

# Drug-checking services in the Netherlands

A qualitative research on East- and Central-European labor migrants

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MSc Thesis

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06-07-2023

## Preface

This thesis consists of research on East- and Central European labor migrants, in combination with drug-checking services in the Netherlands. The number of East- and Central European labor migrants that check their drugs is low and should be increased for the harm reduction and market monitoring.

The topic of this research has been found within my Master Internship at the Ministry of Health, Wellbeing and Sport. One of the topics that a colleague works on, is DIMS (Drug information and Monitoring System). When brainstorming on a topic for my MSc Thesis, we came upon this topic. Colleagues who work at Trimbos Institute also addressed the problem of a rising number of labor migrants, but no view on what they use and how often they use drugs. I had also heard some things about it on the news and in my living area, so that is why I chose this topic for my MSc Thesis. I am concerned for this target group, and I wish to help improve their quality of life.

This MSc thesis has been written for researchers, employees of DIMS, VWS and Trimbos and everyone who might be interested in this topic, to learn more about what needs to be changed and how to communicate with labor migrants.

I want to thank the colleagues from the Ministry of Health, Welfare and Sport, Trimbos, Mainline and my supervisors Bob Mulder and Renger Witkamp, for all the help, information, and tips that I got from them. All this information has been helpful for me to create this Master Thesis.

## Abstract

Harm reduction is one of the pillars in the Dutch drug policy. One of the important harm reduction services in the Netherlands, is the Drug Information and Marketing System (DIMS). With the use of DIMS, people can hand over a sample of drugs they want to use, to test the quality. This helps with reduction of health risks, and monitors what is in the market. There are also other harm reduction services in the Netherlands, and at these services, a rise of East- and Central European labor migrants has been seen. However, DIMS is anonymous, so it is unknown if labor migrants also come to check their drugs. When speaking to several experts on this topic, it is estimated that this number is low. Therefore, the following research question is asked: 'How can the Dutch drug-checking services best be enhanced and delivered to Central- and East European labor migrants, such that their willingness and opportunity to use drug-checking services is maximized?'

To research this, a qualitative research has been conducted. This approach has been chosen, because qualitative research can help explain processes and patterns of human behavior. The design that fits for this qualitative research, is the Grounded Theory. The theoretical framework used, is the 6SQuiD framework, in combination with the Behavior change wheel from Michie (2011). To perform the research, literature review for the Life science part has been done, and interviews have been held with labor migrants.

The results show that there are several important themes that can have an influence on the drug-checking behavior of labor migrants, such as knowledge and attitudes towards specific drug-related topics. These themes have been used in the 6SQuiD framework and the Behavior change wheel of Michie (2011) to find out in what way the drug-checking service can best be enhanced and implemented towards labor migrants. The government and DIMS employees should create an educational set-up for labor migrants, and a training combined with education for employment agencies, to tackle the two most important behaviors that can influence the drug-checking behavior of East- and Central European labor migrants.

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## Abbreviation list

EMCDDA: European Monitoring Centre for Drugs and Drug Addiction

DIMS: Drug Information and Monitoring System

6SQuiD: six essential Steps for Quality Intervention Development

PWUD: People who use drugs

CND: Commission on Narcotic Drugs

## Introduction

Harm reduction has been one of the pillars of Dutch drug policy for decades. Harm reduction is about reducing (health) damage caused using drugs, primarily for the user himself, but also for his environment and society as a whole (Staal, 2022). The (EMCDDA) describes harm reduction as following: “Harm reduction encompasses interventions, programs and policies that seek to reduce the health, social and economic harms of drug use to individuals, communities and societies” (European Monitoring Centre for Drugs and Drug Addiction., n.d.). The main goal of the Dutch harm reduction approach is to limit (health) damage for people who use drugs, but also for their social environment (Trimbos, 2022). In the Netherlands, there are classical harm reduction services, but there is also harm reduction in recreative settings. For the classical harm reduction services, there are drug interventions (for methadone and pharmaceutical heroin), user areas, low-threshold facilities such as walk-in centers and interventions to prevent infectious diseases such as syringe exchange (Trimbos, 2022). When looking at harm reduction in recreative settings, the Dutch policy introduced programs to check your drugs (DIMS), organize peer-projects with (ex) drug-users and create first aid-stations at festivals (Trimbos, 2022).

DIMS is the Drug Information and Monitoring System, which was founded in 1992. DIMS has two main tasks: monitoring and harm reduction. At a DIMS service, a consumer can offer a sample of drugs, which can get tested. DIMS share information about the drugs with the consumer, for example whether there are unknown substances found in the drug. In exchange for this, the user provides DIMS with information about the drugs (Drugs-test.nl, 2021). When substances are found that are a threat to the public health, a Red Alert will be send out, to inform everyone who has this app installed.

In 2022, Trimbos published a report about recent insights into harm reduction services in the Netherlands (van der Gouwe et al., 2022). The focus of this report is on the classical harm reduction services (Trimbos, 2022). The report shows that there is an increase of labor migrants from Central and East-Europe that use the classical harm reduction services. Workers at medication clinics (by medication clinics I mean opiate maintenance treatment with opiate replacement medication) see a rise in male labor migrants, and there is also a rise of these male labor migrants seen in the user areas. Lastly, a rise in labor migrants is seen at locations where syringe exchange is possible (Van der Gouwe et al., 2022). The workers in the harm reduction facilities noticed that these labor migrants often live in a social ‘bubble’ with other migrants who also use drugs. They have little to no knowledge on the Dutch addiction care, and language is also a barrier.

For the general population of the Netherlands, DIMS is working well as a drug-checking service. In 2021, drugs were checked for more than 10.000 times. These samples were mainly ecstasy, cocaine and 2C-B and speed (amphetamines) (Vrolijk & Smit Rigter, 2022). These drugs are harmful for people. There can be some serious risks to using drugs, both mental as physical. It is therefore important to investigate what their exact composition is, and to show what the wanted and

unwanted consequences are of drug use. In the Life Sciences part of this thesis, more information will be provided.

### The societal problem of drug use among labor migrants

DIMS is doing its job for checking drugs since it is reaching people. It is, however, unknown if and how many labor migrants have knowledge on the existence of DIMS and the possibility of drug checking in the Netherlands. When I spoke with mister D. Van der Gouwe at the 66<sup>th</sup> Commission on Narcotic Drugs (CND) in Vienna (2023), who works for Trimbos and DIMS, he mentioned that he thinks there are little to no labor migrants in the Netherlands that check their drugs at DIMS. This claim can be backed up by research of Koning et al. in 2021, which shows data from 1774 participants that filled in a questionnaire after visiting DIMS. From the 1774 answers, 83,8% had no migration background. This is problematic for the drug market monitoring, since there could be other substances used that are unknown in the Dutch market. It is also problematic for the Dutch harm reduction program, since drug checking services has the advantage of engaging with populations that are not seen in the traditional addiction care and that are 'hard-to-reach' for general public health campaigns (Giné et al., 2017).

