EXECUTIVE SUMMARY



Study in support of the Controlled Cannabis Supply Chain Experiment

Baseline report 2022

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Summary

In this report, we discuss the methods, results and conclusions of the baseline measurement for the study on the 'Controlled Cannabis Supply Chain Experiment' (hereafter: the experiment). Ten so-called 'intervention municipalities'[1] will sell cannabis grown by regulated cannabis growers. For this purpose, up to ten selected commercial cannabis growers will be granted a temporary exemption from the Opium Act. The baseline measurement maps the current situation regarding cannabis use – the toleration policy for the sale of cannabis in coffeeshops[2] and illegal soft drug trade – in ten intervention and ten comparison municipalities before the start of the experiment.[3] The field research for the baseline measurement was largely conducted between September and December 2022. This sets the foundation for follow-up measurements that will monitor developments in both research groups. In addition to the baseline measurement, this report presents the policy theory of the 'Controlled Cannabis Supply Chain Experiment'. The research was requested by the Dutch Ministries of Justice and Security, and Health, Welfare and Sport and conducted by Breuer&Intraval, RAND Europe and the Trimbos Institute, commissioned by the Research and Data Centre (WODC).

Research methods

The study uses a quasi-experimental evaluation design. The two research groups are monitored and compared to the baseline measurement throughout the experiment. Before the baseline measurement, the 'theory of change' was reconstructed to clarify the intended effect of the intervention. Data were then collected in the intervention and comparison municipalities, using various research techniques. The data collection includes 31 interviews with 130 stakeholders[4]; 1,252 counts of coffeeshop visitors at 142 coffeeshops; 922 visitor surveys at 138 coffeeshops; 125 menus in 125 coffeeshops; 437 survey responses from people who live and/or work in the

1 The ten intervention municipalities are Almere, Arnhem, Breda, Groningen, Heerlen, Hellevoetsluis, Maastricht, Nijmegen, Tilburg and Zaanstad.

2 A coffeeshop in the Dutch context refers to a tolerated cannabis retail location.

3 The ten comparison municipalities are Enschede, Haarlem, Helmond, Leeuwarden, Leiden, Lelystad, Roermond, Tiel, Utrecht and Zutphen.

4 They include municipal departments (public order and safety, social domain, supervision and enforcement, licensing, communication, and research), police (chiefs, coordinators, operational experts, and neighbourhood police officers), Public Prosecution Service (OM), addiction services, youth work, welfare work, tax authorities, Regional Public Health Services (GGD) and coffeeshop associations.

neighbourhood of 146 coffeeshops; 52 short interviews with owners and/or employees of 45 coffeeshops; and a long-term online survey among people who buy cannabis on the illegal market. Finally, police data on registered incidents and crimes related to soft and/or hard drugs in all Dutch municipalities were collected and analysed.[5]

The policy theory

The primary objective of the experiment is to test the feasibility of realising a controlled supply chain, within which growers can produce and supply quality-controlled cannabis to the coffeeshops. When this controlled supply chain is created, it is important that growers, distributors and coffeeshops can operate with an economically sound business model, with manageable costs that can compete with non-regulated variants. This would require, among other things, a diverse range of hash and weed varieties that can be offered at a competitive price.

In addition, the experiment aims to examine the effects of regulating the coffeeshop supply chain on public health, crime, public order, security and nuisance. The experiment aims for coffeeshop visitors to experience less health-related harm from consumption of quality-controlled cannabis, which might be achieved by the absence of pesticides or moulds. Regulations on packaging and education aim to reduce health-related damage and reduce problematic use. The experiment also seeks to regulate the illegal 'backdoor' for coffeeshops in intervention municipalities, allowing them to stock their supply of cannabis legally from licensed growers without having to depend on the illegal market.

One of the conditions for achieving these objectives is that growers and distributors take appropriate security measures to maintain a closed supply chain. Moreover, there must be sufficient capacity among supervisory bodies – such as the Inspectorate of Justice and Security, the Netherlands Food and Consumer Product Safety Authority, municipalities, and police – to effectively enforce various aspects of the controlled supply chain.

