of cannabis products with high concentration/content of THC. The study documented a chasm among stakeholders. Health care providers, government employees, educators, researchers, prevention agencies and people with lived experiences of harm
from concentrates expressed high concern with these products and supported an array of evidence-based policy changes. Those who self-described as cannabis users reported medium level of concern while members of the cannabis industry expressed little or no-concern with the issue and favored policies that were not evidence-based or maintained the status quo. Findings are consistent with how tobacco and alcohol industries have historically resisted regulations to minimize harms of the products they profit from while civil society demand change in name of public health.

Evaluating the effect of state cannabis policies on cannabis use; does the measure matter?

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Background: Evidence of the public health impact of cannabis policy liberalization on use and harms has generated mixed evidence due in part to inconsistent measurement of cannabis policies, which are heterogeneous within common categorizations of medical and recreational laws. Methods: Using restricted data from the 2002-2019 National Survey of Drug Use and Health (NSDUH), we estimate generalized linear models evaluating how changes in state cannabis policy environments, described by the comprehensive Cannabis Policy Scale, are associated with changes in individual cannabis use, near daily use, and simultaneous use of cannabis and alcohol, adjusting for year, state, and individual characteristics. Sensitivity analyses consider how findings change with alternative measures of cannabis policies used in the literature (decrim, medical and rec laws) as well as alternative alcohol policy measures (e.g. alcohol policy scale versus beer tax). Results: We will present findings for the following measures of outcomes assessed in terms of use in the past 30 days: any cannabis use, near daily use, use of both alcohol and cannabis, and use of cannabis within a few hours of drinking. We will present results separately for youth (under age 21), young adults (21-34), and older adults (35+). Conclusions: Based on similar analyses of fatal car crashes, we expect to find that differences in accounting for the cannabis and alcohol policy environments contribute to some of the inconsistency observed in published studies as well as heterogeneous effects by age and type of use.

Governance mechanisms in the government monopoly model for legal cannabis: Quebec case study

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Introduction: The government monopoly model for legal cannabis may offer public health advantages over alternative commercial approaches. While studies of cannabis legalisation have focused on price, product, store and advertising controls, few have examined the governance structures of cannabis monopolies which are critical to prevent its commercialisation and other harms. Aim: To examine the governance challenges and opportunities of the retail cannabis monopoly in Quebec, Canada. Method: Semi-structured interviews with 34 key stakeholders (KS) from Quebec’s public sector, academia, cannabis industry and civil society; review of relevant laws and field observations of government cannabis retailers. Results: Regulations of Quebec’s provincial cannabis retailer (SQDC,
Société Québécoise du Cannabis) differ from the provincial alcohol retailer (SAQ, Société des alcools du Québec) in important ways, including more restrictive product ranges, store layout, and ban on advertising and promotion. SQDC is governed independently from SAQ (despite being its subsidiary) with implementation of the Cannabis Regulation Act delegated to the Ministry of Health rather than Finance. A range of formal and informal governance mechanisms help balance the competing objectives of the elimination of the illegal market, public health and revenue generation. Informal mechanisms include consultations and advice between SQDC and public health bodies and are reliant on SQDC leadership and mission acceptance. Many KS viewed the dedicated Cannabis Research Fund as a key mechanism for preventing commercialisation. Some KS questioned the effectiveness of some formal governance structures including the composition of the SQDC Board of Directors and the limited powers of the Oversight Committee.
Novel Perspectives on harm reduction

Harm reduction: A bottom’s up approach?

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In the 1970s, Hong Kong’s methadone program was at the forefront in Asia, and was soon followed by other non-governmental harm reduction initiatives aiming to minimize the risks associated with injection use of heroin, including peer counselling and outreach. These initiatives remained within the broader abstinence treatment model and prohibitionist regime. The shift in the 1990s to psychoactive drug consumption demanded different strategies and policies, but harm reduction was beyond reach, being seen as potentially encouraging young people’s consumption of drugs and countering its longstanding zero tolerance ethos. Recently, the government has called for research to shed light on the feasibility of harm reduction strategies, responding to ongoing calls from frontline workers and government audits. The government’s position on harm reduction, however, remains steadfast, tied to the end goal of abstinence. We uncover the possibilities and challenges of harm reduction in the abstinence and prohibitionist environs. We draw on data from our research where we have developed a local harm reduction training program for frontline workers and relevant stakeholders. The focus in our discussion is on the data collected to develop the training program, in particular, interview data with persons who use drugs and social workers about current drug use patterns, practices and problems in reducing harms/risks associated with use, and challenges the latter face in “doing” harm reduction at the frontline, organizational or larger policy levels. Our end goal is to develop a “bottom up” approach to harm reduction in the context of Hong Kong’s distinct prohibition policies.

The increasing popularity of pregabalin amongst UK heroin users: Implications for harm reduction and overdose prevention

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Methods This paper reports on findings from a multi-method annual substance use trends study (online surveys and in-depth interviews with people who use drugs (PWUD) and a range of professionals who work closely with them, and forensic analysis of substances) conducted in Greater Manchester, England. Findings Reports of poor-quality heroin from PWUD and key professionals was supported by forensic analysis that found purity levels as low as two percent. Poor-quality heroin directly increased the use of prescription drugs. Pregabalin was used to enhance the effects of poor-quality heroin; to delay the onset of withdrawal symptoms from heroin or to make PWUD feel well enough to beg or shoplift. Forensic analysis uncovered a highly variable prescription drug street market, with the content of tablets sold as 10mg diazepam ranging from caffeine, between 1mg and 11mg of diazepam or novel benzodiazepines (etizolam and XXX). Pregabalin sold as 300mg capsules contained between 100mg to 322mg. The widespread understanding that these were not UK pharmacological standard prescription drugs coupled with the cheap price (less than 50p per tablet) and bulk purchasing led to binge use (20 to 60 per day of benzodiazepines and/or pregabalin) often in conjunction with other...
central nervous depressants (e.g., alcohol, cannabis, heroin, methadone, and synthetic cannabinoids (‘Spice’)). This is leading to increased overdose and death. Discussion and Conclusions The large quantities of non-prescribed benzodiazepines and pregabalin that PWUD regularly reported using a day, based on the perception that these drugs were poor quality, can be fatal depending on content. This highlights the need for community drug checking that goes beyond the testing of ‘club drugs’ in club and festival settings. The increasingly common use of high amounts of pregabalin in conjunction with (poor quality) heroin and other CNDs is likely to reduce the effectiveness of Naloxone in reversing overdose and preventing deaths.

Frontline perspectives: Civil society-led monitoring of harm reduction in Europe

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Civil society organisations (CSOs) are essential in developing and implementing effective measures to reduce the harms of drug use and drug policies. They are also critical in monitoring and evaluating programs and policies. This presentation will analyse the challenges and experiences in building a framework to monitor the implementation of harm reduction in Europe from the viewpoint of frontline harm reduction workers. A research group within Correlation- European Harm Reduction Network has developed the framework since 2018. It collects data on the accessibility and acceptability of harm reduction services, hepatitis C care for people who inject drugs, and drug trends. It operates through a network of Focal Points, harm reduction services in 36 European cities in 34 different countries, assisted by expert groups and a Scientific Advisory Board. The framework uses a mixed-method approach, including interviews, surveys, and focal group discussions. The monitoring approach and its indicators were adjusted to reflect the situation at the city level, as most CSOs have little experience with monitoring and work in a local context. This approach does not allow for comparing results nationally but provides the foundations for critically evaluating harm reduction implementation against European policy goals. It also identifies gaps in and complements data from government agencies. Data reflecting the CSO’s perspectives is vital for optimising local planning of service provision and developing effective and respectful drug policies. If data quality issues and reporting sustainability are adequately addressed, civil society-led monitoring can provide excellent added value for monitoring harm reduction in Europe.

High school students’ poly-drug use: Related social aspects, and school dropout

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Poly-drug use has increased, especially in young-using groups. Classic epidemiological indicators of drug use are not adequate as measures of the possible harms of poly-drug use. We apply poly-drug
use indicators, based on substance-specific harm scores (van Amsterdam et al. 2015), to data from high school student surveys. Analysing the ‘correlation’ between high-risk drug use of high school students and school dropout allows the evaluation of adopted prevention policy and may suggest more suitable approaches. Each drug user is characterized by two specific scores: overall frequency of use of substances during the period of interest (FUS) and poly-drug use score (PDS). The poly-drug use score is a weighted average of the harm scores of the individual substances used multiplied by their respective frequencies of use. The PDS increases with frequency of use, with the number of substances used, and with the specific harm scores of each substance. The indicators are applied to sample data regarding a youth population, High School surveys conducted annually in Italy. The trends of poly-drug use at different ages of students, 15-19 years, over time and gender are studied. The results are linked with educational outcomes, and social aspects, making it possible to assess present prevention interventions. Poly-drug use indicators allow a comprehensive quantitative evaluation of the risks of drug use. The analysis of the links between heavy use of drugs, school performance and dropout, and the social variables that influence them, may suggest how best to plan prevention interventions at school.
Experiment with regulated cannabis supply chain in the Netherlands

Monitoring developments on the illegal cannabis market

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In order to track the developments on the illegal cannabis market during a baseline phase and after launch of the experiment in ten intervention cities, researchers have collected consumer data about cannabis transactions outside the coffeeshop using an online survey based. In addition to cities in the intervention group, the researchers selected a control group of cities that shared, at group level, similar characteristics in terms of population size, coffeeshops per capita and distance to the border. Respondents were recruited by means of QR cards during field work and social media adverts targeted at cannabis consumers in intervention cities and control cities to create a convenience sample of transactions. The questionnaire included questions about: location of purchase; date of purchase; mode of purchase (street dealer, delivery, etc.), type of product, price paid, weight, reason for purchase on the illegal market, etc. Results suggest that consumers on the illegal market are particularly driven by price and to a lesser extent to the higher volumes than can be acquired outside coffeeshops. There is a negative correlation between the weight of cannabis purchased on the illegal market and its price. The results offer insights in relevant developments on the market for illicit cannabis in the Netherlands during the baseline measurement for the experiment with a closed cannabis supply chain. Both the results and the approach taken may inform scientists and policy makers in other countries where cannabis policies are evolving.

Coffeeshop visitors, patterns of use and buying behaviour: Status quo in 19 municipalities

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Aim of the Dutch ‘cannabis experiment’ is to ascertain whether or not it is possible to regulate a quality-controlled supply of cannabis to coffeeshops and to study the effects of a regulated supply chain on crime, safety, public nuisance and public health. A combination of qualitative and quantitative methods will be applied to evaluate effects, including surveys among coffeeshop visitors conducted at baseline and four times after the intervention is implemented in (10) municipalities. A pre-baseline survey was conducted from September 2021 till March 2022. A sample of 809 respondents who had just made a purchase in one of 122 coffeeshops were interviewed face-to-face about their purchasing behavior, substance use and health. Results showed that the main reasons for making purchases in the relevant coffee shop were a favorable and easily accessible location, the sale of high-quality cannabis and a good atmosphere/cosiness/friendly staff. The majority was (very) satisfied with the cannabis from the coffee shop they had just purchased. Only a minority made purchases outside coffee shops (e.g., in the illegal circuit or medicinal cannabis at the pharmacy). The proportion of (almost) daily and risky cannabis users was high. These findings set the stage for subsequent assessments and may inform policy makers and scientists about relevant indicators for evaluating cannabis policies.
The closed coffee shop supply chain experiment: History, associated research design and participating municipalities

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In 1976, in reaction to the emerging open trade of hazardous drugs in public spaces the Dutch government determines a policy of toleration regarding the sales of soft drugs. While selling soft drugs still is considered a criminal offence, the Public Prosecution Service will not prosecute for violation. This unique policy has served as inspiration for foreign policy makers, but whether they rightfully appraise the Dutch coffee shop policy is subject to discussion. The last decade the Dutch policy has received some criticism. In 2015, an administrative working group on cannabis policy identified several problems regarding the Dutch policy. Later it was announced that the Netherlands will start a uniform experiment with tolerated cultivation of cannabis for recreational purposes. The aim is to examine whether and how quality-controlled cannabis can be supplied to coffee shops in a decriminalized manner. The experiment with a closed coffee shop chain in the Netherlands is a great opportunity to collect research data on the possible effects of this policy change. We use a quasi-experimental design to compare municipalities operating in experimental conditions (i.e. intervention group) to municipalities operating in the existing situation (i.e. control group). Data will be collected from different sources through different methods and technique (‘mixed methods’ approach). In our presentation we address several research publications. We discuss the history of the Dutch coffee shop policy, the road to the experiment and the chosen research design. Furthermore, we discuss which local policy the municipalities have that are in the experiment.

What cannabis products do coffeeshops sell?