Data from NGOs and the government suggests that there might be a big problem, although exact and up-to-date numbers on labor migrants and drug use are lacking. In 2019, there were in total 767.571 labor migrants in the Netherlands (ABU, 2021). According to the report from Jansen Lorkeers et al. (2022), from this total, 375.400 labor migrants are originally from East and Central Europe. It is plausible that this number continues to rise over the years. From the total of 767.571 labor migrants, 44% work in the logistics sector (ABU, 2021). This is a relatively high number, considering the fact that drug use is mainly seen in distribution centers (Peek & Muntz, 2021).

Among labor migrant from East and Central Europe, the main drugs that are being used are amphetamines and cocaine (Investico, 2021). A quote from 'Albonista' on a Polish forum called "Amphetamine to work" states: "When I worked in a warehouse in the Netherlands, many Poles flew on feta, because the targets skyrocketed so much that a normal person couldn't even reach 70 percent without using drugs ...," (Peek & Muntz, 2021). Amphetamines and cocaine are listed number 5 and 7 for being at most risk for addiction (Jellinek, 2020-a), which can create high health risks for labor migrants.

### Academic relevance

When looking at the academic relevance, there already has been some studies on drug-checking services. For example, two different studies show that drug-checking services adjust the behavior of people who use drugs. In the first study, people change their behavior when the results of their drugs are unexpected or show drugs of concern (Maghsoudi et al., 2021). In the second study, the testers reported to having a greater intention to take smaller quantities of their substances, over a longer period of time and that they will be more careful about using multiple drugs at once (Measham, 2019). Next to the fact that drug-checking services can lead to behavior change, it also leads to better understanding of the drug-market (Measham, 2019). Drug-checking services provide a unique form of drug market monitoring, since you can see what is currently on the market (Maghsoudi et al., 2021). There are, however, no studies on drug-market monitoring among East and Central-European labor migrants.

There is also information available on what is thought to be important for implementing a drug-checking service. Factors that are important are the communication about the access to drug-checking services, communication and information on the used substances, and counselling afterwards. This is based on a questionnaire that has been held in Slovenia among 656 people that

have checked their drugs. Slovenia is, according to Jellinek (2022-b), the only country in the East and Central-European region that has drug-checking services. In the questionnaire, the participants state that they perceive drug-checking as a contribution to harm reduction, and that they find that providing information about the harmful substances that they use important. Lastly, the users considered accessibility of the drug checking service as very important, and they would be in favor of brief counselling at the collection of the drug sample (Sande & Sabić, 2018). A similar study has been done in the UK, which was based on community-based drug-checking services as a harm reduction tool. This study has shown that there is a need for an explorative research into how community-based drug-checking services operate, which can help with researching the implementation of such services (Masterton, et al., 2022).

There is still little knowledge on the effect of drug-checking services that are not on-site at a festival, on the behavior of drug-users. There are also no studies that focus on drug use of labor migrants from East and Central Europe. The last study that has been done on this topic is over 20 years ago and focused on everyone using the drug-checking service (Benschop, Rabes & Korf, 2002). Therefore, is important to figure out how this group of labor migrants can be reached better, so that they can change their drug-checking behavior. The following research question is formulated: 'How can the Dutch drug-checking services best be enhanced and delivered to Central- and East European labor migrants, such that their willingness and opportunity to use drug-checking services is maximized?'

## Theoretical framework

To research how drug-checking services can best be enhanced, the six essential Steps for Quality Intervention Development (6SQuiD) framework will be used. The improvement of the effectiveness of a public health intervention depends as much on improving the design as the evaluation of the intervention (Wight, Wimbush, Jepson & Doi, 2015). This is because you can improve a design, but without the right evaluation, it is unknown whether the improvement is effective for the public health.

There are a lot of frameworks created for the development of interventions like the CFIR framework, Intervention Mapping, or the PRECEDE-PROCEED model, but none of these frameworks focus on an already existing intervention to see where the intervention can best be developed based on a specific target group. These models are more oriented towards social-psychological, individual behavior change and they provide little detail on intervention development. The 6SQuiD framework focusses on the essential stages of intervention development to assist public health researchers (Wight, Wimbush, Jepson & Doi, 2015). Therefore, the 6SQuiD framework is most suitable for this research. It can help improve an already existing intervention, to be more suitable for a specific target group. In this case, the 6SQuiD framework can help improve the drug-checking services in the Netherlands, for East- and Central European labor migrants.

The 6SQuiD framework exists of 6 steps. The first step is to define and understand the problem and its causes. In this step, the problem with stakeholders is clarified, using existing research evidence. The problem needs to be well defined. Is the problem a risk factor, or the condition itself? Once the problem is defined, one should try to establish how the problem is socially and spatially distributed, including who is most likely to benefit from the intervention (Wight, Wimbush, Jepson & Doi, 2015). In this research, the first step will exist of a short description on the problem. Next to this description, a more profound explanation will be provided on what drugs are and what harm it can do. This will show the risk factor. This part will be discussed under the heading 'Life science research on the consequences of drug use'.

The second step is to clarify which causal or contextual factors are malleable and have greatest scope for change. This step is about identifying which of the immediate or underlying factors that shape the problem have the greatest scope to be changed. There are so-called ‘upstream’ structural factors that take longer and are more challenging to modify, and there are ‘downstream’ proximal factors that are easier to modify. It is a good idea to create a causal pathway, because this will help with identifying where one might intervene (Wight, Wimbush, Jepson & Doi, 2015). With the use of interviews on labor migrants, the aim is to figure out what the causal and contextual factors are, and if there are underlying factors that were not found in literature that shape the problem.

The third step is to identify how to bring about change: the change mechanism. In this step, it is important to think about how to achieve the change of the modifiable causal factors. The change mechanisms are important in this step. The 6SquID framework uses the theory of change, but considering this thesis focusses on a policy intervention, the behavioral change wheel of Michie (2011) will be used. This wheel is an overarching model of behavior to link interventions to potential behavioral targets. When we know the sources of behavior, and the policy categories, this wheel can help with finding the right intervention functions (Michie et al., 2011). The same interviews can be used in this step, as were used in step two. With the use of interviews, behavior and attitudes of the labor migrants will come forth. These attitudes and behaviors can then be put into the wheel of Michie, to find out what intervention functions and policy categories fit to change the behavior of the migrants, in order to have them use the drug-checking service more often.