The local situation in the research municipalities

At the baseline measurement, all intervention and comparison municipalities have implemented a so-called 'maximum policy', whereby the total number of coffeeshops within the municipal boundaries may not exceed a set maximum.[6] All municipalities have also adopted the so-called AHOJG criteria and a maximum trade quantity in their policies.[7] In 17 of the 20 municipalities, the Resident criterion (I-criterion) is also included in the policies.[8] Five municipalities actively enforce the I-criterion, which excludes

5 The Opium Act distinguishes between soft and hard drugs. List I includes substances classified as hard drugs, such as heroin, cocaine, amphetamine, ecstasy and GHB. List II includes substances classified as soft drugs, such as cannabis products, sleeping pills and sedatives.

6 Municipalities with a maximum policy have included in their coffeeshop policy the maximum number of coffeeshops that can be established in the municipality ('the set maximum').

7 The sale of cannabis products in coffeeshops is subject to a policy of tolerance in the Netherlands. This means that neither the police nor the judiciary will take any (legal) action against coffeeshops as long as they have a licence from the municipality, and they comply with the national (*AHOJG*) and any other locally established criteria. The *AHOJG* criteria include no **A**dvertising, no **H**ard drugs, no **N**uisance, no sale to - and access to the coffeeshop for – minors (**J**), and no sale of large quantities (**G**, maximum five grams per transaction). Also, the trading stock must not exceed 500 grams.

8 The I-criterion states that only residents of the Netherlands have access to the coffeeshop and that soft drugs can only be sold to them.

non-Dutch residents from entering the coffeeshops: three intervention municipalities and two comparison municipalities.

Stakeholders have a predominantly positive perception of the preparation and implementation of the 'Controlled Cannabis Supply Chain Experiment'. In interviews conducted in the autumn of 2021, they indicated that they consider the experiment as a potential solution to the so-called 'backdoor problem' and expect positive effects on public health.[9] In particular, the successful collaboration that was established between different disciplines and external parties is considered a positive aspect. Nevertheless, some practical bottlenecks, enforcement issues and uncertainties about the experiment are perceived as delaying and are impeding the acceptance of the experiment.

Stakeholders in the research municipalities believe the success of the experiment to be dependent on the quality, diversity, and price of the prospective regulated supply. The consensus is that healthy competition between coffeeshops is essential to keep consumers loyal to the regulated supply and prevent an influx to the illegal market. Several risks of the experiment were identified in the interviews, including an increasing normalisation of cannabis consumption, a possible increase in illicit street trade in case of insufficient quality or excessive prices, police capacity problems, an increased risk of robberies of coffeeshops, and the increasing difficulty of detection of illegal production and distribution after implementing the controlled coffeeshop supply chain.

The supply in the coffeeshops

The menus of 125 coffeeshops were analysed. A total of 4,811 items were identified, representing an average of 24.4 different products per coffeeshop. All 125 coffeeshops offered cannabis, with an average of 10.8 unique product names in the intervention municipalities and 12.6 in the comparison municipalities. The average price per gram of weed was €11.55 in intervention and €11.23 in comparison municipalities.

Hash was available in 123 out of 125 coffeeshops, with an average of 5.6 unique product names in intervention and 5.7 in comparison municipalities. This refers mainly to hashish from abroad. Overall, there were more cannabis products than hashish products on the menus. The average price per gram of cannabis was slightly higher than that of hashish, in both intervention and comparison municipalities.

Pre-rolled joints were sold in 115 of the 125 coffeeshops. In 40% of these coffeeshops, joints without tobacco were also offered. The average number of unique product names for joints on the menus was 7.3 in intervention and 6.3 in comparison municipalities. The average price per joint with tobacco was €5.01 in intervention and €4.75 in comparison municipalities, and a joint without tobacco was €5.63 and €5.82, respectively.

Furthermore, 39% of the coffeeshops offered edibles,[10] with an average price per unit of €9.77 in intervention and €9.07 in comparison municipalities. In addition, 28% of the coffeeshops sold CBD cannabis or hash, with an average price per gram of €5.70

9 The term "backdoor problem" is used for the issues associated with the coffeeshop policy in the Netherlands. The government tolerates the sale of cannabis by coffeeshops to consumers (through the 'front door') under strict conditions. This means that there is no criminal penalty for selling weed and hash. However, the production and supply of cannabis to coffeeshops (through the backdoor) is not tolerated and is illegal.