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In the Netherlands the sales of cannabis is condoned since the 70’s. But what cannabis products do they sell? How many different strains of marihuana do they offer, what are the most offered strains and what are the prices consumers have to pay. These were important questions that arose when planning for the controlled cannabis supply chain experiment. In 2018 a quickscan was done using online posted menus of coffeeshops and information on cannabis sales from the THC-monitor (an annual monitor on THC and CBD levels in cannabis products sold in coffeeshops). This information gave insight in how many products were needed if a controlled supply chain was to be set up. For the evaluation of the cannabis experiment a team of fieldworkers will visit the 79 coffeeshops in municipalities partaking in the experiment and a similar number of coffeeshops in a control group of municipalities and they will ask the coffeeshop personnel if they can take a picture of the menu. The information on the menus will be put in a database and analysed. A baseline assessment is planned before the regulated cannabis is in the coffeeshop (end 2022) and thereafter annually for four years when the legally produced and quality-controlled cannabis is sold in the coffeeshops in the intervention group. At that point changes over time in the experiment group and the control group can be investigated. The data for the baseline assessment is not yet public at the time of submitting this abstract but will be presented during the conference.
Alcohol, tobacco, cannabis vaping: Considerations on the use of legal substances

Vaping under the landlord's nose: Understanding the considerations cannabis consumers' have when deciding what product to consume

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Cannabis legalization has brought an abundance of choice for cannabis consumers, and a greater need for harm reduction education for both new and experienced consumers. Cannabis consumers’ knowledge about cannabis is largely based on their own experiences of use, instead of coming from outside sources (Kruger et al., 2021), and many consumers rely on inaccurate beliefs about cannabis (Coggans et al., 2020). This may increase the risk of unsafe consumption practices. To meet the clear need for effective public education materials with a harm reduction focus, we must first understand consumers’ needs and the factors they identify as shaping how they consume cannabis. As part of a larger applied research project (Engaging and Educating Young Adult Cannabis Consumers), 9 virtual focus groups were conducted in late 2020 with a total of 89 participants who were cannabis consumers between 18 to 30 years old and living in Canada. The focus groups revealed that young adult cannabis consumers were making decisions about consumption methods and practices that best met their specific circumstances, often influenced by their intersectional identities. Considerations about methods of consumption were grouped into themes of convenience, health, price, routine, and desired effect. While the themes are interconnected, consumers assign varying degrees of importance to each theme based on their personal priorities. Going forward, to successfully create effective harm reduction focused cannabis education materials, the considerations made by consumers need to be acknowledged and incorporated. Such materials may engender greater resonance with consumers, and improve public health outcomes.

Alcohol in Sydney's informal entertainment scenes

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Background & aims: Sydney is home to informal entertainment scenes (professionally organised events at unlicensed venues and outdoors) alongside a formal night-time economy (licensed venues and events). Consumption data indicates that the majority of alcohol is consumed outside formal scenes however, little is known about alcohol provision in the informal scenes. Here we explored models of alcohol provision and management found in Sydney's informal scenes. Methods: In January and February 2023 we recruited 10 organisers who have run events in Sydney's informal scenes since 2013. We interviewed participants in-person and remotely via ZOOM. Interviews averaged 60 minutes and were transcribed professionally and analysed thematically. Findings: Alcohol in Sydney's informal scenes was provided through a range of models; 1) a sponsorship model in which the event was sponsored by an alcohol brand that provided funds and alcohol, 2) an unlicensed bar operated by
the venue owner, 3) an unlicensed bar operated by the event organiser, 4) a gifting model in which the alcohol was gifted by the organisers or fellow patrons to other attendees, and 5) a BYO model in which patrons brought their own alcohol to the event. Alcohol consumption and alcohol-related harms were regulated through a self-policing model. Conclusion: We found that alcohol was regularly provided to attendees of informal events through five different strategies outside the bounds and requirements of legal regulations for the distribution of alcohol.

Advertisements for tobacco products

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Advertisements for tobacco products in the EU are subject to regulations that limit the content of advertisements, where products can be promoted and to whom. However, since these regulations were introduced, there have been changes in both the products available on the market (e.g. electronic cigarettes, heated tobacco products, herbal products) and the media landscape (e.g. social media, streaming, subscription services). These changes have affected how regulations on advertisements are implemented and enforced, and who is ultimately exposed to promotions for tobacco products. As part of a study for the European Commission (2021), we conducted a survey with a representative sample of 5,187 participants across 10 countries asking them about their exposure to different types of advertisements for tobacco products. In this presentation, we will discuss differences in tobacco advertisement exposure between countries and by age group, and reflect on how advertising changed between 2016 and 2021. We will also present results from a latent class analysis, from which distinct exposure categories emerge. In particular, we will discuss who is exposed to traditional forms of advertisements, as opposed to those that have been introduced more recently as the products available on the market and media landscape have shifted. Although this study focuses on tobacco products, findings speak to how advertisement strategies shift in conversation with regulatory requirements, product innovations and changes in how we consume media. These factors will be important to consider as other markets, including the emerging cannabis market in the EU, continue to grow and become more regulated.

Youth initiation into cannabis vaping is associated with State-level cannabis policy and e-cigarette use in the United States

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Background: In the U.S., vaping cannabis has increased as a route of administration, alongside dramatic increases in the use of e-cigarettes. These patterns are occurring in the context of rapidly changing policy for both substances. We examine whether cannabis and e-cigarette policy influence age of initiation into cannabis vaping as adolescence age into early young adulthood. Methods: Intergenerational, longitudinal data from the Population Assessment of Tobacco and Health was merged with a state-year e-cigarette policy database from the Americans for Nonsmokers’ Rights
Foundation and cannabis policy from primary sources. Multivariable discrete-time event history models of cannabis vaping initiation were estimated based on youth assessed over 4 waves in which cannabis vaping was queried from 2015 to 2019 (N=39,275 total observations from ages 13 to 22). Results: The odds of cannabis vaping initiation were 16% lower when youth resided in states with criminalized adult recreational cannabis possession relative to legalized possession (p<.05) and 14% lower in states where sales were a felony relative to misdemeanor. While e-cigarette policy was not significant, e-cigarette use was; those who had ever used an e-cigarette were 13 times more likely to initiate cannabis vaping (p<.001), compared to only 2 times more likely for traditional cigarette use (p<.001). Conclusions: State-level legal cannabis policy is associated with higher odds of youth initiation at any given age. Initiation is also associated with e-cigarette use. Prevention and intervention efforts in legalized cannabis states, as well as efforts to curb e-cigarette use, may be useful in further delaying initiation.
Exploring experiences of people who use drugs

The benzo research project: An evaluation of recreational benzodiazepine use amongst UK young people (18-25)

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Benzo Research Project¹²³⁴⁵

After witnessing first-hand many young people struggling with benzodiazepine addiction and problematic drug use, a group of students decided to set up the Benzo Research Project. The project aims to understand the lived experiences of recreational benzodiazepine use in young people (18-25) in the UK in order to raise awareness about the increasingly important issue of recreational benzodiazepine use in order to reduce harm. We set up an anonymous, online platform for young people to share their experiences of benzo use, and then analysed the qualitative data gathered through those testimonies. In our findings, we have found a severe lack of drug education and support for young people. Especially, resorting to benzodiazepine use as a way of self-medicating in the light of poor mental health services emerged as a pressing trend. Our findings suggest that benzodiazepine use usually started in high school and continued into university, which highlights the need of higher education institutions to implement relevant drug support services and strategies. We also observed lack of awareness about the issue in the medical profession and drug support services. We conclude our report with a call for more research on the issue. We suggest that further studies should focus on wider demographics, analyse composition and availability of counterfeit benzodiazepines available on black market, and revisit the current strategies of drug support services.

Methamphetamine use among men who have sex with men in Mexico City: the role of targeted online marketing in the context during and post covid-19 restrictions

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Mexico is the main methamphetamine-producing country in the Americas. However, little is known about the patterns of use far from the US border. The aim of this mixed-methods study was to assess, through the Social Action Theory, characteristics related to methamphetamine use before/during sex (i.e., chemsex) among men who have sex with men (MSM) in Mexico City. In 2021, 175 adult MSM, recruited through snowball sampling, who reported past-month methamphetamine use completed an online survey on substance use and other behaviors. In 2022, 24 participants were re-contacted and interviewed on the dynamics of chemsex. Ordinal logistic regression analyses and an inductive approach to thematic analysis were performed. Two-thirds of respondents reported engaging in chemsex at least half the time. Controlling for the contextual (i.e., sociodemographic), psychological (i.e., anxiety, trauma, reasons to use), and social (i.e., stigma, influences, and social support) characteristics, having severe depressive symptoms significantly increased the odds of chemsex (Adjusted Odds Ratio=6.1; 95% Confidence Intervals=1.7-21.4). Most interviewed participants reported initiating chemsex within a context of solitude at the peak of the COVID-19 restrictions. Some reflected on a marketing strategy directly targeted at MSM through sales in dating/social network apps, with selling options as with any other online transaction. While chemsex is related to enhanced pleasure, this study highlights the
contextual, psychological, and social context in which MSM are being targeted by drug cartels through dating apps. Policy implications include the urgency to consider how online markets in visible sites expanded and settled new markets during the pandemic.

**Benzodiazepine and opioid use as a lifestyle feature among (post-) adolescents – preliminary results from an ongoing study**

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Background: After preparations like the codeine-containing “Lean”/“Purple Drank” were made popular in US rap scenes as early as in the mid-1990s, sedative drugs have also become an issue among European rappers by the mid-2010s, including “Lean” and other opioids as well as benzodiazepines. It is still unclear how the presence of these substances among popular musicians affected the prevalence among its recipients.

Methods: Preliminary data comes from an ongoing study on the issue in Germany, funded by the German ministry of health. In addition to preliminary numbers from a quantitative online survey addressed to young people (14-29 y-o.) with experiences with illicit drugs and/or psychoactive medical drugs, the main evidence comes from at least 13 interviews with young people with relevant experiences.

Results: Very preliminary analyses form the interviews show that there is a group of young people whose motivation for the use of sedatives was sparked by role models from popular culture. While the often-depicted “Lean” mixture plays a minor role in patterns of use, mainly other medical opioids (e.g., Tilidin) are often combined with cannabis and/or alcohol. Conclusion: At the time of the conference, we will have more evidence available about the actual prevalence of sedative drugs, backgrounds and motives for use. While role models from domestic rap musicians seem to play a major role for experimenting, continuing use depends not only on peer dynamics, but also on mental issues of individuals, some of which use these substances as self-medication.

**Universal particular: Dancefloors and drug-taking intersections in different cultural settings**

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Designed as a participatory, multimedia, wider engagement project, ‘People and Dancefloors’ explores the relationship between people, dance floors and drug-taking. Currently spanning three countries, the UK, Malta, and Brazil, fieldwork has involved the collection of stories through on-camera interviews, audio interviews, written statements, workshops and focus groups, with N=42 participants across the three research sites to date. The globalisation of club-going and drug-taking has implications beyond forms of electronic colonialism and techno-tourism. We need analyses that problematise northern dominance as a tendency to make inferences about the universal nature of dance and drugs experiences from very specific economic and cultural settings. Through intersectional comparative thematic analysis of qualitative data, this paper interrogates which facets of people’s experiences with dance floors and drugs are universal, while highlighting aspects that differ as tied to class, gender, ethnicity, sexual orientation, age, and place. Findings suggest that certain experiences and qualities are universally sought by participants in their interactions with dance floors and drugs, and that dance floors and drug experiences are mutually forming, generating similar feelings and thoughts among participants. However, important differences are mediated by place and intersectional aspects of identity. This has implications not just for people’s experiences, but for issues of justice surrounding drug policy and its reform.
Drug-related deaths in Europe

Reframing drug policy on drug-related deaths: Incorporating a social, structural and systems analysis

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Background: Drug overdose is a leading cause of accidental death among young adults worldwide. Efforts to prevent and reduce drug-related deaths have become a policy and practice priority in many countries. Methods: This paper brings together the findings from two related studies that explored the social, structural and systemic factors underpinning drug-related deaths in Scotland – a qualitative case study of two health care systems, and a social autopsy analysis of the health and social records of a cohort of young people (n=22) who died of a drug overdose. Both studies were underpinned by complex systems thinking and mapping. Analysis was informed by concepts of ecological systems (Bronfenbrenner, 1977) and risk environments (Rhodes, 2002). Results: Both studies indicated the extent of complex unmet needs experienced by those at risk of drug-related deaths. Substance use needs were exacerbated by untreated mental health & physical health conditions; poverty and precarity; insecure housing and employment; and stigmatisation and criminalisation. Both studies found a complex fragmented neoliberal system of care that focused on individual’s capacity and motivation for behavioural change despite the inadequacies of the system to address their broader social and health care needs. Conclusion: Drugs policy focuses on preventing and/or treating the use of substances implicated in overdoses despite increasing evidence that drug deaths are socially and structurally embedded deaths of despair and systems failure. These studies highlight the importance of understanding the interaction between substances use, the individual and their environment to inform effective policy responses to drug-related deaths.

Addressing the ‘risk environment’: Understanding future service users’ perspectives of an overdose prevention centre in the UK

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Consultation with people who use drugs is an essential part of high-quality drug service design. This study consulted people who use drugs as part of research for the implementation of an Overdose Prevention Centre (OPC) in a city in the UK. We aimed to find out 1) What is the current experience of people who use drugs in street-based settings? 2) What features potential clients consider important for an OPC?; 3) What barriers would exist for clients accessing an OPC?; 4) What might facilitate use of an OPC? Between March and June 2022, focus groups and one-on-one interviews with people who use drugs were undertaken. Led by the SCORE Team, a local drug user group, we also conducted photo-ethnographic and traditional ethnographic fieldwork to better understand the contextual characteristics of the local community. The findings highlight the need for an OPC which would address the ‘risk environment’ of people who use drugs in local, UK street-based settings. Potential service users would value peer involvement in the day-to-day running of the OPC, an independence from policing in and around the OPC, and a site which was welcoming and not too far to travel to. Barriers identified include an extension of harms experienced by individuals from police being extended to the sanctuary of an
OPC, and any otherwise stigmatising practices or potential operation. These findings will inform the development and implementation of an OPC that can decrease drug-related deaths, support health and wellbeing, and successfully engage potential local service users.