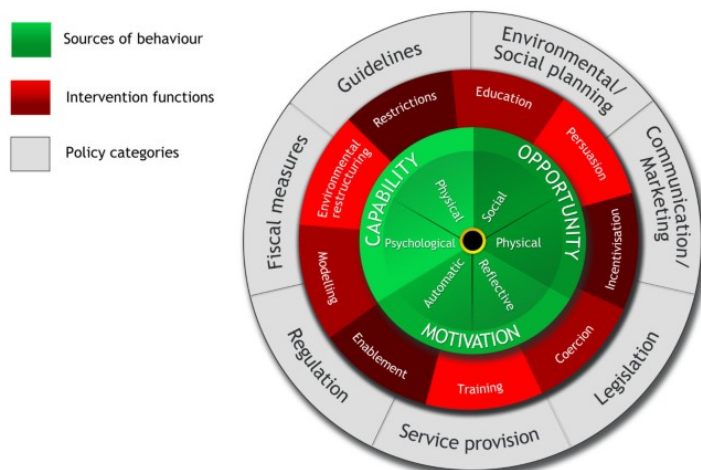


Figure 1. Behavior change wheel (Michie et al., 2011)

The fourth step is to identify how to deliver the change mechanism. When the change mechanisms are identified, in this step it is important to figure out how to deliver these change mechanisms. It is helpful to involve stakeholders with the relevant practical expertise to develop the implementation plan. The behavioral change wheel of Michie is also helpful with figuring out how to deliver the change mechanisms with the use of the intervention functions (Michie et al., 2011). Again, the interviews can be used in this step. There will be some questions on what the migrant himself/herself believes is a good way to reach them better. What are good ways for communication? With the help of their input, it will be easier to identify how the change mechanism should be delivered.

The fifth step is to test and refine on small scale. The feasibility needs to be tested and adaptations need to be made. Testing the intervention can clarify fundamental issues such as: acceptability to the target group, practitioners, and delivery organizations, who should deliver it and where and how to maximize population reach. However, it can be difficult to pilot a large-scale health protection

measure, and this is also something that cannot be done in the time span of this thesis. So, in this research, there will be no testing on small scale.

The sixth step is to collect sufficient evidence of effectiveness to justify rigorous evaluation / implementation. This last step is a step in the long term, because in this step evidence is collected to see whether the intervention is working as intended (Wight, Wimbush, Jepson & Doi, 2015). Therefore, the sixth step cannot be completed within the timeframe of this thesis.

## Methodology

To provide an answer to the research question, qualitative research will be conducted. Qualitative research is a type of research that explores deeper insights into real-world problems. One of the strengths of qualitative research is its ability to explain processes and patterns of human behavior. (Tenny et al., 2017).

### Qualitative research design

The research design that is most appropriate for this research, is a case study. A case study is an in-depth examination of a group of people, which in this case is East- and Central European labor migrants. A case study can be considered a qualitative research when the researcher is interested in the meaning of experiences to the subjects, rather than generalizing results to other groups of people (Rahmawati, n.d.). This research is specifically designed to help labor migrants, and there is no need to generalize results to other groups of people. A case study like this can help promote drug-checking services in the Netherlands. This case study will be explanatory, because this study looks for causal factors that can have an influence on the drug-checking behavior of labor migrants (Priya, 2020).

### Data collection methods

In qualitative research, it is important to gather the participants' experiences, perceptions, and behavior (Tenny et al., 2017). There are several data collection methods that can help with gathering information that is needed for the research. In this research, the data collections methods that will be used are literature review and interviews. The literature for the literature review will be searched through Google Scholar, WUR Library, LexisNexis, and Scopus. The literature review will be used for the life science part of this thesis. This part will describe the active substances in different types of drugs, desired and undesired effects, and how this affects the drug monitoring and harm reduction in the Netherlands. This information is important in the first step of the 6SQuiD framework, because it will help to understand what the problem is. For the second and third steps of the 6SQuiD framework, underlying factors and change mechanisms need to be determined. This will be done with the use of interviews. Labor migrants will be interviewed, to find their experiences and attitudes about drug-testing. This can be linked to the wheel of Michie (2011), to find the sources of behavior. With the use of interviews, the aim is to learn about the actions and behaviors from the labor migrants, to see what their knowledge is on drug-checking in the Netherlands, but also what their behavior is towards this system. Questions about drug behavior, drug-checking, drug information and attitudes towards drugs will be asked.

### Recruitment

To find a sample that represents the study population (read; labor migrants from East and Central Europe), convenience sampling was used. Convenience sampling is a non-probability sampling method where units are selected because they are the easiest to access (Nikolopoulou, 2022). The target group is a group that is hard to reach. When I spoke to Machteld Busz (2023), director of Mainline (a foundation for improving the life for PWUD), she mentioned that the only group they



have in sight are migrants who are drug addicts and are mainly homeless. She also mentioned that labor migrants constitute a group that are hard to reach. Therefore, convenience sampling is applicable, because the sampling is based on the willingness of labor migrants to participate in the research. To find participants, a brainstorm session was held in which the question was asked 'where do I find labor migrants from East and Central Europe?'. The first thought that came to mind was employment agencies. Over 10 employment agencies were contacted, but they came with no response. Then, the distribution center of Jumbo in Raalte was contacted because of the knowledge that they hire labor migrants. They e-mailed back with the name of their employment agency, but this also led to no response. Then, I contacted a parc near where I live because I know they house labor migrants. They also send me their employment agency who hired houses from them, but again no response. This does show a bit of snowball sampling (even though it was not effective).

The non-response made me think about different ways to reach the labor migrants themselves, without a mediator. One of the easiest ways is through social media. So, that is when it was decided to join some Facebook groups for expats in the Netherlands. A post was created with some information on this research, and if there are any people willing to answer some questions. Four people gave me a reaction, saying that they are willing to participate. Through Instagram, the #PolishinNetherlands, #CzechinNetherlands, #UkraineinNetherlands led to some profiles of people from East- and Central Europe that used this hashtag. These people were also contacted, with the request to answer some questions for this research.

### Data collection

A total of five people were available to answer some questions. That makes a total of nine interviewees. Seven interviewees are from Poland, one from Ukraine and one from the Czech Republic. Two of these interviewees were interviewed through the telephone (calling), and the other seven were interviewed through text messages. One of the interviewees that was able to call, is an acquaintance from my parents. The other interviewee that was able to call, texted me through a Facebook post. The other participants were interviewed through text, either via Facebook messenger or Instagram DM.

In the interviews, some general information about the interviewees was gathered, to get a depiction on the interviewed group. There is a great spread of how many years the labor migrants have lived in the Netherlands; the spread is from nine months to thirteen years, with one, three, six, nine and ten years in between. They also have different kinds of jobs; two work in logistics, one is an artist, one is a waitress, one works for a production label, and one is a tantric masseur. Three other interviewees did not describe where they work. From the nine interviewees, four have never used any drugs. There are four interviewees who have tried marihuana, and there is one interviewee who used an amphetamine called 'Alegria'.

### Interview guide

There are several topics that the interviewees are questioned on, which are topics to believe that they can provide help in the improvement of drug-checking behavior.