10 Edible products that contain cannabis and are not sold as concentrates, oils or supplements.

in intervention and €7.02 in comparison municipalities. No significant differences were found between intervention and comparison municipalities in terms of average prices or the number of cannabis types on menus.

Characteristics, buying patterns and consumption of coffeeshop visitors

An average of approximately 560 people visit the coffeeshops in intervention municipalities daily, and 450 in comparison municipalities. Surveys among coffeeshop visitors showed that the vast majority bought cannabis (77% in municipalities and 78% in comparison municipalities respectively), while 17% and 18% respectively of the coffeeshop visitors bought hashish. The main reasons for purchases were similar in both research groups: the convenient location of the coffeeshop, the good atmosphere, and the high-quality cannabis on offer.

87% of coffeeshop visitors in intervention and 89% in comparison municipalities were satisfied with the purchased cannabis. Their satisfaction was mainly attributed to the high quality, desired effects, taste and/or smell and consistent quality, intensity and/or quantity of the cannabis.

Roughly 73% of respondents used hashish or weed for more than 20 days in the past 30 days. No relevant differences were found between respondents in intervention and comparison municipalities. Weed proved more popular than hashish: 58% of the respondents in intervention and 64% in comparison municipalities consumed weed only. A large majority of the respondents in both research groups (93%) reported using cannabis in a joint with tobacco, with an average of 3 joints per day.

Approximately 60% of the respondents in both the intervention and comparison municipalities also used other substances, primarily alcohol and/or tobacco. 61% of respondents in intervention municipalities reported never using cannabis for medicinal purposes without a doctor's prescription, compared to 56% in comparison municipalities. However, the use of cannabis for medicinal purposes with a doctor's prescription was limited, with less than 1% in both research groups. More than three-quarters of the respondents (76% in intervention and 80% in comparison municipalities) perceive their health to be 'good' to 'very good'.

In both intervention and comparison municipalities, approximately seven in ten respondents had a high risk of moderate or severe cannabis use disorder, as determined by a score of 5 or higher on the CAST questionnaire.[11] Respondents with a score of 8 or higher (severe disorder) were found to use more frequently and consume more joints at a time than respondents with a lower CAST score. We note that frequent users are overrepresented in the sample of respondents recruited from coffeeshops. Therefore, the percentage of heavy users in the sample population may be higher than the share of heavy cannabis users in the general population.

Approximately one in ten respondents (12% in intervention and 10% in comparison municipalities) reported they had fell unwell or had an accident during or due to cannabis use in the past 12 months. In most cases, this involved nausea or an anxiety or panic attack. A large majority of the respondents (93%) said they had not sought help to stop or cut down on their cannabis or hashish consumption in the past 30 days.

A small number of coffeeshop visitors surveyed (36 out of 922 respondents) had

11 Risky cannabis use was measured using the CAST (Cannabis Abuse Screening Test). This questionnaire consists of six items asking about cannabis use in the past 12 months.

bought cannabis or hashish outside the coffeeshop in the past month, mainly because of good value for money. About one in ten respondents (9%) who had bought cannabis outside the coffeeshop reported that drugs had been offered to them in the vicinity of the coffeeshop in the past 30 days. About half of the cases involved cannabis and/or hashish.

Quality of life near the coffeeshops

Overall, people who live and work in the vicinity of the coffeeshops are satisfied with their living and working environment. Respectively 85% of the respondents in intervention and 93% in comparison municipalities are (very) satisfied with living or working in the neighbourhood, with an average rating of 7.7 in intervention and 7.9 in comparison municipalities.

More than half of the people who live and work in the neighbourhood indicate that they are aware of incidents in the past six months that might have caused any disturbances. These incidents mainly concerned traffic problems, noise and loitering. Of those who have reported incidents, about two-thirds experienced nuisance themselves (65% in intervention and 62% in comparison municipalities). In general, they do not link the perceived nuisance to the presence of a coffeeshop in the neighbourhood.

22% of the residents surveyed in intervention municipalities and 12% in comparison municipalities had reported nuisance caused by (hard) drugs or alcohol in the previous six months. Despite these reports, people who live and work in the neighbourhood generally feel safe in their neighbourhood: the respondents rated safety an average of 7.1 in intervention and 7.5 in comparison municipalities.