The drug-related death crisis in the UK: Comparative analysis of UK and Scottish responses using the drug policy constellations approach

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Aim: To provide a realist, critical explanation of the different responses to drug-related deaths at the UK and Scottish levels, between 2015 and 2021. Method: The paper uses the drug policy constellation approach. This is a critical realist theoretical framework which focuses on forms of power and morality that underlie drug policy decision-making. This provides a useful guide to comparison between different polities. Empirically, the paper uses mixed method, including ethnographic fieldnotes of the author’s participation in policy making (n=1), elite interviews (n=22), discourse analysis of policy debates and documents (n=176), coded in Nvivo, and two-mode social network analysis in Gephi showing the sociograms of 1,889 coded ties between policy actors (n=335; 247 individuals, 88 organisations) and their policy positions (n=173). Finding: There are distinct ethico-political bases for drug policy making at UK and Scottish levels. At UK level, the dominant, medico-penal policy constellation is based on the overlap between traditionalist, conservatism and paternalist public health. In Scotland, there is a greater influence of egalitarianism and progressive social justice. At UK level, extra funding for drug treatment was secured by the savvy mobilisation of the narrative that treatment reduces crime. In Scotland, a broader campaign succeeded in framing the drug deaths rate as a national ‘shame’, leading to swifter and more substantial action, with a greater focus on harm reduction and human rights. Conclusion: The drug policy constellations approach provides a practically adequate and persuasive framework for comparative drug policy analysis.

Economic recessions, unemployment, and overdoses deaths: Do people die in Europe from despair?

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Economic shocks impact people’s health, specifically drug-related harms such as overdose deaths. Further, first, this impact lagged on time, and its intensity depends upon the intensity of the shock and the structure of labor markets. To estimate the impact of the economic cycle on drug-related deaths in 30 European countries, the study applies a time dynamic linear analysis; in the threshold panel data model framework and tests structural breaks. The model disentangles two opposite behaviours depending on the structure of the economy and on the intensity of crises: in ‘low unemployment countries’ where unemployment rates usually are lower than an estimated threshold range (between 3.92% and 4.12%) overdose-deaths and unemployment show a pro-cyclical relationship. Conversely, this relationship is counter-cyclical when unemployment rates exceed the threshold range. Therefore, in countries with unemployment higher than 4.12% or when the rates of unemployment of ‘low unemployment countries’ pass this threshold, an increase in unemployment is associated with an increase in overdose deaths. Last but not least, the study shows a time lag of approximately two years between the changes in unemployment and its impact on overdose deaths.
The policing of drug markets

Scanning vehicles for drugs: Exploring the use of vehicle stops by police officers to search for drug offences in an English county

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Police officers possess powers to stop and search people and vehicles suspected of committing offences. In England and Wales, there has been significant attention on the use of stop and search to search persons in public. However, considerably less attention has been given to the use of vehicle stops. This paper explores the practice of vehicle searches to search for and investigate drug offences. This research is primarily based on ethnographic methods, through over 350 hours of observation across three community policing teams between October 2021 and January 2022 and 14 semi-structured interviews conducted with frontline and senior officers and stakeholders. Quantitative vehicle stop data is also drawn on to contextualise the findings. This paper outlines how officers rely on traffic offences to search for drug offences. During patrol, officers routinely look for ‘suspicious’ vehicles and check vehicle details in national databases for traffic offences or intelligence reports. Vehicles and drivers that are subsequently pulled over are subjected to further scrutiny, as officers use these stops to search for potential drug offences. As the reasons for stopping certain vehicles are not recorded, these stops are far less scrutinised and therefore less transparent than person stops. This research explores the effectiveness and legality of vehicle stops to search for drugs offences. It demonstrates how police officers navigate legislation and regulation in the pursuit of (often minor) drug offences, using the law to their advantage to patrol and target drugs in communities.

The development of vulnerability policing in drug markets:
From child sexual exploitation to county lines

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In the last 60 years, across numerous countries, there has been a growth in the number of populations recognised, acknowledged, and accepted as ‘vulnerable’ and/or as victims and thus deserving of supportive intervention rather than insouciance or even ill-treatment as was previously the case. One such group that has gained such recognition in the UK is children (-18) that are ‘County Lines’ drug supply involved. Children involved with County Lines drug supply however, present the police with a difficult to manage conundrum in practice: thousands of children have been ‘recruited’, groomed, or forced into drug supply activity and have been formally recognised (by the criminal justice system; the government; the police etc.) as ‘vulnerable’ and exploited and deserving of help, but they are at the same time criminal (drug supply) and some are also themselves perpetrators of harm (e.g. grooming; debt bondage; cuckooing etc. of other children/vulnerable adults) and/or violence. Although frontline officers are encouraged to ‘see’ and process County Lines involved children as vulnerable and exploited, various tensions exist in this front-line space that may prevent this from happening. An exploration of a number of these specific tensions and of the trajectory of current UK vulnerability policing in regards to drug market involved vulnerable people will be undertaken.
British Columbia police officer perceptions of mandatory drug treatment in the context of decriminalization

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In January 2023, British Columbia (BC) decriminalized small amounts of drugs (such as Opioids, Methamphetamine, MDMA) for personal possession, with the goal of increasing access to health services, decreasing drug-related deaths and reducing drug use stigma. The current study was conducted in September-January 2023, as part of a larger qualitative project examining police officer perceptions towards the incoming decriminalization policy. In this study, we aimed to thematically analyze interviews with police officers (n=36) across the province, including their views towards drug use and treatment-centred drug policy approaches in the context of decriminalization. Mandatory drug treatment was a central topic that emerged from these interviews. Our analysis indicated polarity in officer sentiment towards mandatory drug treatment. Many participants strongly asserted that mandatory treatment was an ineffective method for rehabilitating people who use drugs, as willingness and buy-in from individual drug users are cornerstones of positive and lasting outcomes. Conversely, other police officers believed mandatory treatment was necessary; views that were rooted in strong moral beliefs about addiction, drug use, and the role of the state. Findings clearly outline police perceptions of the efficacy of stricter, abstinence-based drug policy, revealing more deeply engrained officer perceptions of people who use drugs, and indicating that officers utilize coercion-based practices resembling mandatory treatment on a routine basis. In this presentation, we discuss the implications for these findings in the context of decriminalization and the overdose crisis in BC.

A systematic review on the impact of drug-related law enforcement activities on serious violence and homicide

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This presentation will explore the findings of a systematic review of the global literature on the impact of drug-related law enforcement activity on serious violence and homicide. The review advances knowledge in this area by building on a previous systematic review that included studies up to 2011.1 Studies in this review were included if they were an empirical study, published in English, Spanish, Portuguese and Dutch, and were journal articles, grey literature or PhD dissertations. Included articles were identified using seven academic databases and three grey literature sources published from January 2011 to January 2023. Overall, 25 articles were included in the review. Most studies reported on drug-related law enforcement interventions in North America, particularly in Mexico (n=9) and in the United States (US) (n=7). Six studies provided analysis of interventions based in South America, two in Europe, and one in Asia. The studies reviewed provided insights into the effectiveness of various drug-related law enforcement interventions, which we categorised into seven different types of interventions: selective enforcement, leadership removal, illegal crop eradication, attacks or removal of a member of a drug trafficking organisation or drug gang, arrests or charges, drug seizures, and military interventions. Overall, the available evidence points to a lack of evidence for the effectiveness of drug-related law enforcement activities reducing violence and, by contrast, more evidence
demonstrating negative unintended consequences for these interventions. The presentation will provide a summary of the findings, explore potential contributing factors to how these activities may reduce or increase serious violence, and discuss the differences between and within countries with respect to these interventions and their outcomes. The presentation will conclude with reflections and implications from the review.

Cannabis use and dosage

Trends in cannabis use, 2018-2022: Results of the Canadian cannabis survey

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To examine trends in non-medical cannabis consumption, cannabis products, source and risk perceptions among Canadian Cannabis Survey respondents aged 16+ from 2018-2022. Logistic regression models tested differences in cannabis consumption, products used, risk perceptions and cannabis source between pre-legalization (2018) and 4 years post-legalization (2019-2022). Models on cannabis consumption, product types and source were adjusted for sex and age group; models on risk perceptions were additionally adjusted for past 12-month cannabis consumption. Past 12-month cannabis consumption has increased since legalization in the general Canadian population (p<0.001), except in youth 16-19-years-old (p>0.05). The proportion of past 12-month consumers who reported consuming daily/almost daily remains unchanged (p>0.05). Risk perceptions of smoking, eating and vaping cannabis regularly increased following legalization but then plateaued, with lower risk perceptions among males and consumers than females and non-consumers, respectively (p<0.001). Seventy percent of Canadians now report accessing cannabis from a legal store or legal website, a significant increase since legalization (p<0.001). Differences in outcomes by sex and age group are highlighted. More Canadians are reporting past 12-month cannabis consumption since non-medical cannabis legalization, except among youth. At the same time, there has been no change in the proportion of consumers reporting frequent consumption, and awareness of the risks of cannabis consumption has increased. Ongoing public education can help continue to inform Canadians of the health risks of cannabis and lower-risk use.

Policy implications of young adult perspectives on standard cannabis dosing

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Background: In the wake of considerable policy changes across U.S. states, cannabis consumption has expanded in various ways. Nonetheless, young adulthood (18-29) remains the primary period of the life course during which cannabis consumption occurs. There is a lack of standard dosing for cannabis, even in legal markets, and the expansion of new products (e.g. vapes, shatter) makes this an even greater issue. Within a rapidly changing policy context, there are opportunities to potentially reduce harm and facilitate positive experiences through the structuring of cannabis dosing; such shifts in early adulthood may facilitate long term positive outcomes. Methods: This study draws on qualitative interview data from young adults in two U.S. states (one criminalized, one legalized) on the issue of standard cannabis doses. Results: The data indicate that young adults think about dosing in distinct ways across various types of cannabis products; mode of administration differentiates how young adults consider dosing. Many young adults remain uncertain on what constitutes a dose yet indicated strong desires for more information on dosing. They suggest information on dosing is
especially important for initiates and infrequent consumers. Young adults are also highly receptive to the concept of a standard THC unit and desire more easily accessible information when purchasing cannabis in legal marketplaces. Conclusions: Policymakers can potentially leverage desires of young adults by creating structures in legal cannabis that facilitate easier understandings of cannabis dosing. Regulation of packaging and marketing across distinct product types may enhance both health outcomes and positive experiences.

**Sex differences in cannabis dosage and frequency across Europe**

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The rates of cannabis use have been narrowing between sexes over the past decade, yet sex differences in cannabis exposure are unclear. We aimed to examine for the first time how sex, risk perception and their interaction affect cannabis exposure, accounting for age, alcohol use, mode of administration, highest education, employment status and country via general linear mixed models. We conducted the European Web Survey on Drugs in 16 through 2016-to-2018. Current cannabis users included 6,500 males and 2,921 females, with median age of 22 years. Greater past month cannabis dosage and frequency were reported by males; and by persons who reported to have no risk perception and a slight risk perception versus moderate-to-high risk perception. Public health messaging aiming at alleviating harms in those with the heaviest level of cannabis use, should focus on raising awareness about the risks of heavy cannabis use, in males and females.

**Monitoring trends and developments on the Dutch cannabis market through chemical analysis**

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Dutch law prohibits trade, production and possession of cannabis. However, recreational use of cannabis is allowed, and small-scale sale through so-called “coffeeshops” is tolerated. For 23 years, the annual “THC monitor” reports the chemical composition of different product types available in coffeeshops, as well as market trends and developments. For the 2022 edition of the THC monitor, samples were bought in 50 Dutch coffeeshops: most popular (n=61) and (presumably) most potent (n=49) Dutch-grown marihuana, imported hashish (n=62) and marihuana (n=4), and Dutch hashish (n=19). Basic information (price, origin) was also collected. THC and CBD were quantified in all samples. On average, imported hashish contained 26.8%, imported marihuana 2.4%, and Dutch hashish 35.7% THC. The THC content of the most potent and the most popular Dutch marihuana was comparable (17.2% versus 17.5%). THC levels in Dutch-grown marihuana and imported hashish increased during the second half of 2010s, yet have been relatively stable for several years. The CBD content of imported (mostly Moroccan) hashish has been decreasing in recent years. This might be caused by progressive transitioning from traditional hashish-producing methods, towards methods that employ sinsemila plants. The “THC monitor” allows for careful mapping of the Dutch cannabis market throughout the years. Similar instruments will also be used in the evaluation of the upcoming “controlled cannabis supply chain experiment”.

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[*ISSDP Conference 2023 - book of abstracts*]
Typologies and indicators in cannabis policy

Towards a comprehensive taxonomy of cannabis policy: Scoping review of recreational and medical cannabis

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Background: Jurisdictions worldwide have implemented policies on the production, distribution and sale of cannabis for recreational and/or medical use. Comparison and evaluation of cannabis policies beyond cannabis legalization is currently cumbersome, as there is a lack of a comprehensive taxonomy to examine cannabis policy changes. Existing taxonomies have either a limited scope (e.g. focus on either recreational or medical use) or have been produced in a single country. We aimed to construct a comprehensive taxonomy of medical and recreational cannabis policies across the world through a scoping review. Methods: We conducted a scoping review of the peer-reviewed and gray literature on cannabis policy characteristics and taxonomies published in seven databases of health and social sciences literature (January 2010-January 2023). Records were included if contained information on cannabis policy characteristics. Two independent reviewers performed title and abstract screening and full-text review and data charting. Disagreements between reviewers were solved by a third reviewer. Data extraction was done iteratively to ensure completeness and will be used to develop the taxonomy. The study protocol was pre-registered in Open Science Framework. Results: Among 1,670 unique abstracts identified, 38 met the inclusion criteria. Emerging themes on policy characteristics include governance, product (potency, quality, modes of administration), international trade, environmental considerations, training of medical personnel, among others. Conclusion: A comprehensive taxonomy of cannabis policy can be used to facilitate policy evaluation beyond binary classifications of legalization. A deeper understanding of the characteristics of cannabis legalization can inform other countries considering legalization.