First, it is important to figure out the knowledge on drug-checking services. Therefore, the following questions have been asked: "What do you know about drug-testing in the Netherlands?" and "Have you ever tested your drugs, or have you ever heard in your surroundings of people that have tested their drugs?". To figure out how labor migrants feel about drug-checking, questions like 'How do you feel about drug-checking?' and "Why do you feel like this?" were asked. The answers to these questions are meant to explore attitudes towards drug-checking.

To question the knowledge on drug information of labor migrants and their attitudes towards drug information, the questions “Do you know where you can find information about drugs? If yes, where?” and “Do you feel like there should be more information provided about the general drug policy in the Netherlands?” were asked.

To figure out the risk perception and knowledge on contaminated drugs of labor migrants, the following questions are asked: “Do you ever think about the (health) risks of using drugs? Can you describe some risks that you see?”, “What do you know about contaminated drugs?” and “Have you ever experienced or heard about negative consequences of contaminated drugs?”.

Next, the question “How do you feel about the Dutch government in general? Do you trust them?” is asked, to see if there is any distrust in the government that can have an influence on the drug-checking behavior.

Lastly, it is important to see what labor migrants think the best way is to reach them. Therefore, questions that were asked are: “What should be done to better communicate/provide more information to labor migrants about these topics?” and “Do you have any recommendations for the Dutch government on how to reach migrants better? Are there any things they should do differently?”.

### Data analysis methods

To analyze the interviews, they will be coded with the use of Atlas.ti. To do this, it is important to first transcribe the interviews. This will not be done literally, because words like ‘uhm’ and pauses are not important for this research. There will be made use of open codes, where new codes will be created. The results of the data and the codes will lead to specific themes, which is an overarching designation for codes that are similar. These themes will be used into the second and third step in the 6SQuiD framework, in order to figure out what the scope for change and what the change mechanisms are. With the help of the same themes, it will be easier to fill in the Behavior change wheel of Michie (2011). Therefore, these themes and information can help with creating a better drug-checking innovation, designed for labor migrants from East- and Central Europe.

## Results

In this result section, two types of information will be given. The first results are the results from the literature research that was done for the Life Science part of this research. This literature research provides an answer to step one of the 6SQuiD framework. After that, the results of the interviews will be given, to provide an insight on what information has been gathered. This information will later be used in the discussion, to be further implemented into the other steps of the 6SQuiD framework.

### Step 1 – Define and understand the problem and its causes

The first step of the 6SQuiD framework, is to define and understand the problem and its causes. In the introduction, the problem is broadly explained. The consequences of these problems are discussed in the chapter below, which is the Life Sciences chapter.

#### Life science research on the consequences of drug use

According to the Cambridge Dictionary (2023), the meaning of the word ‘drug’ is: “Any natural or artificially made chemical that is taken for pleasure, to improve someone’s performance of an activity, or because a person cannot stop using it”. According to Jellinek, who has been the expert in the field of substance use and addiction for over a hundred years, drugs are substances that have an influence on the consciousness and are therefore ingested in a non-medical context (Jellinek, 2020-c).

In the Netherlands, drugs can be classified into three types (Jellinek, 2020-b):

- Downers / narcotic drugs. These include alcohol, sleeping pills and tranquilizers, opium, morphine, heroin and GHB. Hashish is also usually used because of its relaxing effect.
- Uppers / stimulants. These include caffeine, nicotine, MDMA (ecstasy), cocaine, 4-FA, and speed.
- Trippers / perception-altering drugs: drugs that alter sensory perception. Examples include magic mushrooms/truffles, LSD, ketamine and in case of a strong or large amount, hashish and weed.

According to the investigation from Investico in 2021, Central and East-European labor migrants mainly use amphetamines and cocaine (Peek & Muntz, 2021). In the section below, these drugs are described in more detail.

### Cocaine

The first drug that will be discussed, is cocaine. Cocaine (cocaine hydrochloride) is a white crystalline powder that can be sniffed. Cocaine is obtained from the leaves of the coca plant (*Erythroxylon coca*), which grows mainly in South America. The leaves contain 0.1 to 0.9% cocaine. Cocaine is prepared from the leaves of the coca plant through a chemical process (Jellinek, 2022-d). All stimulants increase the activity of monoamine neurotransmitters; dopamine, noradrenaline, and serotonin. Cocaine specifically inhibits the monoamine transport (UNODC, 2023).

### Creation

The preparation of cocaine consists of three steps (Jellinek, 2022-a):

- from coca leaves to bazooka or coca paste,
- from bazooka to basecoke,
- from basecoke to cocaine.

The first step is to make coca paste. To this end, cocaine leaves are first mixed with a solution of sodium carbonate (soda). Next, aviation gasoline (kerosene) is added to the mixture. Then the leaves are crushed. This helps with the release of the cocaine alkaloids. The last step is to drain the water that remained with the leaves. The resulting product consists of gasoline with the cocaine alkaloids. The next step is to separate the cocaine alkaloids from the gasoline. An aqueous acid and sodium carbonate are added to create a solid mass. After draining the water, the residue is filtered and dried. This product is called coca paste or 'bazooka'.

Then, the bazooka is turned into 'basecoke'. This production step consists of 5 underlying steps:

- The bazooka is mixed with water and with sulfuric acid or hydrochloric acid.
- Then, potassium permanganate is added. This ensures that unwanted alkaloids from the plant are separated from the desired alkaloids.
- The mixture is left to stand for about 6 hours.
- Now, the solution can be filtered. Next, water and ammonia are added. A new precipitate is now forming.
- The water with the unwanted alkaloids is drained. The precipitate with the desired alkaloids is dried with hot lamps. This product is called base coke.

The last step is to create useable cocaine (read: sniffable) from the basecoke. For this step, another set of chemicals need to be used. The last steps are:

- A liquid containing acetone or ether is mixed with the basecoke. The liquid is filtered.

- Then hydrochloric acid is added. A precipitate now forms in the liquid.
- The residual liquid consisting of acetone or ether is removed.
- The precipitate is then dried under hot lamps or in microwave ovens. The product that is created in this way is sniffable cocaine (snort coke).

#### Desired effects

After taking cocaine, users feel happier and alert. Next to this, there are sensations of increased energy level and disappearance of fatigue. Users also report a feeling of being able to think quicker and more clearly. The user experiences more self-confidence and is talking a lot more. The stamina of the user is increased (Jellinek, 2022-d).

#### Undesired effects

Next to the desired effects of cocaine, there are also undesired effects. Cocaine is a short-acting stimulant, which can be used several times in a row. Users can develop a tolerance to the desired effects of cocaine, which will lead to taking higher doses more frequently. This leads to addiction (UNODC, 2023).