Police registration details

Police data show similar trends in registered incidents related to alcohol and/or drug use (MK E38)[12] between January 2019 and May 2023, with a peak in the summer months. The number of registered incidents and crimes related to the possession (F41), trafficking (F43) and manufacturing (F45) of soft drugs shows a slightly decreasing trend in both research groups. The number of incidents in the intervention municipalities is structurally higher than in the comparison municipalities. Similar patterns are found for incidents and crimes related to possession (F40), trafficking (F42) and manufacturing (F44) of hard drugs, with monthly reports remaining constant between January 2019 and May 2023. When corrected for the population, both the number of incidents related to alcohol and/or drugs and the number of incidents and/or reports related to soft drugs and hard drugs are found to be structurally higher in the intervention and comparison municipalities than in other Dutch municipalities not included in the research groups.

The illegal market

Price and value for money are the main reasons for purchasing cannabis outside of coffeeshops. Furthermore, the ability to buy larger quantities and the relatively quick and easy service of a delivery service play a role. Delivery services and so-called mobile phone dealers are the most frequently used methods for purchases outside of coffeeshops. In intervention municipalities, more purchases are done through friends than in comparison municipalities.

More than half of the purchases involved cannabis only, while about one-fifth involved only hashish and one-fifth involved both cannabis and hashish, with slight variations

12 In the context of the Opium Act and the registration of related incidents and crimes, the police use social classes ('MKs') in the computer system. These MKs serve as categories by which different types of incidents can be classified and recorded.

between intervention and comparison municipalities. Respondents predominantly rated the illegally purchased cannabis as 'good' or 'very good' on criteria such as value for money, effects, and smell and/or taste, in both intervention and comparison municipalities.

Although there is no purchase limit outside of coffeeshops, most transactions involve quantities of less than 10 grams. The average price per gram was just below €7 for cannabis and slightly above €6 for hashish in both intervention and comparison municipalities. Dealers give significant quantity discounts[13]: the average price for purchases up to 5 grams is €8 per gram and for purchases above 50 grams is €4 per gram, for both cannabis and hashish in both research groups.

In sum

This baseline measurement outlines the state of affairs in the municipalities participating in the experiment concerning coffeeshops, their visitors and the illicit cannabis market in the autumn of 2022. The situation in the intervention municipalities is similar to that in the comparison municipalities. The baseline appears to be a good starting point to monitor the developments, opportunities and risks throughout the experiment. In follow-up measurements, developments in each research group will be compared to the baseline measurement.

The baseline measurement illustrates that under the current tolerance policy, coffeeshop visitors are generally satisfied with the supply, price, and user experience of illegally produced cannabis sold by coffeeshops. The decision to buy hashish or cannabis in a particular coffeeshop is mainly impacted by the location and atmosphere of the coffeeshop, as well as the quality of the cannabis on offer. The study further shows that people who live and work near the coffeeshop experience little nuisance caused by the coffeeshop and/or its visitors. Nevertheless, the baseline measurement also reveals considerable disadvantages of the status quo. Frequent coffeeshop visitors, often heavy users, are at high risk of moderate or severe disorders due to cannabis consumption. In addition, there is a risk of purchasing contaminated cannabis, for instance, due to moulds or pesticides, on the illicit market.

The primary objective of the experiment is to test whether and how which growers can produce and supply quality-controlled cannabis to the coffeeshops. The study aims to assess the effects on public health, crime, public order, safety and nuisance. The feasibility of the controlled supply chain will depend on: sufficient supply, a variety of products, a viable business model, the efforts of inspection and enforcement, and the ability of growers, distributors, and coffeeshops to operate in this context. Regulated cannabis must be able to compete in terms of quality, variety, and price with the supply in coffeeshops in the municipalities that do not take part in the experiment and the illicit market.

Nevertheless, the potential risks of the controlled cannabis supply chain should not be underestimated. Normalisation of cannabis consumption, increased cannabis consumption, and the persistent attractive alternative of the illicit market may pose challenges. The increasing difficulty of detecting illegal production and distribution after the implementation of the controlled coffeeshop supply chain requires attention as well. These factors are therefore considered in this study and further monitoring of the experiment.

13 Quantity discount is a form of price reduction based on the quantity of products or services purchased. Generally, the larger the quantity purchased, the higher the discount.