Adult-use cannabis regulation: Contribution to a scientifically informed policy

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Adult-use cannabis regulation is an increasingly adopted drug policy in North America, and it is being discussed for implementation in European countries such as Germany and Portugal. This paper presents a scoping review of 571 publications on adult-use cannabis published in the period 1st January 2016 to 30th June 2020, which were analysed via the qualitative data analysis software Nvivo11®. The main findings stemming from the scoping review are: research lacks rigour on key aspects of cannabis, namely components, uses, extractions and administration routes; more and higher quality research is needed on the effects of cannabis use, especially regarding collective effects.
Recent cannabis policy developments in European countries: Towards a minimum core set of common comparable indicators

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Internationally and within Europe, cannabis use continues to be a topic that generates significant policy and public interest, as new developments feed into a debate on how society should respond to this substance. In recent years different European governments are working on initiatives to change their national drug policies and regulate cannabis for recreational purposes. The European Monitoring Centre for Drugs and Drug Addiction has been requested by these countries to 1) provide technical support to monitoring and evaluating these initiatives 2) develop a minimum core set of common indicators that would allow useful cross-national comparisons. The objective of this presentation is to provide a comparative analysis of cannabis policy models appearing in Europe; and present the work towards a minimum core set of comparable indicators. This presentation is based on the following data sets: 1) Routine monitoring information on laws and policies submitted to the EMCDDA and ad hoc data collected through the relevant EMCDDA expert networks. 2) Needs assessment data gathered by the EMCDDA working group on cannabis policies. The results of this project are intended to inform discussions about the development of a framework for monitoring and evaluating cannabis policy changes. The work is ongoing and the latest results of this project will be presented and discussed in detail at the 2023 ISSDP conference.
types of grey markets working as a result of the combination of illegal distribution mechanisms for legally produced cannabis, both for profit and not-for-profit. In addition, preliminary evidence indicates that the illegal market has also undergone changes since the introduction of new regulation. To better understand these dynamics and the nuances across legal and illegal markets we bring forward a new typology of cannabis grey markets, which captures transformations associated with changes in cannabis policy.
Evidence and values in drug policy development and implementation

Surfacing values in debates about the legalisation of drugs: Findings from the UK Drug Policy Voices project

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The UK Drug Policy Voices research project engaged people who use drugs (PWUD) in debates about drug policy. The research design included a multimethod data collection approach where participants could choose to take part in interviews; creative methods, such as drawings, poetry, and blog posts; or workshop discussions. The data collection included 44 interviews, 19 workshops, and seven creative outputs. In this paper, we use a cross-section of the data to illuminate how the values that underpin opinions about drug policy emerged. We analysed the data which focused on the legalisation of drugs for Schwartz (2012) ten basic values (universalism, benevolence, power, achievement, stimulation, hedonism, security, conformity, tradition, and self-direction). Schwartz outlines a dynamic structure of values, where similar values complement one another and opposing values conflict. The findings revealed that attitudinal conflict within drug policy reform debates is underpinned by the importance of different values. The values of tradition and security were evident in dialogue relating to fears about the potential impact of legalisation on the community. Universalism and benevolence were evoked when participants lamented the need to eradicate stigmatisation and marginalisation of PWUD through policy reform. Self-direction and universalism underpinned arguments about the right to grow your own cannabis. Finally, power and achievement values surfaced in support of the sales of drugs for recreational purposes. Previous research has found that debates about drug policy are a site of discursive tension, this paper demonstrates that researching values can help better understand complexity and difference in attitudes towards drug policy.

The new era for drug policy in Azerbaijan: Policy developments in responding to drug market changes

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As a post-Soviet, Muslim-majority and a secular state, Azerbaijan historically has been at the intersection of European and Eastern influences. This has affected the use, control and production of psychoactive drugs. Located on the Caucasus trafficking route through its Southern border with Iran, the state’s official drug policy has been to monitor the smuggling in this one region. At the same time, the country’s political regime of the last three decades has ensured a seemingly uneventful national drug discourse as the state has strictly controlled the public information and statistics around seizures, prevalence, user population and public health concerns. Despite its financial potential from oil and gas resources, the state allocates minimal to no support to progressive drug policy measures such as harm reduction and social services for people who use drugs. This gap has historically attracted international donors but in recent years, most initiatives ceased, and harm reduction
programs discontinued. Now with more stimulants entering the market and synthetic and cheaper alternatives replacing heroin, the need to design more nuanced policies has exacerbated. This paper consists of two sections: first I analyze two historical periods to trace the drug policy developments of the past 30 years since Azerbaijan’s independence from the USSR in 1991. I then use empirical data based on local drug markets to highlight the current challenges facing local drug policy and the increasing need for a reform.

### Understanding factors driving implementation of cannabis policy in the United States: A survey of policymakers in California

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Since California voters approved Proposition 64 to legalize the nonmedical use and sale of cannabis in 2016, policymakers in local jurisdictions throughout the state have advanced cannabis business regulations in their communities, however local implementation of cannabis regulations, especially to support health and equity, has varied significantly across jurisdictions – in fact, several jurisdictions have made little or no progress toward supporting legalization of sales. Our survey examines key factors driving decisions and actions among policymakers in legalizing and non-legalizing jurisdictions (cities, counties) in California. Our first aim is to understand how the decisions and actions of local policymakers are influenced by their knowledge and perspectives of: economic opportunities associated with the cannabis industry; health impacts of cannabis consumption; and priorities of local communities. Our second aim is to understand how knowledge and perspective on these topics differ among policymakers in legalizing and non-legalizing jurisdictions. In March 2023, the survey will be sent to approximately 2,000 policymakers in California – in each city, the mayor, manager, clerk, attorney, and managers in community development and planning; and in each county, district attorney, local health officer, manager of the planning department, and members of boards of supervisors. We expect policymakers in both legalizing and non-legalizing jurisdictions will have perspectives on the economic opportunities associated with legalization; and limited knowledge of the impacts of legalization of cannabis on health and equity in local communities. We also anticipate significant differences in understanding of priorities among local communities. The survey will close in April 2023.

### Examining the use of evidence in drug policy formation in the UK: An analysis of the psychoactive substance abuse act 2016

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BACKGROUND Evidence plays a key role in policymaking. Cognitive and institutional features of the policy formation process greatly impact the use of evidence. This paper examines the role of different types of evidence and importantly, the non-use of evidence in drug policy development in the United Kingdom (UK) with specific reference to the Psychoactive substance abuse act of 2016 (PSA 2016). METHODS The role of evidence will be examined by taking an in depth look at the PSA 2016. The evidence will be critiqued following the principles of Critical Discourse Analysis set by Fairclough. The analysis of text would be conducted through three stages of description, interpretation of relationships and explanation of relationship between interactions and social context. RESULTS
The quality of the evidence, formality, robustness, types/forms of evidence, sources of evidence and validity will be examined. We will check if evidence is only used in policy formation or does it affect policy implementation as well. CONCLUSION Recognition of different types of evidence, structures, and frameworks if any employed when generating evidence for PSA 2016 formation, that are likely to enhance the effectiveness of the policy. To analyze use of evidence-based information with context to drug policy implementation in the UK.
Drug treatment: New technologies and new sures to expand access

Comparative effectiveness of opioid agonist treatment with slow-release oral morphine on non-medical opioid injecting and injection initiation assistance provision in people who inject drugs: A prevalent new-user cohort study

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Evidence suggests that oral opioid agonist treatment (OAT) with slow-release oral morphine (SROM) is similarly effective to first-line medications (methadone or buprenorphine/naloxone), though no studies have evaluated its effects on opioid injecting—a risk factor for overdose and facilitating others’ first injections. Using a prevalent new-user cohort design with semi-annual questionnaire data on 693 people who inject drugs in Vancouver, Canada reporting oral OAT between June 2017-March 2020, we investigated the effects of initiating SROM-based OAT on daily non-medical opioid injecting and providing injection initiation assistance in new users, versus first-line OAT. After matching participants who recently (in past six months) initiated SROM-based OAT 1:1 to recent first-line OAT users on time, first-line OAT histories, and time-conditional propensity scores, we estimated average effects of initiating SROM-based OAT on both outcomes using logistic regression. Of 150 SROM initiators (53% cisgender men, median [IQR] age=46 [34-55] years, 40% injected opioids daily, and 23% ever provided injection initiation assistance before initiation), 137 had first-line OAT history and 13 did not. Initiating SROM-based OAT was not associated with a differential likelihood of daily non-medical opioid injecting (31% [41/134] vs 30% [40/134]; odds ratio [OR]=1.04, 95%CI=0.60-1.80) or providing injection initiation assistance (2% [3/143] vs 2% [3/143]; OR=1.00, 95%CI=0.15-6.46) over the same six-month period in new users, versus initiating, restarting, or continuing first-line OAT only. Consistent with prior evidence of non-inferiority, SROM-based OAT was not attributed with a relative benefit (or harm) on daily non-medical opioid injecting or injection initiation assistance provision among new users.

The access to treatment patterns of commercially insured substance use disorder patients 2011-2020 and the impact of medicaid institutions for mental diseases waivers

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Substance abuse problem is a leading public health crisis in the United States. State and federal governments have enacted numerous policies to increase access to evidence-based substance
Better outcomes through linked data: Pathways between community sentence treatment requirements and specialist addiction services in England

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Context: The Criminal Justice Act (2003) introduced Alcohol Treatment Requirements (ATR) and Drug Rehabilitation Requirements (DRR). To date, no database linkage study has assessed the degree to which offenders sentenced to an ATR or DRR engage with specialist addiction treatment services. Objectives: To better understand the pathways between ATRs/DRRs and treatment services. Study design: Probabilistic linking of probation data and addiction treatment data covering the whole of England. Methods: The Ministry of Justice's Splink software was used to link individuals present in MoJ's nDelius probation data with those in structured substance misuse treatment in the community from the National Drug Treatment Monitoring System (NDTMS), for individuals in England sentenced between 2018 and 2022. The sociodemographic characteristics and clinical profiles of the group were explored, as well as their treatment outcomes. Mixed-effects logistic regressions were used to investigate what factors influence positive outcomes from ATRs/DRRs. Results: The analysis covers: 1. The proportion of individuals issued with ATRs/DRRs that proceed to treatment. 2. Distribution of the time lag between disposal and treatment. 3. Treatment outcomes for those in treatment. 4. Factors associated with making it into treatment. 5. Factors associated with successful treatment outcomes. Conclusions: For the first time in England, addiction treatment data and probation data have been linked to produce a more accurate picture of the journey of individuals sentenced to ATRs/DRRs.
Re-making drug ‘treatment’: Critical reflections on the governing effects of new technologies

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New technologies for the treatment of opioid dependence are disrupting taken-for-granted practices, concepts and constructs which have traditionally governed addiction interventions. Heralded as ‘game-changing’, the introduction of long-acting injectable buprenorphine, and other implants, as well as new approaches to the delivery of iOAT, heroin assisted treatment, and safer supply, are altering how we think about adherence, retention, stability, supervision, recovery, and indeed what constitutes a treatment ‘outcome’ or ‘treatment’ at all. Critical social science has a key role to play in examining these shifts in practice, and how evidence about these interventions is being made. Beyond questions of acceptability, experience, and expectation which usually frame qualitative work in the drugs field, there is a need for research which considers the social, material, and political effects of these interventions, and how they might reshape what treatment can do and its governance. The multiple effects of injectable, implantable, and long-acting pharmaceuticals are largely unknown, both in how they alter delivery of care and how such technologies might be put to use as bodily discipline in new ways. Drawing on ethnographic observations of our own ‘evidence-making’ as we have studied the implementation of long-acting injectable buprenorphine, as well as mapping evidence on the spectrum of emerging approaches, we critically consider how new ‘treatment’ technologies are in the process of becoming-with social and clinical worlds. In doing so, this paper considers how, as forms of ‘proposal’, these technologies might produce problematisations and effects which disrupt or replace enduring concepts governing the addiction field.
Environmental impacts of drug markets

Exploring developments in the use of nitrous oxide in public space in a restrictive policy context

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Background: Recently, multiple cities in Europe are being confronted with explosions in waste incinerators caused by nitrous oxide cylinders used for recreational purposes. In the Brussels-Capital Region (Belgium), the possession and use of nitrous oxide for recreational purposes is forbidden at the regional level since 2020. The sale of the gas to minors is banned at the federal level since 2022 in Belgium. The aim of this explorative study is to get insights into recent developments in the use of nitrous oxide and its consequences in terms of waste.

Methods: 44 professionals working in prevention, maintenance and security services in Brussels filled in an open-ended questionnaire via e-mail. They were surveyed about the consumption and waste of nitrous oxide. In addition, police data (infractions and seizures) were analysed for the Brussels Region for 2021 and 2022.

Results: A recent trend observed, based on seizures and dumped waste, is the use of large cylinders marketed for recreational purposes instead of small canisters/cream chargers. These cause serious safety issues for the professionals regarding waste collection and procession. Another observation is the shift to the use of laughing gas to (semi-)private locations, in particular bars in nightlife and in parked cars.

Conclusion: In the context of recent policy changes moving towards prohibition, this explorative study gives insights into the developments in the consumption patterns of nitrous oxide which involve health and security risks both for people who consume the substance as professionals. It shows that while local authorities face complex challenges they are forced to act instantly because of the urgency of the phenomenon.