The use of cocaine can lead to serious harm to a person. With repeated use of cocaine, the development of addiction is a major problem, with both medical, psychological, and social negative consequences. Next to this, cocaine use can have acute effects. In a period from 1999-2011, Trimbos-institute released data on hospital admissions due to emergencies related to cocaine use. This data shows an increasing trend (European Monitoring Centre, 2014). Data from the National Drug Monitoring in the Netherlands shows again an increase in the period from 2015-2018 (Trimbos, 2023). What is important to notice in this data, is that in most of the cases, cocaine use is a secondary diagnosis. Symptoms that are seen in cocaine-related cases are agitation, anxiety, aggression, and seizures. Hyperthermia is also seen, which can be a life-threatening complication. Psychiatric symptoms such as suicidal thoughts and psychosis are also observed, as well as cardiac effects such as tachycardia, hypertension, arrhythmias, and chest pain. Chronic cocaine use has been associated with an increased risk of coronary artery disease, cardiomyopathy, and strokes (European Monitoring Centre for Drugs and Drug Addiction., 2014). Some European countries even report significant numbers of cocaine-related deaths. Many deaths go unreported, but according to the EMCDDA, the overall cocaine-related mortality is underestimated (European Monitoring Centre for Drugs and Drug Addiction., 2014).

Besides the symptoms directly caused by cocaine, it is also important to remember that cocaine that is sold is most of the time not pure cocaine. Mixing with other substances is common, with the aim to increase profit. There are also health risks to these other mixing substances. One of the substances that is used often is levamisole, which is a dewormer. Side-effects of levamisole are a reduced resistance to diseases, in particular infections. Another substance is phenacetine, which was used as a painkiller. This substance is very bad for the kidneys. The last substance that is often used is caffeine. Caffeine can cause palpitations (Michalik, 2023). Next to deliberate mixing with other compounds, residues of chemicals used during the production process can be present. Because of these possible contaminants and their negative health effects, it is important to inform cocaine users well about what they use. It is also important to monitor the cocaine market, so that experts know what mixing substances are used in cocaine, or if there are any other new toxic substances that they need to warn users about.

#### Amphetamines

The other drug that is said to be seen in the labor migrant group are amphetamine and related compounds, also known as speed. Amphetamines are chemically synthesized in a laboratory. In the

brain, amphetamines interact with the neurotransmitters norepinephrine and dopamine. Neurotransmitters are substances in the brain that transmit signals between the nerves (Jellinek, 2022-c). Amphetamines increase the release of monoamines and reverse transport (UNODC, 2023).

#### Creation

For the creation of amphetamine, there are 9 steps involved (NH drugsalert, n.d.):

1. First cooking step: Benzyl Methyl Ketone, formamide and formic acid are boiled;
2. These products are washed and separated;
3. Second cooking step: the intermediate product is boiled with caustic soda;
4. The products are separated with a funnel;
5. The products are distilled;
6. Crystallization takes place with the use of methanol and sulphuric acid;
7. The products are filtered;
8. The remaining product is amphetamine. This can be kept in powder form, but can also be made into pills.

#### Desired effects

Amphetamines give extra energy and counteract fatigue, which can be explained by the stimulant effect on the neurotransmitters adrenaline and dopamine. This induces a state of overstimulation of the sympathetic component of the autonomous nervous system. As a consequence, it primes the body for a "fight or flight" response. The alveoli dilate, blood flow to the pulse and pulse increases, the pupils dilate, and the level of glucose in the blood rises. The user feels alert and excited. The dopamine makes users active, happy, and confident. Users talk more easily and fluently (Jellinek, 2022-c).

#### Undesired effects

Next to these desired effects, there are also a lot of undesired effects. These effects mainly show up at a higher dose or frequent use. These undesired effects are (drugsinfoteam, n.d.): Grinding with the jaws (grinding teeth), cramps in muscles, being aggressive, paranoia (at higher doses), palpitations, abdominal pain and headache, dizziness, sweating, little appetite, no sleep and with regular use: bad skin (pimples), exhaustion, overheating and depressive complaints.

Long term risks are Brain damage, depression, psychosis (with high dose and/or frequent use), damage to teeth, damage to nose, impotence, decreased menstruation and weight loss.

The level of complaints is different for every person. Someone who is sensitive for mental health problems, is more likely to experience psychosis with the use of speed. In addition, speed is risky for people with heart and blood vessel problems. Because speed suppresses your tiredness and appetite, you can exhaust yourself and overload yourself, which is an attack on someone's body and therefore someone's health. Life-threatening situations can arise at high doses or when used too often (drugsinfoteam, n.d.).

#### Results of the interviews

The interviews were held to discover the attitudes of labor migrants towards drug use and the possible factors that have an influence on this. The interviews are coded to check for different attitudes and factors. In this result section, the themes will be described, supported with information that the labor migrants provided in the interviews.

### Advance organizer

There are several themes found while coding the interviews. In this advance organizer, the meaning of the most important themes in relation to drug-checking behavior are explained, so that the further analysis of the results is easier to follow.

The first theme discussed is 'knowledge on drug-checking'. This theme describes the amount of knowledge that labor migrants have on drug-checking. This theme is associated with the theme 'attitude towards drug-checking', in which the different attitudes of labor migrants are described. These two themes consist of factors that are important in influencing the drug-checking behavior of labor migrants. With knowledge and a positive attitude towards drug-checking, the assumption is that more labor migrants will check their drugs.

Next, the two themes 'knowledge on drug information' and 'attitude towards drug information' are described. Both of these themes have an influence on the drug-checking behavior, because when a labor migrant has no knowledge on where to find information about drugs, the chances are low that they are able to find information about the drug-checking services in the Netherlands. If they have a negative attitude towards drug information, and they believe that information is unnecessary, this also decreases the chance of drug-checking behavior.

'Risk perception' and 'the knowledge on contaminated drugs' are two more themes, that can have an influence on the drug-checking behavior. When labor migrants see no risk in drug-use, it can be assumed that they also don't care on whether the drugs they take is safe or not, which will result in no drug-checking. The same goes for their knowledge on contaminated drugs. If labor migrants have no knowledge on the fact that contaminated drugs are harmful, the chances of them checking their drugs are low.

The last factor that is of importance to change the drug-checking behavior, is the theme 'problems in work space'. In this theme, there are two different sides to the story: that of the labor migrant and that of the employment agencies. It seems that the differences in the view on drug use and providing information leads to a conflict. It is important to sort this conflict out, in order to influence the drug-checking behavior.

### Knowledge on drug checking

To figure out how to influence the drug-checking behavior of labor migrants, it is important to find out whether or not they have knowledge on the Dutch drug-checking services. The result to these questions is that they all never checked their drugs themselves or know someone who did, and eight out of nine interviewees have never heard about drug-checking. One interviewee stated that they saw something about drug-checking on a billboard in Amsterdam. This is, however, unlikely, since DIMS is not allowed to advertise their drug-checking services. So therefore, this answer will not be included in the 6SQuID analysis.

### Attitudes towards drug checking

Answers that the labor migrants provided went two ways; the first attitude seen is that they don't really care about drug-checking. One person doesn't know how to feel about drug-checking, one person doesn't know how necessary it is, and one person does not have an opinion. The other six labor migrants had a positive attitude towards drug-checking, in which they think drug-checking can help lower harm, avoid health risks and it may discourage people from using drugs.