Who are the coca growers in Colombia? Towards an ethnic and environmental approach in alternative development programs

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In Colombia, as of 2021, more than half of the area under coca cultivation is located inside national parks, forest reserves, and ethnic territories. This situation exacerbates environmental and social problems in these special management zones (SMZ). Despite the obvious relevance of the features of the territory to design effective drug policies, little is known about the socioeconomic characteristics and productive practices of coca growers living in SMZ. To contribute to the design of drug policies with a differential approach, this study analyzes the socioeconomic characteristics of coca growers living
inside SMZ, and the land-use planning challenges of alternative development programs in Colombia. Using a mixed methods approach, we study the relationship between the characteristics of the coca growers and their production decisions, as well as the land-use planning challenges in SMZ. We found that farmers who perceive themselves as poor or are located in SMZ are more likely to grow coca, while households led by a woman, connected to the energy grid, or involved in religious activities, are less likely to grow coca crops. We argue that alternative development programs need to clarify land property rights and solve land use conflicts as a first step, articulate Payment for Ecosystem Services with value chains for agricultural products, and expand credit access for sustainable projects to develop a compatible substitution model with environmental requirements and life plans of ethnic communities.

The environmental impacts of the coca and cocaine supply chain: A systematic review of the scientific and gray literature

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The environmental impacts of the coca-cocaine supply chain pose a significant challenge to tropical ecosystems in Latin America. Nonetheless, for almost four decades, the discussion about the various stages of coca cultivation and cocaine trafficking has mainly focused on the violence surrounding cocaine markets and drug control policies, as well as how they might affect socioeconomic outcomes. More recently, however, there is growing academic interest in understanding the specific environmental impacts of this industrial drug. Along its extensive supply chain, starting from the clearance of forests for the cultivation of the coca bush to the intensive use of agrochemicals during its farming, passing by the subsequent stages of cocaine manufacturing until the transportation to consumers’ markets via trafficking routes that penetrate fragile forest ecosystems, the overall effects of the coca-cocaine supply chain on the environment are diverse, but remain largely misunderstood. This presentation introduces the first systematic review of the multilayered environmental impacts of the coca-cocaine supply chain. An exhaustive screening and review of peer-reviewed studies and gray literature was conducted using >10 search engines and scientific databases. The analysis of >130 studies reveals a large array of severe environmental impacts ranging from deforestation to rapid land use change and from soil degradation to water pollution. This presentation summarizes the results from the literature in a quantitative fashion and delves into the specific impacts of each stage of the coca-cocaine supply chain. It concludes with research recommendations that can help to inform drug policies.

Targeting the ecological impact of synthetic drug production in Belgium: Trial and error?

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Belgium is internationally known for its synthetic drug production and trafficking. The three main synthetic drugs produced in Belgium are amphetamine, XTC and methamphetamine. Production of these drugs generates a significant amount of waste. This waste is illegally dumped or discharged, thus posing a threat to public health and the environment. Synthetic drug production is therefore strongly linked to environmental crime. Many dumping sites remain undetected, which limits our
perception and knowledge of environmental long-term harms and hinders the development of approaches, both preventive and remediating, within policy and practice. This paper discusses the dismantling and remediation of synthetic drug dumping sites in Belgium based on a literature review, semi-structured interviews with professionals and a case file study of judicial files. Firstly, we highlight the drug dumping cases dismantled in Belgium, the professional actors involved in tackling dumping sites and their cooperation. Secondly, we address challenges regarding the follow-up and expertise needed to dismantle and remediate synthetic drug dumping sites in Belgium, namely a lack of communication and uniform procedures, a lack of knowledge, a lack of sense of urgency, contradictions regarding financial responsibilities, and a lack of awareness. Finally, this paper concludes with three recommendations for practice and policy to achieve a more thorough and long-term approach to drug dumping sites in Belgium: (1) introducing a uniform approach for dismantling and remediation based on monitoring; (2) establishing agreements on financing; and (3) broadening of knowledge and expertise.
Insights on medical use of cannabis

Shifting strains: The dynamic relationship between cannabis, social life, and health

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Almost half of Americans live in a state where cannabis is legal, and one-in-five report some amount of past-year use. A growing body of research suggests that people who use cannabis do so in a way that complements their lifestyle preferences and position in the life-course; however, there is still much to learn about cannabis consumption and the aging process. This study uses a life-course perspective and a large sample (n = 4,161) of survey questionnaires collected between October 2020 and January 2021 to explore the relationships between aging and cannabis consumption. Multivariate statistical analysis is used to model the constant and variable qualities of cannabis consumption across several age groups. Few aspects of cannabis use are constant (e.g., a preference for edibles and using cannabis to “relax”); instead, the relationship people have with cannabis appears age-specific. The youngest group uses for mental health, creativity, focus, social connectivity, and the sensory pleasures of the high; the eldest group is addressing chronic pain and reproductive health, with less interest in creativity, focus, and sociability. Between the youngest and eldest groups are three groups who appear to be transitioning away from social uses and toward more therapeutic patterns of use. Interestingly, the groups between 25 and 45 years of age reflect what might be called the “modern medical cannabis user”—someone who consumes daily, using multiple methods of ingestion and reports both medical and non-medical benefits. The authors discuss the implications for a life-course perspective during a time of significant socio-political change.

Medical cannabis use patterns for mental and physical health conditions: A multinational perspective

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Background: Medical use of cannabis is allowed in many countries. In the U.S., states set up their own systems due to federal prohibition. Canada, which permits medical and recreational cannabis use, manages medical cannabis federally, but provinces regulate retail sales. Australia, which permits medical use, has a highly regulated medical model. Methods: In this paper, we describe the conditions for which medical cannabis is used across these three countries. We use self-reported data specifying reasons for medical use, product choice, and product composition from the 2021 survey wave of the International Cannabis Policy Study. Simple differences in weighted proportions reported across countries are assessed using t-tests. Regression models are then used to assess differences controlling for demographics. Results: We find that the same reasons are generally given for medical use despite jurisdictional policy variance. Medical patients in all three countries report use primarily for pain (AUS: 39.8%; CAN: 51.0%; US: 51.5%), anxiety (53.8%; 51.5%; 56.0%), depression (44.0%;
35.8%; 41.4%), sleep problems (33.6%; 46.7%; 42.7%), headache (30.1%; 31.8%; 37.1%) and PTSD (26.5%; 15.5%; 23.5%). Herb products followed by edibles were the top two products used across all countries, although half of all medical patients report using both, despite limited evidence for these modes of administration for medical use. Conclusion: Despite jurisdictional differences in medical policies, evidence from self-reports suggest similar reasons for using medical cannabis and product choice. Further investigation is necessary to understand if this is due to access via illicit markets or confounding reporting with recreational use.

Is severity of cannabis dependence and associated risk factors comparable across medical and non-medical cannabis users? An international study of cannabis growers in 18 countries

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Background: little is known about “cannabis use dependence (CUD)” among individuals who use cannabis for medical purposes and how CUD in this population may differ to that observed among recreational users. This study examines whether psychometric properties of the Severity of Dependence Scale (SDS) are similar, and whether SDS scores and associated risk factors are equivalent across the following three cannabis user groups: “recreational only (RO)”, “medical and recreational (MR)” and “medical only (MO)”.

Methods: Data came from the Global Cannabis Cultivation Research Consortium project that collected data from small-scale cannabis growers (n = 4,594) in 18 countries. Psychometric properties were tested with principal component analysis. Robust regressions examined differences in SDS scores across the three cannabis user groups. Results: Psychometric properties of the SDS scale were only similar across cannabis user groups after removing item#5. MO and MR users had lower SDS scores than RO. Daily use was associated with significantly higher SDS scores across all groups, albeit the magnitude of the association was significantly smaller in the two groups with medical cannabis use motivations. Tobacco use was not associated with SDS scores in the MO group, whereas it was associated with higher SDS scores in the two other groups. Employment was not associated with SDS scores in the RO group, whereas it was associated with lower SDS scores in the two other groups. Using cannabis for anxiety/depression and substance use dependence was related to higher SDS scores whereas use for chronic pain was associated with lower SDS scores. Conclusion: Measurement tools for CUD, public education efforts, harm reduction approaches and policy responses may need to be tailored depending on whether cannabis is used for medical or recreational purposes.
Methamphetamine and opioid use, markets and new policy responses

Stimulant use among patients in treatment for heroin disorders in France, 2010-2020: Predictors and policy implications

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Polydrug use has been implicated in driving a “fourth wave” of the overdose crisis in North America, specifically through concurrent use of stimulants and opioids, especially fentanyl. In France, however, heroin has historically been and remains the easiest-to-access opioid, accounting for most of the drug treatment demand. Whether similar polydrug use is on the rise in Western Europe remains unstudied, despite severe health implications and potential inadequate public health responses. We use a yearly updated national-level compendium on addictions and treatment to study the factors associated with polysubstance use among patients for heroin use in France between 2010 and 2020. We focus on concurrent past 30-day stimulant use. The decreasing number of patients treated for heroin has occurred alongside increasing use of stimulants over the past decade. Concurrent stimulant use is strongly related to route of administration of heroin: people who inject heroin are more prone to use powder cocaine, whereas smoking heroin strongly predicts concurrent use of crack cocaine, showing notable increase. The use of other stimulants has remained marginal. Concurrent stimulant use is also associated with recent use of tobacco, cannabis, unsupervised psychotropics and hallucinogens. Our results also uncover heterogeneity in the profiles of people who use heroin that should be fully acknowledged to ensure better efficiency in substance use clinical practices and policy developments, while simultaneously drawing attention to trends in concurrent opioid-stimulant use outside North America. We advocate for an extension of the generalized risk framework and its implementation in prevention programs and treatment practices.

The rise of methamphetamine in Ohio: A response to an increasingly dangerous illicit drug risk environment?

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Background: Ohio has experienced a marked increase in methamphetamine-related overdose deaths over the last decade. In the context of an increasingly dangerous synthetic opioid crisis, we investigate the relationship between the contemporaneous presence of methamphetamine and overdose deaths as well as whether higher overdose death rates predict future increases in the presence of methamphetamine in the drug supply. Methods: We analyze Ohio’s Bureau of Criminal Investigation’s (BCI) crime lab data (2015-2021) that includes the content of drugs seized by law enforcement. We use linear regression analysis to estimate the relationship between monthly and quarterly crime lab
data and unintentional drug overdose death rate data at the county level. Results: We find that an increase in the fraction of BCI lab tests containing methamphetamine (without synthetic opioids) is negatively correlated with contemporaneous overdose death rates in large population counties. An increase in the fraction of lab tests containing methamphetamine combined with synthetic opioids is not correlated with overdose death rates. There is no statistically significant correlation between past overdose death rates and future methamphetamine presence. Conclusions: The results are consistent with a relatively higher supply of methamphetamine reducing the general risk of overdose death, possibly due to substituting away from more dangerous synthetic opioids. However, the supply of methamphetamine appears unrelated to the past illicit drug risk environment. In other words, we do not find evidence that the rising supply of methamphetamine is driven by relatively high overdose counties.

Characterizing heterogeneity in opioid markets across the U.S.:
A latent class analysis

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Introduction: While overdose deaths are often examined as a key measure of opioid-related harm in many countries, they do not reflect the epidemic’s total societal harm. In this paper, we demonstrate how to leverage multiple opioid-related indicators to more comprehensively characterize local opioid markets. Methods: We used U.S. county-level data from 2006-2017 on 6 indicators: (1) opioid prescribing rate, (2) prescription opioid-related poison center call rate, (3) prescription opioid overdose death rate, (4) heroin-related poison center call rate, (5) heroin overdose death rate, and (6) synthetic opioid overdose death rate. We generated 2-year averaged summary measures and applied latent class analysis to identify distinct opioid market trajectories. Characteristics of counties in each class trajectory were summarized. Results: A 5-class model was found to be optimal. Class 1 (41% of counties) had very low prescribing and low opioid-related deaths. Class 2 (37%) had low prescribing and low opioid-related deaths. Class 3 (12%) had higher prescribing and moderate deaths. Class 4 (8%) had low prescribing and prescription opioid deaths and escalating heroin and synthetic deaths; these counties were primarily in New England and the Midwest. Class 5 (1.2%) had very high prescribing and prescription opioid deaths and escalating heroin and synthetic deaths; these counties were largely in Appalachia. Conclusions: Our results highlighted important variation in the opioid epidemic at the local level, which may be obscured when focusing on a singular outcome measure (e.g., all opioid overdose deaths). Future research should investigate whether opioid-related policies have heterogeneous effects at the local level.

Looking beyond the nests:
The ‘cuckooing’ risk environment

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Over recent years in the UK, significant attention has been placed on the practice of ‘cuckooing’. In the heroin and crack cocaine market context where it is most prevalent, this typically involves
someone who uses drugs having their home taken over by people involved in drug supply. In addition to losing control of their home, those affected by cuckooing often subsequently experience a range of harms including violence, threats and exploitation. Aligning with prominent policy discourses regarding ‘vulnerability’ and ‘County Lines’, the identification of this drug market harm has led to substantial attempts at awareness raising and the pursuit of suitable responses by the police and other relevant practitioners. Yet these have had mixed success. Drawing on interview data with a range of stakeholders with experience cuckooing cases, this paper seeks to consider this area in relation to the perspective of the risk environment. Following the classic formulation of this framework, it considers the role of the physical, social, economic and policy environments in producing vulnerability to being ‘cuckooed’. An emphasis is also placed on analysing the interplay between and within these environment types at the micro and macro levels. It is argued that developing a risk environment approach to this criminological area that gives suitable consideration to social and structural factors can generate better understandings of why cuckooing occurs. In turn, it can also suggest how responses can be improved and what an enabling environment for reducing the harms of cuckooing could look like.
Legal and illegal supply in legal cannabis markets – insights from USA and Uruguay

Farewell my dear dealer? Characterization of the illegal cannabis market in California

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Since 2012, Canada, Uruguay, and Malta have legalized nonmedical cannabis, and more than 47% of the US population lives in states that license commercial production and for-profit retail sales. Additional countries are now implementing pilot programs for legal supply (e.g., Netherlands, Switzerland), and others are seriously contemplating changing their laws (e.g., Germany, Mexico). One of the major questions for policymakers is how legal supply affects illegal markets. To provide insight into this, we examine California data (the largest jurisdiction in the world to legalize) from the International Cannabis Policy Study (2018-2021) to better understand the state's illegal cannabis market. The most common sources of cannabis have shifted from family, friends, and dispensaries (mostly medical dispensaries closely succeeded by recreational stores) to mainly dispensaries, followed by friends and the internet. Nevertheless, illegal sources have proved to be a near-constant source for both frequent and less frequent users. In fact, one out of every ten respondents who reported using cannabis in the past year indicated buying only from illegal sources, such as dealers, unauthorized stores, and websites. Our analysis shows that being younger, male, using more types of products (i.e., herbs, edibles, drinks, etc.), and having less self-reported income are associated with a higher likelihood of purchasing in illegal markets.

Multi-level implementation issues and permanent adjusting in the cannabis legal market development in California

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While California has a longstanding position in the cannabis sector, pioneering the experience of crafting a legal, professional cannabis industry in local environments where medical cannabis sales already functioned as an unregulated ‘grey market’, the rollout of legalisation so far has raised some concern about the stabilisation of the new legal market. Based on data from semi-structured interviews conducted in 2022 with regulatory authorities, public health and law enforcement officials, experts, etc., combined with on-site observations and analysis of policy documents, this paper focuses on cannabis governance and implementation issues reported across the Golden State. The case of California particularly highlights the implementation phase as a continuous decision-making process. It also stresses the effects of a non-cooperative multi-level regulatory framework on the construction and development of a new legal market. The implementation of legalisation in the US, and significantly in California, is indeed characterized by a divergent multi-level framework, combining a persistent federal prohibition, a state-level regulatory framework, as well as the prerogatives of local institutions.
(municipalities and counties) in the allocation of certain business licenses, particularly with regard to the location of retail stores. Cannabis being a controversial, divisive policy issue, this framework enhances the divergences, discrepancies and even contradictions that concretely emerge in the implementation phase. These multi-level non cooperative implementation practices contribute to unexpected and unintended effects (e.g. the situation of overproduction and prices drop), which de facto hinder the market's maturation. This fuels strong feedback dynamics on the regulatory authorities, inducing an intense corrective decision-making process as a very part of the implementation phase.

Legal, illegal, and grey cannabis markets in Uruguay after 10 years of regulation

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After 10 years of regulated cannabis in Uruguay, there is still little information on whether and how the regulation has impacted the illegal market. Experiences with the legalization of tobacco and gambling show that legal markets do not necessarily supplant illegal ones, or at least not immediately. In Uruguay, there are now multiple sources of cannabis: Legal (i.e., individuals registered with the government to obtain cannabis through pharmacies, co-ops, or self-cultivation), Illegal (i.e., obtaining products that are not produced for the regulated market), and Grey markets (i.e., diversion of products from the legal market to those who are not registered with the government). This paper describes the changes in the cannabis market since the introduction of the regulation based on in-depth interviews with key informants such as policy makers, stakeholders, academics (n=20) and in-depth interviews with frequent cannabis users (n=25). Our preliminary results suggest that 1) the regulation decreased the amount of illegally produced cannabis used in the country, but diversion from the legal market is an important part of the market; 2) these markets are unevenly distributed among users of different socioeconomic levels and background; and 3) these markets attract users with different consumption patterns.

Transitioning the unlicensed cannabis market in California: A bridge too far

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California-based cannabis businesses that operated under the state's medical cannabis protections and in the legacy market are attempting to transition to the adult-use market. Interviews with cannabis licensees reveal an industry in collapse, inadequate response from public agencies, and regulatory norms that cripple legacy operator transition. The California Department of Cannabis Control funded two studies 1. to determine the sociodemographic makeup of the cannabis industry and 2. the feasibility and consequences of implementing a THC potency tax (completion late 2023).
A convenience sample of 120 cannabis operators and regulators was drawn through individual, confidential, semi-structured interviews from April 2022 to present. Interviewees were mostly from California (primarily), New York, Illinois, and Canada. Preliminary results show licensed manufacturers and distributors are operating at a loss or selling, with the 75% drop in market prices contributing to dubious choices like THC potency inflation, gray market sales, and return to the illicit market. People in the industry and those around them face severe mental health impacts, with some reporting suicides in their communities or personal suicidal ideation. Thematic analysis of interview data versus current policies illustrates a disparity between the design and intent of legalization and current outcomes. Aspirations for a vital, safe, and equitable market are vanishing with state and local policymakers and regulators appearing woefully unequipped to correct course using available policy levers. This juncture reveals opportunities for advancement in public health and safety through steady, measured, and evidence-based policymaking.
Drug markets, organized crime, and the role of ports

Converging networks? Unpacking the role of ports in EU cocaine market and related drug policy implications

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In an attempt to unpack the governance and transactional models allowing criminal activities, and in particular drug trafficking, to infiltrate public and private structures, this paper looks at the modus operandi contributing to an expanding cocaine market in Europe that take place within most paradoxical and abscond sites of transactions, seaports. Taking the example of Italian seaports, this paper documents how changing legal work routines within ports, the transformation of shipping activities and the diversification of actors, including private ones, operating at the fringe of legality, favored the development of enabling conditions for organized criminal groups to act. Taking a step aside traditional drug trafficking studies focused on routes and trends, the paper aims to unpack the phenomenon of drug trafficking (cocaine) inside a specific site of transaction - the ports. Doing so, it questions how ports may allow criminal networks to work on more fluid structures, and informal, horizontal “on-demand” recruitments that blur further the lines between licit and illicit transactions and actors. The research follows qualitative approach and is based on thorough study of institutional documents, judicial material, and interviews with police enforcement and port security providers. Arguing that ports now represent growing sites of crime convergence and collusive transactions, the paper attempts to further appreciate the implications of such evolutions on drug policy approaches, notably in the EU, discussing how the evolution of drug trade in ports might call for reconsidering the limits of a siloed and often strict security-, supply-oriented drug policy approach to maritime/transit territories.

An evaluation of the impact of the war in Ukraine: Case study on Western Black Sea ports as nodes of transit and distribution

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This paper evaluates the impact of the war in Ukraine on regional drug markets. It adopts an analysis of trade approach to understand opiate flows in the region. Specifically, it looks at Western Black Sea ports as a key transit route and proxy indicator for broader market disruptions. Current hypotheses suggest two opposing potential outcomes on the traditional upstream Northern Route of opiates trafficking passing by Ukraine. The first suggests that the Russian invasion might increase impunity for the illicit drug trade and ultimately increase trafficking flows. The second suggests that trafficking through areas of high intensity military hostilities may become too risky for traffickers who may opt to divert flows that previously transited through Ukraine to alternative routes. This research finds that, to date, there is no indication of intensified trafficking along the Northern Route, including trafficking via land from Russia to Eastern Ukraine. Meanwhile, the research finds that Russian strikes, and the closure of the port of Odesa indicate an intensification of flows along the major alternative route of opiates (i.e., the Balkan Route), which represents the shortest land route to European consumer markets. The research also finds that trends appear to have been compounded by major seizures of
drugs at Turkish, Georgian, Ukrainian, Romanian, and Bulgarian ports in the Black Sea in 2015-2022, suggesting that flows do not follow pre-determined routes, i.e., the Northern and Balkan routes, but constantly mutate and divide into sub-flows. Overall, this research sheds light on the threats to security posed by the increased role played by ports and maritime routes across the Black Sea in the drugs trade, with a specific focus on opiates flows.

The internal structure of the drug market in the downtown Eastside of Vancouver

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Vancouver’s Downtown Eastside (DTES) is home to Canada’s largest open drug scene, which has been researched intensively for decades. However, almost no scientific knowledge exists on the drug scene’s market. The unique and rich data material of this study fills this research gap by providing detailed in-depth information on the spatial organisation and the internal structure of the DTES drug market. Twenty-three persons who had sold and used drugs in the DTES were interviewed qualitatively in 2016 about the nature and organisation of the local drug market, from both a personally involved and an observational perspective. In addition, a man who used to work as a drug distributor in high positions marked two large maps of the DTES with regard to certain drug market activities. All data material was analysed according to grounded theory. Study results revealed a complex socio-geographic market system with a multitude of different actors including suppliers, distributors, street-level sellers, runners, and enforcers. According to participants, certain areas, blocks and hotels in the DTES were controlled by different drug trafficking groups and gangs with one “free block”. Relationships and behaviours between bosses (higher-up dealers) and workers (street-level sellers) as well as workers and buyers were described as ranging from abusive and violent to caring and trustful. The pro-social tendencies within the DTES drug scene and market such as community-mindedness and interpersonal care provide valuable resources, which can be utilised effectively in participatory and local policy strategies to counteract drug-related violence, health risk behaviours and social marginalisation.

Translating, modelling and evaluating cannabis policy reform

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Background – In New Zealand, gangs are increasingly linked to retail illegal drug selling and it is claimed they purposively suppress the availability of cannabis in favor of the more profitable methamphetamine. Aims – (1) Explore predictors of higher levels of gang involvement in retail illegal drug markets. (2) Investigate whether higher levels of gang involvement and number of gangs are predictors of differences in the price, potency and accurate sale weight of different drug types compared to lower levels of gang involvement. Methods – An online convenience drug survey (New Zealand Drugs Trends Survey) was broadly promoted via Facebook\textsuperscript{™} from November 2018 to March 2019 (n=10,966). Respondents were asked to what extent gangs control the sale each drug type (1=none-5=only gangs), how many different gangs were selling in the area (1=many-4=one), and
how price, potency and weight provided by gangs compared to non-gang sellers. Results – Region was a significant predictor of extent of gang involvement in drug selling. Higher methamphetamine availability and conversely lower cannabis availability was associated with higher gang involvement. Higher relative price of cannabis was positively associated with extent of gang involvement and lower number of different gang sellers. Lower sale weight of cannabis was positively associated with greater gang involvement and lower number of different gang sellers. Weaker cannabis potency was associated with lower number of different gang sellers. Conclusions - Economic theory of monopoly offers important explanations of the findings.
Insights on drug policy narratives and practice

A focus on policy implementation: Policy in the books vs. policy in practice

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The ‘what works’ paradigm is increasingly challenged by the importance of implementation and how implementation context shapes an intervention, especially in complex policy interventions. How policy intentions translate to a real-world setting is rarely applied to a large-scale intervention, such as a national drug strategy. We sought to explore this gap by analysing how policy in the books translates to policy in practice for the Belgian drug strategy. A content analysis of the policy rhetoric of the Belgian drug strategy detailing on what policymakers claim they will do (= policy in the books), was carried out to uncover the prevailing problematizations and underlying assumptions about intended solutions to the ‘drug problem’. The actual implementation of these intentions and their perceived impact in a real-world setting (= policy in practice) were subsequently measured through interviews and focus groups with policymakers (n=3), policy implementers (n=39) and policy recipients (n=23). Comparison between policy in the books and policy in practice revealed differences in the conception of the nature and determinants of the Belgian ‘drug problem’. It also found differences between intended and actual policy solutions, such as the introduction of a harm reduction strategy in practice, and policy paralysis leading to bottom-up initiatives. The results show how Belgian drug policy is driven by policy implementers who use their discretion to shape drug policy on a daily basis. Their discretion is embedded in their day-to-day experiences and the wider institutional logics governing values, belief and practice, but constrained by several context moderators.

The resident criterium: An example of the need for local customization in the Dutch coffeeshop policy

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Various countries are considering whether they should legalize the use and sale of cannabis within their borders. The current (inter)national debate revolves around the question to enforce a more lenient or more restrictive policy towards cannabis, whereas the Dutch approach is one of tolerance and locally customized policy. Our paper explores the case study of the resident criterium (ingezetenen criterium) for coffeeshops as an example of local customization to deter the negative effects of drug tourism. Since 2012 municipalities in the Netherlands can uphold a resident criterium for purchasing cannabis at coffeeshops. This policy entails that only residents of the Netherlands can purchase cannabis at the coffeeshop. Each municipality has the freedom of choosing whether and how to enforce this policy. Thereby adjusting the policy to local needs and political preferences. Our paper aims to review how local customization influences the implementation and consequences in different municipalities. How does the local customization of the resident criterium affect drug tourism, illegal drug selling, and public disturbance? The major part of the research is composed of desk research by analyzing policy evaluations and interviews with policy officers in the selected municipalities of Eindhoven, Tilburg, Sittard-Geleen, and Amsterdam. The municipalities included in the research have been selected based on the difference in their implementation of the resident criterium. This paper sets out to describe how
the differing needs and characters of the municipalities led to varying considerations to implement the resident criterium or not. Thereby showing the value of locally customizing policies.