### Knowledge on drug information

A factor that is also important for drug-checking behavior, is the knowledge on where to get information about drugs. If people know where to get information, it might be easier to inform them

about the drug-checking services. Five labor migrants have no idea on where to get information about drugs and drug use. Three people mention that they will search it on the internet. One of these people also mentions that you can get information at school or in the news. The last labor migrant mentions that you can get information in smart shops. These are some general ideas on where to find your information, but no specific websites, news pages or other sources are mentioned.

#### Attitude towards drug information

As we have seen, people have some information on drugs and drug use, but this information is rather general. Therefore, it is important to know their attitude towards drug information. This helps to conclude whether labor migrants find this information useful or not, which can have an effect on the drug-checking behavior. The results show that two out of nine labor migrants have no opinion on this topic. The other seven labor migrants do think that there should be more information provided towards labor migrants, so therefore they have a positive attitude. This is good, because this is an important factor that can change the behavior of drug-checking.

#### Knowledge on contaminated drugs & risk perception

A factor that also could influence the drug-checking behavior, is risk perception and the knowledge of labor migrants on contaminated drugs. If their risk perception is low, it is also unlikely that they feel the need to check their drugs. When looking at the risk perception, labor migrants are all aware of the risks of taking drugs. Possible risks that they can name are mental problems, lung problems, damage to the organs, aggressive behavior, loss of teeth and addiction. When looking at the knowledge of contaminated drugs, there is a 50/50 division. Three labor migrants have no knowledge on contaminated drugs, the rest has heard about it or seen it on the television. One person mentions health risks of contaminated drugs, but overall, the knowledge is low.

#### Attitude towards the Dutch government

In this research, an assumption has been made about the attitude of labor migrants towards the Dutch government. Since drugs are prohibited in East- and Central European countries, and there are harsh punishments on drug use, the assumption is that labor migrants have no trust in providing drugs to check the quality, when this is in 'hands' of the Dutch government. They might fear that they also will get punished in the Netherlands. The results show that five of the labor migrants are somewhat positive, somewhat negative. They do trust the government in some things, and do not trust the government in some other things. There is one migrant that states that they trust the government, one migrant states that they don't trust any government, and one migrant does not have an opinion. This shows that the attitude towards the government is not a factor that will lead to a big change in drug-checking behavior.

#### Problems in work space

Another theme that was created, is problems in work space. This theme only came up in one interview, but it appears to be quite a large topic of interest that could have an influence on the drug-checking behavior of labor migrants. Therefore, this theme is considered important. Based on this information, another interview has been held with a worker from an employment agency, to hear both stories. The first story is from the labor migrant. This person provided information about how they feel employment agencies are one of the main causes of why labor migrants use drugs while working. This person describes that employment agencies put too much work force on labor migrants, with targets that are too high to complete without the use of drugs. The migrant also describes that employment agencies do not care about the health of their workers. 'They only see money', is what the labor migrant states. However, when speaking to the worker of an employment agency, the story is different. This person mentions that it is unfair of labor migrants to say that employment agencies are the culprit of drug use among this group. Employment agencies do not set

the targets, the companies that hire through the employment agencies do. For this research, it is also good to know the willingness of employment agencies on providing information. Therefore, the question 'Would employment agencies be willing to provide information about drugs towards labor migrants?'. The answer to that is ambiguous. The employee stated that they do provide information about for example health care insurances (which is obligatory) and they could provide information if a labor migrant is asking about it. From this information, it can be stated that the willingness to provide information about drug use in advance of asking is not so big. These results show that there are two sides of this story and it also shows that it could be a great factor leading to drug-checking behavior change.

#### How to improve communication

The last theme is a theme in which it becomes clear how labor migrants think that the communication about drug-checking services could be improved. It is important to have their insights on this topic since they know how to be reached best. The labor migrants have provided several answers. Examples of these answers are employment agencies, social media, doctor's office, and specific websites/applications. Employment agencies and social media are the two factors that are mentioned the most, namely in five answers.

## Discussion

In this discussion, the steps from the 6SQuiD framework will be followed, to gather insights in how the results of the interviews can be combined with theory, in order to gain knowledge on how to improve the drug-checking services in the Netherlands.

### Step 2 - Clarify which causal or contextual factors are malleable and have greatest scope for change

this chapter, the different themes that came up in the result section are described, with an explanation on why they are malleable and have the greatest scope for change.

#### Knowledge on drug checking

The first factor is a causal factor. When there is no knowledge on the existence of DIMS, it is logical that people also do not test their drugs, which makes knowledge on drug checking a causal factor. This factor can make a change in the number of people who will check their drugs. In the interviews, it became clear that from the nine interviewees, only one person knew about the availability of drug checking in the Netherlands. However, this person stated that he/she saw a billboard in Amsterdam about drug checking. When I spoke to two employees from Trimbos, they stated that this is impossible because it is forbidden for DIMS to advertise their services. Therefore, the answer of this labor migrant will be seen as unreliable. This factor has a great scope for change because knowledge on the existence of DIMS is something that can be easily gained.

#### Knowledge on drug information

The second factor is knowledge on drug information. From the nine interviewed people, three state that they would find information on drugs on the internet, and one has named smart shops. That means that five people have no idea where to get information about drugs and drug use. To improve the general knowledge of people, in which it is important to make sure they know how to use drugs 'safely' and know what to do when things go wrong, this factor is an important malleable factor.

#### Knowledge on contaminated drugs

A third factor is also a causal factor. This factor is the knowledge on contaminated drugs, which is an important factor to change the amount of drug checking. Contaminated drugs are of high-risk for



health, so it is therefore important for someone to have knowledge on contaminated drugs and the risks of these drugs. With this knowledge, it might be easier for someone to detect a harmful drug, or keep in mind the dangers of drug use. This can stimulate people to go to have their drugs tested. From the nine interviewed labor migrants, six people state that they have heard about contaminated drugs, but they don't know much more about it. Three people did not know anything about contaminated drugs. The reason that this factor is malleable, is because when more knowledge on the dangers of contaminated drugs is provided, it is expected that more people will test their drugs.

#### Risk perception

The fourth factor is a contextual factor. This factor is called the risk perception. This factor is important to change drug use and the amount of drug checking. Overall, the interviewees had some risk perception considering the use of drugs. However, this risk perception seemed rather superficial. As an example, three out of nine interviewees describe 'addiction' as a risk. Four labor migrants describe some health problems such as organ failure, mental problems and losing teeth. Their answers describe that there is a common knowledge on the effects of drugs, in which they see a general risk of drug use. Out of the nine interviewees, five are unable to name real health risks, apart from it being addictive. Therefore, the risk perception of people has a great scope for change in drug checking and health care.