Addicted people in the narratives of Polish, British and American politicians

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The United States and The United Kingdom were one of the first countries to consider drug regulation on a larger scale. However, at that time, both chose different approach to the problem: the USA favoured prohibition, while the UK remained more liberal. On the other hand, the history of drug policy in Poland is not long and first serious debate on the issue started in early 1990s, almost a hundred years later than in the US and the UK. One of the main topics in parliamentary debates on drug law is definition of “addicts”. The way politicians see addicted people influence their view on drug policy in general. In my presentation I would like to show a comparison between Polish, British and American parliamentary narrations on that matter. I would also present how different approaches to the addicted people affect general views on what is the best solutions in drug policy. For my research I used a Narrative Method to analyse transcripts of the parliaments sessions when discussions on drug policy acts took place. I chose to analyse discussion on current law in each country: British Misuse of Drugs Act of 1971, American Anti-Drug Abuse Act of 1986 and Polish Anti-Drug Act of 2005. I also decided to analyse the discussion on Polish Anti-Drug Act of 1997 as it was much more developed than in 2005.

Horizon scanning for future of drugs in Finland: Identifying emerging trends and implications for policy and practice

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Horizon scanning research was conducted to explore the potential impacts of drugs in Finland in the near future (2030+). A comprehensive review of academic and grey literature was conducted to identify national developments and potential disruptions that may impact the drug landscape in Finland. Nineteen emerging trends were identified and analyzed using the STEEP framework, which assessed external factors influencing these trends. Findings were validated through focus group interviews and workshops with national experts representing diverse drug policy stakeholders. The study found that social changes, including shifts in public attitudes towards drugs, rising rates of synthetic and non-medical prescription drug use, increased incidence of polydrug use, escalating drug-related fatalities, and changes in social services, are the predominant driving factors shaping the future of drugs. Notable technological trends include the rapid rise in internet-based drug sales, links between online gaming and drug use culture, and the internet’s ascension as the primary source of information and service seeking. Environmental impact of drugs and the need to redesign environmental interventions for people who use drugs and service providers are major concerns for the future. Political initiatives such as the decriminalization/legalization of cannabis and the opening of drug consumption rooms serve as drivers for change in drug policy. The study highlights the utility of horizon scanning as a valuable tool for policymakers to anticipate and identify emerging trends in the drug landscape in Finland. Policymakers should strive to balance diverging perspectives and consider the implications of emerging trends for drug-related interventions, services, and policies.
The intergenerational policing experiences of black Britons

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This paper takes an ethnographic approach to explore lived experience of policing across generations of Black Britons in a north-London suburb. The intergenerational experience of policing finds that, across different eras of history, Black communities have been racialised and criminalised through media, law, and drug policing. Media depictions of drug gangs, county lines, and serious violence in Black communities provide the current justifications for increasing police powers to tackle racialised threats. Whilst these are real problems, increased policing is consistently offered as the solution. Changes to drug policy and policing over the years have entrenched racial disproportionalities and drawn scores of Black Britons into the criminal justice system. Drug legislation is placed within a broader history of subjugation of the scapegoated ‘other’ in British drug policy. The racially disproportionate drug policing of Black and minority ethnic communities in Britain provides insight into the othering and social control of communities racialised as ‘other’. Frequent experiences of policing affect not only the relations between Black communities and the police, but also their wider relationship with the British state.

Patterns of polysubstance use and treatment non-completion among first-time clients admitted to substance use treatment programs across the United States

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Background: Treatment retention for substance use remains a central challenge for treatment providers with first-month treatment non-completion ranging from 30%-50%. As the prevalence of polysubstance use increases, there is a rising concern that the use of polysubstances may pose as novel challenges to the effectiveness of substance use disorder treatment. Methods: Data on treatment episodes were obtained from the 2015-2019 Treatment Episode Dataset-Discharges (TEDS-D), which includes information on admissions and discharges from treatment programs that receive public funding across the United States. The sample size consists of n=2,421,515 treatment episodes. Latent class analysis was conducted to identify profiles of polysubstance use in the sample using 9 drug indicators. Results: Nine classes of polysubstance use emerged: 1) High Marijuana-Moderate Alcohol, 2) High Methamphetamine-Moderate Marijuana, 3) Alcohol-Only, 4) High Heroin-Moderate Methamphetamine (Goofball), 5) Moderate Speedball-Moderate Marijuana, 6) Low drug use, 7) High Other Opiates/Synthetics, 8) High Alcohol-Moderate Cocaine, 9) High Alcohol-High Cocaine-High Marijuana. Across the 9 emergent classes, treatment non-completion ranged from 28.69% (Class 2) to 59.36% (Class 8). Relative to the High Marijuana-Moderate Alcohol class, the Alcohol-Only
class (aOR=0.97, p<0.001) and the Moderate Speedball-Moderate Marijuana class (aOR=0.85, p<0.001) had lower odds of experiencing treatment non-completion. All other classes had greater odds of experiencing treatment non-completion, which was statistically significant at p-value 0.05.

Conclusions: Individuals who engage in polysubstance use may face unique challenges that impede their ability to complete substance use treatment.

### Smoking as harm reduction? Findings from people who smoke fentanyl in San Francisco, California

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Background: Since fentanyl overwhelmed the US illicit opioid market, overdose deaths have continued to rise. In San Francisco, this market substitution resulted in an observable transition from black tar heroin injection to fentanyl smoking. While plausible as a safer alternative to injecting, little is known about fentanyl smoking techniques, beliefs, and health risks.

Methodology: This rapid ethnographic assessment included semi-structured interviews (n=34) and video recorded smoking sequences (n=12) in San Francisco during Fall 2022. Participants included people currently using fentanyl and methamphetamine recruited from three local harm reduction sites.

Results: Participants described and we observed an elaborate fentanyl smoking culture, including: social smoking practices; hierarchies of materials and methods and embodied experiences that contrasted with other use methods. Participants described strategies and rationales for incorporating fentanyl into other smoking repertoires (methamphetamine/cannabis), while drawing on knowledge and practices from cannabis culture. Strongly held but contradictory beliefs and practices for assessing drug quality were evident, possibly in response to fentanyl’s supply-side volatility and innovation. Even among participants who preferred injecting fentanyl, smoking persisted in certain social or physical situations (e.g., vein damage). Whereas harm reduction messaging discourages sharing injection equipment to minimize risk of bloodborne infection, sharing smoking equipment, drugs, and knowledge generates a sense of community while introducing overdose concern for those who are opioid-naïve.

Discussion: Despite a shift towards smoking, overdose deaths continue to rise in San Francisco. Whether smoking can be recommended as harm reduction depends on a more comprehensive understanding of fentanyl smoking culture, its risks and benefits.

### Is cannabis a gateway to gardening? A comparative transnational study of small-scale cannabis growers from Italy and United Kingdom

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Introduction: Little is known about cannabis growers’ gardening experience with other type of plants (Gardeners). Here we explored whether Gardeners differed from those who only cultivate cannabis (GrowCanOnly) in terms of socio-demographics, growing methods, criminal justice system (CJS)
involvement and cannabis use dependence. We also explored the directionality of their trajectory into cannabis cultivation. Methods: The Global Cannabis Cultivation Research Consortium conducted an online web survey of mostly small-scale growers in 18 countries (n=11507) in 2020-2021. In Italy and the UK this included extra questions on ‘Gardening’ (n=1563). We used cross-tabulation (using Chi-Square test) to compare GrowCanOnly with Gardeners; and explore the directionality of cannabis cultivation trajectories. Results: The majority of our respondents were Gardeners. When compared to GrowCanOnly, they tended to be older, more educated, and more likely to not live alone in rural areas. Gardeners favored outdoor grows over indoor techniques. Gardeners were more likely to grow for political or medical reasons and less for recreational reasons when compared to GrowCanOnly. Gardeners were less likely to have been found guilty of cannabis cultivation or supply. GrowCanOnly tended to use a larger range of drugs, had higher levels of cannabis dependence, and were more aware of the strain that they grew. The most common trajectory we found was from growing other plants first, and then moving into growing cannabis. Conclusions: Gardening other plants was common among our respondents. Gardeners were more politically and medicinally oriented than those who only grew cannabis. Gardeners were more experienced with cannabis however, their cultivation techniques were less sophisticated. Policy responses may need to be tailored depending on whether cannabis is grown alone or with other plants.

Exploring demographic differences in the likelihood of accessing and trusting various sources of cannabis information

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Canadian statistics show that young adults ages 18 to 24 are the most likely age group to report using cannabis and that consumption is consistently higher among males than females. It is imperative that those most likely to use cannabis have access to evidence-based information about the safest ways to consume. To this end we must understand where people are looking for cannabis-related information and who they trust to provide it. This study surveyed 1598 Canadians, ages 18 to 30, and assessed frequency of cannabis consumption, the likelihood of accessing various cannabis information sources, and the extent to which people trust those sources. Result indicated that older individuals were less likely to ask friends, and more likely to access academic research for cannabis-related information. They were also less likely to trust government sources and bud tenders. Men reported significantly greater cannabis consumption than women but were less likely to seek out and trust cannabis-related information across sources. Participants with higher levels of education were more likely to access and trust government websites and academic research to obtain reliable cannabis-related information. Of note, there were no significant racial differences in the likelihood of accessing or trusting various sources. The current findings suggest that the population that is most likely to consume cannabis is the least likely to seek out and trust cannabis related information sources. This highlights the need to develop innovative ways to disseminate stigma-free cannabis-related harm reduction materials that young adults, and males in particular, will access and trust.
Cannabis legalization and cannabis use, daily cannabis use and cannabis-related problems among adults in Ontario, Canada (2001–2019)

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Background: In the context of cannabis legalization in Canada, we examined the effects on cannabis patterns of consumption, including cannabis use, daily cannabis use and cannabis-related problems. In addition, we examined differential effects of cannabis legalization by age and sex. Methods: A pre-post design was operationalized by combining 19 iterations of the Centre for Addiction and Mental Health (CAMH) Monitor Surveys (N=52,260; 2001–2019): repeated, population-based, cross-sectional surveys of adults in Ontario. Participants provided self-reports of cannabis use (past 12 months), daily cannabis use (past 12 months) and cannabis-related problems though telephone interviews. The effects of cannabis legalization on cannabis patterns of consumption were examined using logistic regression analyses, with testing of two-way interactions to determine differential effects by age and sex. Results: Cannabis use prevalence increased from 11% to 26%, daily cannabis use prevalence increased from 1% to 6% and cannabis-related problems prevalence increased from 6% to 14% between 2001 and 2019 (all p<0.0001). Cannabis legalization was associated with an increased likelihood of cannabis use (OR, 95% CI: 1.62, 1.40–1.86), daily cannabis use (1.59, 1.21–2.07) and cannabis-related problems (1.53, 1.20–1.95). For cannabis-related problems, a significant two-way interaction was observed between cannabis legalization and age (p=0.0001), suggesting differential effects among adults ≥55 years. Conclusions: Cannabis legalization was associated with an increased likelihood of cannabis use, daily cannabis use and cannabis-related problems. Given increases in these cannabis patterns of consumption, broader dissemination and uptake of targeted prevention tools is indicated.
Cannabis advertisements violate federal prohibitions against advertising to youth: Evidence from an Ontario adolescent ecological momentary assessment study

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Background: Canada’s 2018 Cannabis Act legalized adult recreational cannabis use and included protections for youth from cannabis-related harms in the form of prohibitions on advertising products directly to youth. As similar prohibitions on tobacco and alcohol advertising have historically been ignored, we aimed to describe if and how cannabis companies are violating existing prohibitions on advertising to youth. Methods: A convenience sample of Ontario adolescents (n=139) took photos of cannabis advertisements via smartphone application over a 9-day period as they encountered them in their everyday lives and in real time. Researchers coded the photos for violations of advertising prohibitions included in the Cannabis Act. These included prohibitions against the production, distribution, and sale of cannabis, cannabis accessories, and cannabis-related services as in sections 16-24 of the Cannabis Act and Part 6.1 of the Ontario Cannabis Regulations. Results: The majority (71%) of participants recorded at least one cannabis advertising exposure during the 9-day study period (range: 1 - 30 exposures), totalling 374 unique exposures. Data showed evidence of advertisements violating nearly all federal prohibitions in the Cannabis Act, with recorded prohibitions most commonly violating general prohibitions against appealing to youth (71.4%) and lifestyle advertising (42.8%). Conclusion: Our findings demonstrate that cannabis company advertisements are reaching Canadian youth and that companies are violating federal prohibitions on advertising to youth. The Canadian government should educate cannabis product stakeholders about advertising prohibitions, then rapidly and thoroughly enforce them to protect youth in the manner outlined in the Cannabis Act.

Does chewing khat cause mental disorders?

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Several studies have examined the association between khat use and mental health problems. Nevertheless, evidence is mixed and inconsistent, warranting further review of available studies. To map the current evidence, we employed a scoping review methodology and conducted searches across multiple databases, including PubMed, SCOPUS, Embase, and CINAHL. Primary studies focusing on the association between any pattern of khat use and any form of mental health disorders are included. Narrative analysis is employed to present findings of the review. A total of N=108 articles, which were conducted in 12 different countries, are used for the scoping review. Most of the studies were conducted during the last ten years and they mostly employed cross-sectional
design. About 10 different categories of mental health disorders and 4 related conditions have been identified as showing associations with khat use. Non-specific psychological distress is the most frequently mentioned mental health problem (reported in 26.9% of the studies). Although most of the studies associate khat use with mental health disorders, the causal relationships are inconclusive given the cross-sectional design of the studies, contradictory findings, and the presence of potential confounders and several forms of biases. Further studies are recommended using prospective designs, standardized and valid measures of khat use, and focusing on specific types of mental health disorders.