#### Problems in work space

A fifth malleable factor is problems in work space. To quote 'Albonista' again: "When I worked in a warehouse in the Netherlands, many Poles flew on feta, because the targets skyrocketed so much..." (Peek & Muntz, 2021). From the nine interviewees, there was only one person who also works in a warehouse. The interview with this person was quite intense because this person was very open about her opinion on employment agencies. Her comments were the same as what was written on the Polish forum. She states that there is a very high work pressure, where you have a contract for 38-42 hours a week, but in reality, you work 50-60 hours with only one 30-minute break. Next, she states that 'the road to addiction starts from the agencies. They don't care about the health of their employees; 'they only care about money'. She also states that her boyfriend was taking drugs while working, and that his team leaders knew about this, but did nothing against it.

To figure out what the opinion of the employment agencies is about all these statements, over fifteen employment agencies were contacted. There was only one person who contacted me back, so I have asked him some questions. I first asked what his thoughts were about the statements that she made, to which he replied that it is very unfair to claim that employment agencies are the instigator of drug use among labor migrants. He states that a person himself or herself is responsible for their own health, but that employment agencies would never set someone to take drugs. Next to that, he thinks that some people are not used to make a lot of hours, 5 days in a week, and that it is easier for these types of people to take drugs. When I asked about the statements on high work pressure, he claims these statements as false, because it is not the employment agencies that set the targets, but the employer which hires people through the employment agencies.

This information and these two different views on the problem has a great scope for changing the drug-checking behavior. At this point, neither of the groups take responsibility for either drug use behavior, or the behavior of "promoting" drug-use. To improve the drug-checking behavior, both groups should be informed about this situation, to gain knowledge on how to cope with each other in regard of drug use.

### Factors that are not malleable

An assumption was made during this research, that there might be some distrust in the Dutch government. In countries from East- and Central Europe, drug use is strictly forbidden, and you will get a high punishment when you get caught with drugs. Therefore, the assumption was made that there also might be distrust in DIMS / the Dutch government, in which people will not test their drugs, simply because they are afraid to get caught. The possibility exists that when people don't have knowledge on the Dutch drug-laws, that they assume it will be the same as in their country of origin. When the question was asked "Do you trust the Dutch government?", there was only one out of nine people that gave a hard 'no'. The rest of the interviewees either trusts the government, or they are a bit in between. This still could influence the behavior of people to go test their drugs, but this factor is not malleable, because it is very difficult to just make someone trust the government. Since there is not a lot of distrust, this factor will not be considered as a factor that can help change the drug-checking behavior of labor migrants.

A different factor that might have influence on the knowledge of people on drug information and drug testing, is the number of years that they are in the Netherlands. In this research, some interviewees are here for more than 10 years, but some also for only a year. However, this data shows no difference in the general knowledge on drugs in the Netherlands. Therefore, within this group, time in the Netherlands is not an important factor that could influence someone's behavior.

### Step 3 - The change mechanism

The most promising modifiable causal factors are now clear, so the next step is to figure out how to achieve the change that is needed to improve the amount of knowledge on the topic of drugs, and how to address the work space situation. The behavioral change wheel of Michie (2011) will be used to determine in what categories these factors fit, to find the sources of behavior.

The first modifiable factor is the knowledge on drug checking. To bring change into this factor, it is important to provide information to the labor migrants, in order for them to gain more knowledge on the topic. The change mechanism would be: "Providing information on drug checking towards labor migrants". The same change mechanism exists for the factors 'Knowledge on drug information' and 'Knowledge on drug contamination'. For both factors, the amount of knowledge needs to be increased. So, for these factors, 'Providing information to increase knowledge' is the change mechanism.

Another factor that can be changed, is the risk perception of labor migrants. This research has shown that the risk perception about drugs and contaminated drugs is rather superficial, with some overall knowledge but no real risk perception. Therefore, the risk perception needs to be increased to warn people about the use of drugs and to warn people about contaminated drugs. In order to do this, more information needs to be provided on the risks of drugs and contaminated drugs. Therefore, the change mechanism is as followed: "Provide information about the risks of drugs and contaminated drugs".

The last factor that is malleable is 'Problems in work space'. In this research, it became clear that there are two views on the problem of drug use in the work space, and who should be responsible for that. The first view is from labor migrants, stating that employment agencies are the source of drug use in the working space. According to the employment agencies, this is false, stating that it is either the company's fault, that hire people through the agencies who set the high targets, or that it is the responsibility of labor migrants themselves, for instance for being not capable of working 8 hours, 5 times a week. Something has to change in this topic, because this ambiguity between two groups can be problematic for the improvement of the harm reduction program in the Netherlands.

The change mechanism that fits for this factor, is: “Improve the communication between labor migrants and employment agencies”, so that these groups can understand each other better and provide more help and trust towards each other.

#### Step 4 - Identify how to deliver the change mechanisms

The last step is to identify how to deliver the change mechanisms that we came up with in the section above. There are a total of three change mechanisms discovered, that can help with the improvement of the amount of labor migrants testing their drugs, and therefore the overall harm reduction program. To identify how these change mechanisms best can be delivered, the Behavior change wheel of Michie (2011) will be used. To apply the Behavioral Change Wheel of Michie (2011), we first need to describe the sources of behavior. The wheel of Michie describes six types for sources of behavior, which are categorized in three groups:

- Capability, which exists of physical and psychological behaviors
- Opportunity, which exists of social and physical behaviors
- Motivation, which exists of automatic and reflective behaviors

The first behavior that is important, is the behavior of drug checking. None of the labor migrants have tested their drugs or know people that have tested their drugs. This is an important behavior to change, since more drug checking will lead to a better functioning harm reduction program. When combining this information with the information on knowledge about drug checking, drug information and contaminated drugs, it turns out that the labor migrants interviewed for this study had little to no knowledge on these factors. These factors are factors that are easily malleable and should therefore be considered in finding the source of the behavior of drug checking. For these reasons, drug checking fits in the ‘Opportunity’ category, because without knowledge on the existence of DIMS, it is impossible for them to test their drugs. This knowledge can be seen as social behavior because DIMS is not allowed to advertise about their services, so knowledge is spread word-of-mouth.

A different behavior that was found during the interviews, is the behavior that is happening in work space. An interviewee provided information about the working atmosphere in distribution centers, which matches the information that was found in the research of Peek & Muntz (2021). They both state that the work force is too high, and that drugs are being used to be able to keep up with the high targets. The interviewee stated that this high work force is created by the employment agencies. One worker from an employment agency has stated that their workers do not use drugs during working hours, and also that they don’t create the targets. When asked about if employment agencies would be willing to provide information on drugs testing, the employee stated that if a labor migrant asks for information, they will provide it, but the employee feels like information about drug testing and overall information should come from the municipality the labor migrant lives in. This information shows a clear distribution of views on this topic. However, since this labor migrant is not the only person who stated her concerns, something in the behavior of employment agencies, or even the employers that hire from the employment agencies, should be changed.