Marketing within the cannabis industry: A social media analysis using Twitter data

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It is essential for legal cannabis companies to brand their products differently and more positively. The regulation of cannabis in several countries has been accompanied by some increasing acceptance and normalization of cannabis use. A positive change in perception toward cannabis use makes certain vulnerable populations more likely to be addressed in advertising, including youth. Youngsters spend a lot of time on social media. Previous research within the tobacco industry already showed that youth exposure to advertising content from tobacco companies can influence youth perceptions about the product, to the company’s advantage. On social media, it is more challenging to enforce national regulations surrounding cannabis advertising. One may question whether current national guidelines in countries where cannabis has been regulated are sufficient to protect more vulnerable groups from this new form of marketing, which is more direct, persuasive and participatory in nature to encourage interaction with customers. A qualitative Twitter analysis was conducted on six major cannabis companies, totalling 150,796 followers. A total of 5,294 original tweets were analyzed. This analysis revealed that the content of the tweets link cannabis use to certain therapeutic and health benefits. In addition, companies seek to create a lifestyle, by linking their products to a green, pure and organic way of life. Furthermore, the analysis shows that national regulation were often violated. This is especially relevant since youngsters, as vulnerable target group, are more active users of social media. Therefore, this research shows the need for restrictions that focus specifically on online cannabis advertising.

Regulating high potency cannabis: A narrative review of the health effects of high potency cannabis and how regulation can help

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In U.S. states and Canada, where adult-use cannabis has been legal for several years, high delta-9 tetrahydrocannabinol ("THC") products have become the fastest growing market. The International Cannabis Policy Study finds that edibles and vape oils, which can contain THC levels above 60%,
were the most commonly used products after dried flower in 2020. At the same time, both countries have witnessed a rise in negative health events. This narrative review summarizes evidence on the health effects of high potency THC by examining its impacts on various systems regulated by the endocannabinoid system, including the nervous, immune, respiratory, digestive, and reproductive systems. It draws on epidemiological, neuroimaging, case-control, rat, and higher quality observational studies, as well as clinical trials. We discuss the variation in definitions of "high potency," as threshold levels differ across studies. Insights on particular levels of THC generating negative impacts on health provide guidance on whether regulation of high THC products may be desirable.

In what ways do geographies and technology shape the way illegal drug markets operate and how do these factors influence policing of drug markets in Scotland?

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Drawing on qualitative data, which was collected as part of my PhD study, I analyse 13 semi-structured interviews with police officers who serve in Police Scotland, on their experience of policing illegal drug markets in rural and urban communities. In this presentation I aim to provide a picture of the different forms of drug supply and access to drugs that currently exist in the North-eastern and North-western part of Scotland. I will be discussing the picture of current drug markets through the perspective of policing of drugs, and thus outline the current policing practices and narratives that Police Scotland use. I will also be discussing policing challenges and opportunities while providing an answer to questions such as: what aims do Police Scotland have when policing drug markets? Once I provide a comprehensive description of the current drug market, I will delve deeper into explaining the factors that impact its current shape. The main argument for this presentation is that the drug market in the North of Scotland, is not uniform, but rather made up of pockets of different drug trends and different ways of supplying and accessing drugs. These trends are in part the result of a combination of factors, two of which I have identified to be geography and technology. Therefore, this presentation will put forward a picture of the current drug market that is shaped by geographies and technology, all experienced through the eyes of officers in Police Scotland.

Simultaneous cannabis and alcohol use: Prevalence, predictors, risks, and implications for cannabis legalization

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Many reforms to recreational cannabis laws give limited attention to addressing high rates of simultaneous alcohol and cannabis use, which has been evidenced to associate to health-related and tangential risks for recreational cannabis users. Using data from the 2019 wave of the Canadian Alcohol and Drug Survey (CADS) (n=10,293) with nationally representative weights, this research provides a novel and contemporary investigation into the prevalence, predictors, and associated risks of simultaneous alcohol and cannabis use amongst the cannabis-using population through an array of logistic regressions and generalized linear models. The research finds that 13.5% of the general Canadian population (or 67.5% of cannabis and alcohol co-users) reported using both substances
A safer supply on darknet markets? Exploring drug vendor’s reputation by topic modelling

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Amid the global opioid crisis, the volume of drug trafficking on darknet markets is at an all-time high. The steady increase is due to the reliable operation of darknet markets, which is affected by a number of interrelated, community-building (trust) factors. This study was designed to explore these factors by Latent Dirichlet Allocation topic modelling. We analysed a sample of customer reviews (n=26,728) scraped from the darknet market Dark0de Reborn in 2021. We obtained a model resulting in 8 topics (coherence score=0.57), with the most salient features being (1) product quality, (2) speed and stealth of delivery, and (3) seller reliability. Findings show that this trust-based darknet market community is implementing a safer form of drug supply, reducing both the risks at the delivery stage and the potential harms of drug use. The essential role of secure, on-demand delivery suggests that law enforcement interventions and measures to damage trust may be targeted at this stage of darknet drug trafficking. However, the reputation systems of darknet markets can also guarantee the purity of the substances, thus reducing the potential harm of drug consumption. Future research should examine the nature and evaluate the quality of these risk and harm reduction measures to lay the foundations for evidence-based darknet drug policy and law enforcement interventions.

Changes in morbidity associated with methamphetamine-related emergency department admissions in the United States

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Background: United States methamphetamine-related mortality and morbidity are increasing and have coincided with changes in the methamphetamine supply. According to the US Drug Enforcement Agency, Mexican Drug Trafficking Organizations shifted methamphetamine production methods around 2018 following precursor chemical restrictions, which increased methamphetamine potency. Pharmacological evidence and ethnographic observations suggest the new production methods could increase risk for simultaneously at least once in the 12 months. Higher frequencies of cannabis use, alcohol use, and being of lower age all increased the likelihood of simultaneous use amongst co-users. Respondents who frequently co-used simultaneously were at substantially increased risks of driving under the influence of cannabis and experiencing legal, social, financial, and health-related harms relating to their cannabis use compared to lower frequency and non-simultaneous co-users. Crucially, simultaneous co-users were substantially less likely to engage in the legal cannabis market than non-simultaneous co-users, and thereby less likely to be exposed to simultaneous co-use discouragement efforts such as the banning of alcohol and cannabis store co-location and cannabis packaging warnings. As such, the Canadian legalisation framework’s current attempts to reduce rates of simultaneous alcohol and cannabis co-use amongst the cannabis-using population are likely to be insufficient.
psychosis and lower risk for heart disease. This study documents recent trends in Methamphetamine-related morbidity. Methods: Data come from the Nationwide Emergency Department Sample, a 20% sample of US ED admissions between 2016 to 2020. ICD-10 codes were used to count admissions for methamphetamine-related psychosis, heart disease, poisoning and non-poisoning injuries. Hierarchal Bayesian models were constructed to estimate changes in the rates of methamphetamine-related morbidity over time. Models were adjusted for the size of the methamphetamine using population and demographic covariates. Results: In 2016, there were 130,157 methamphetamine-related ED admissions which increased 68% to 230,693 by 2020. Using total methamphetamine-related admissions as an offset for increased admissions and adjusting for age, gender, and census region we found that poisoning decreased 6% per year relative to total admissions; injuries decreased 18% per year; and heart disease admissions were flat. In contrast, methamphetamine-induced psychosis admissions increased 26% between 2016 and 2020, with the sharpest jump in 2018. Conclusions: This presentation will explore the relationship between changing methamphetamine supply and changes in morbidity. Evidence suggests that drug control policy has unintended consequences on risk to the drug using population's health and need for drug supply surveillance.

Regulation of the cannabis market in Chile: Evaluating elasticities for a potential source of tax collection via corrective taxes

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Cannabis is the most consumed illicit substance in Chile. In 2018, 37.5% of the population declared having used cannabis at some time in their lives and 9.1% during the last 30 days. The high costs of criminalization of consumers and the attempts to prohibit consumption have meant a growing increase in State spending. Due to the inelasticity of the demand that characterizes it, countries with similar realities have chosen to regulate this market, including taxation tools. According to the literature, the range of the elasticity of demand for cannabis is between -0.15 and -0.79-. These are used to simulate the potential tax collection that could exist in Chile. For the simulations, data from the National Survey on the General Population for the years 2010-2020 and the Survey of Consumption, Intensity of Use and Sensitivity to Price 2022 are used. Evaluating different tax schemes, it is found that between 140.5 and 263.1 billion pesos could be generated in taxes on cannabis consumption, equivalent to 0.44% and 0.81% of the net income of the State respectively. Considering international experience, if cannabis-derived products are included, up to 1% of state revenue could be collected. This enters the range currently provided by the alcohol industry. In addition to these findings, this research reveals the urgency in the collection of quality information for the illicit markets in Chile, useful for the design of more and better public policies on health and security.

“That’s how drug scene was back in the days” – views from people who use drugs heavily on changes in harm reduction policies due to the COVID-19 pandemic in Germany

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Background: Marginalised users in urban drug scenes were heavily affected by the Covid-19 pandemic, particularly because of the effects of mitigation measures on drug services and public space. After
collecting data from harm reduction services, this study aimed to analyze perceptions of people who use drugs to the changes coming with the pandemic. Methods: Semi-open guideline-based qualitative interviews with 28 people who use drugs heavily from urban open drug scenes in four German cities (Frankfurt, Darmstadt, Nuremberg and Mannheim). Data was coded and sub-coded using MaxQDA20. Results: Respondents stated that in everyday life, Covid-related mitigation measures like social distancing, wearing masks etc. were mostly ignored, while they were mostly complied with in harm reduction facilities. Particularly indoor access was limited in most facilities, presenting clients with great problems and feelings of neglect. A positive change in harm reduction policies was the facilitation of take-home doses for opioid replacement therapy; however, few of the hard-core users were allowed to benefit from it. Conclusions: Not only because of the general precarious conditions in this setting and the fact that most of everyday life happens in (semi-)public spaces, but also because of reductions of harm reduction services, people who use drugs heavily particularly suffered from the effects of the Covid-19 pandemic. The conditions of prohibition added to these problems through more exposure to repression. This situation reminded some individuals of the condition of open drug scenes without the long-established harm reduction services.

Boxing clever: Drug storage strategies in the home
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The practice of recreational drug taking in private spaces is a relatively hidden activity. We know more about public forms of drug taking, in nightclubs or on the streets, than we do about everyday drug taking in the home and the rituals connected to it. The present study collected data from a sample living in England and Wales aged between 28 and 58. It used photography and object interview methods to document the strategies recreational drug takers use when storing drugs in the home to avoid detection from authorities and other people, and the nature and purpose of recreational drug taking in the home. This presentation will illustrate the different storage strategies adopted. A variety of containers and locations were used to store recreational drugs. Drug storage strategies were about safety, convenience and accessibility. Containers were chosen for pragmatic and/or aesthetic reasons. The findings demonstrate the ways in which recreational drug takers respond to prohibitionist drug policy through the strategies they use for storing drugs in the home.

The impact of cannabis use by youth on the demand for cigarettes in the U.S.
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Objective: Cannabis and cigarettes are commonly co-used by youth, but few studies have examined the relationship between cannabis use and cigarette demand for youth. This study compared the price-responsiveness of cigarette demand among current vs. non-current cannabis users among U.S.
youth (aged 12-17). Methods: We used cross-sectional data from the National Survey on Drug Use and Health (2002-2019; N=293,976) to estimate a two-part econometric model of cigarette demand separately for current and non-current cannabis users. We first used multivariable logistic regression to estimate impact of cigarette price on probability of being a current smoker among all youth (smoking participation equation). Then we used multivariable linear regression to estimate impact of cigarette price on the number of cigarettes smoked per day among current smokers (smoking intensity equation). Results: Between 2002-2019, 3.2% of youth currently smoked cigarettes and 6.5% currently used cannabis. For current cannabis users, the price elasticity was -0.64 for smoking participation, -1.39 for smoking intensity, and -2.03 for total cigarette demand. None of the price elasticity estimates was statistically significant for non-current cannabis users. Current smokers who concurrently used cannabis were more price-responsive in reducing smoking intensity than those who did not concurrently use cannabis (price elasticity of smoking intensity: -1.39 vs. -0.41). Conclusions: Increased cigarette prices lead to reduced smoking prevalence, smoking intensity, and total cigarette demand for youth who were current cannabis users. Dual users of cigarettes and cannabis were more sensitive to cigarette price increases in reducing cigarette consumption than smokers who did not concurrently use cannabis.

Drug users in prison: A bad ending of the story or an opportunity for change?

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About fifty percent of prison population in the Czech Republic are registered as drug users and almost 30% self-reported the characteristics of a problem drug user. Specific treatment programs for imprisoned drug users are run at specialised departments for the treatment of drug addiction (SDDA). Aim of the paper is to present results of IKSP’s research on effectiveness of therapeutic treatment programs at SDDA’s in terms of their potential impact on the criminogenic attitudes and thinking patterns (“criminal thinking”) of program participants and their criminal recidivism after release. Criminal thinking among participants was measured by means of the Czech version of the Psychological Inventory of Criminal Thinking Styles (PICTS). The change of participants’ criminal thinking during the course of the program was measured and results were compared with two control groups. The criminal recidivism of participants was ascertained using data on criminal convictions from the Penal Register. Results were compared with the control groups as well. Significant changes in participants’ pre- and post- program criminal thinking were found. Compared to control groups, their mean differences between pre-test and post-test results were significantly better. It indicates the positive influence of the program on the criminal thinking of imprisoned drug users. However, the rate of participants’ criminal recidivism after their release remained high. The program is obviously able to bring about the desired changes in the criminogenic attitudes of prisoners, but this effect slowly dissipates on leaving the SDDA. The potential of programs in terms of reducing criminal recidivism is largely untapped.