It is, however, difficult to determine in which category this behavior exists, since it is unclear what specific behavior should be changed. There are two sides to this story, which is why two sources of behavior are determined. The first source of behavior is the behavior with the labor migrant viewpoint, in which employment agencies are ‘guilty’ of creating high work pressure, which leads into an increase of drug-use. This behavior fits into the ‘Motivation’ section because the setting of high work targets is a reflective process since they have to determine the working hours etcetera. From the employment agency point-of-view, they seem to not feel motivated to help their

employees, and only provide the necessary care information. Extra information should be provided somewhere else. That is why this behavior also fits into the 'Motivation' section. However, the behavior can also fit into the 'Opportunity' section, because if more employment agencies want to provide more information, it can lead to a social behavior. This is why it is important to keep both sources of behavior into consideration.

Now that the sources of behavior are clear, the intervention functions can be described. The wheel of Michie (2011) shows several intervention functions for each different source of behavior. The first behavior discussed is the behavior of drugs checking. This behavior is an opportunity behavior. According to the wheel of Michie (2011), there are three intervention functions that might fit: education, persuasion and incentivization. Looking at the case, education would be the most useful intervention function to use to change the drug-checking behavior of labor migrants. Education is a good intervention function considering the change mechanism of providing more information towards labor migrants. Incentivization and persuasion could also be useful but should be handled with care. Incentives could be used to persuade someone to go check their drugs, with this is a sensitive topic because the government does not want to reward people for using drugs.

The other behavior that can help change the amount of labor migrants testing their drugs and improve the harm reduction program, is the behavior that is happening in the work space. Since it is difficult to see in what exact source of behavior this behavior is, two sources will be discussed. The first is 'opportunity' and the second is 'motivation'.

When looking at 'opportunity', the same intervention functions exist as for the behavior of drug-checking. These are education, persuasion and incentivization. To change the behavior that exists in the work space, persuasion and incentivization are difficult intervention functions to use, because employment agencies and workers have the right to perform their work as they want. You can't persuade them or use incentives to change their behavior, without providing information on why they should change their behavior. So, when looking at 'opportunity', education is the most useful intervention function.

When looking at 'motivation', there are three different intervention functions. These are enablement, training, and coercion. Coercion will not be useful in this situation, because you cannot force employment agencies to change their behavior. They have to change this themselves if they want to. Enablement and training could be useful intervention functions in this situation, because with the right training on how to best work together with their employees (labor migrants), it will enable them to change their behavior into a behavior that works for both the employment agency as for the labor migrants. This is also in accordance with the change mechanism of improving the communication between employment agencies and labor migrants.

Now that we know what intervention functions will be fit to change these two behaviors, we can describe the policy categories, which will be important for the government to deliver the change mechanisms. For the first behavior of drug-checking, education is the most fit intervention function. Education can be delivered by the government through environmental/social planning. This means that the government should organize meetings with for example professionals and labor migrants, to inform labor migrants on drug-checking and information on drugs. The same goes for employment agencies, they also should be educated on high work force and what this does to labor migrants. This can either be done through education or through training, depending on whether their behavior is 'opportunity' or 'motivation' based.

In conclusion, it is important for the government and the employees of DIMS to create an educational set-up for labor migrants, and a training combined with education for employment

agencies, to tackle the two most important behaviors that have an influence on the amount of labor migrants checking their drugs. Only this way, the drug-checking innovation can be enhanced towards East- and Central European labor migrants.

### Recommendations to reach more labor migrants

Some suggestions that I have come up with when talking to two workers of Trimbos, are: providing information about drug use at the GP, for instance through posters in the waiting rooms. A different option to provide more information, is to translate the websites of DIMS and Trimbos in East- and Central European languages, to reach more people. Another way of providing information could be for instance when a labor migrant registers in a municipality, that they get a sort of bundle with different flyers with important information about the Netherlands. Think about general health care, health insurance, but also self-help about quitting drugs and drug information. A last way that could be a possibility to provide more information, and directly improve the communication, is through employment agencies. However, in this research it turned out that employment agencies are a bit skeptic and hesitant about this topic, as they feel like this is not something they have to provide to their employees. Still, I think that with the right education and training (according to the wheel of Michie (2011)), employment agencies could benefit from providing their employees with information. It can help with communication, improve mutual understanding and overall perception of feeling that the labor migrants are cared for.

### Strengths & limitations

This research has been difficult to perform without any bias. From the total of 375.400 labor migrants in the Netherlands (2019), nine labor migrants were available to be interviewed. It was difficult to reach labor migrants, and their willingness to participate was low. Therefore, there is a possibility in which the outcome of this research would have been different with more participants. For example, none of the labor migrants had knowledge on drugs checking, but also none of them were 'heavy' drug users. There is a chance that if the group of interviewees was different, that more people knew about drug-checking services, leading to different results.

The fact that this group of interviewees is too little to draw general conclusions, also becomes visible in the fact that according to Trimbos (2022), a rising number of labor migrants is seen at other drug-services, but this growth is not seen among the interviewees. There is, however, a possibility that because this group is mostly non-drug users, that this data provides a distorted picture of the magnitude of the problem.

However, when meeting with organizations like Trimbos and Mainline, they stated that they do not have vision on the labor migrant group at all. Therefore, I am happy that still nine labor migrants were willing to be interviewed, so that this research still can show some insights in the problem.

What was even more difficult, was reaching employment agencies. There was only one person who I got to talk to, so the conclusion of this research can not be generalized for the whole employment agency population.

### Recommendations for future studies

The limitations of this study show that the study sample is too little to be able to draw general conclusions. Therefore, if the government wants to improve the drug-checking services to be more focused on labor migrants, this study should be performed again with a larger data set. Only that way, a general conclusion for the whole population of East and Central labor migrants can be given. There also should be more research on employment agencies and the work force for labor migrants,

in order to find out whether labor migrants or employment agencies have the greatest role in drug use during work.

More research is also needed to see how big the increase of drug use among labor migrants is. As stated by Trimbos, there is a rising number of labor migrants in the other harm-reduction services, but it is unknown how many labor migrants go to DIMS. Only with more research, the magnitude of the problem becomes visible. In this research, some signs were seen on the problem, but it is difficult to provide a general conclusion.

A different concern is that it is not allowed to advertise drug-checking services/DIMS to the Dutch citizens. Labor migrants is a group that is difficult to reach, and also for me, the only option was through social media. This is also what most labor migrants provided as an option to reach them better. However, the government can not create a social media account for DIMS, because this will lead to questions from the House of Representatives about promoting drug use. More information and education are important for the labor migrants, but there are limitations in how to reach them. Therefore, I would suggest that the employees that work for DIMS have a meeting on what opportunities do exist to communicate more about DIMS. A lawyer should also be attending this meeting, to see what can be done and what is forbidden in the law.

## Conclusion

The purpose of this research was to figure out how the Dutch drug-checking services can best be enhanced and delivered to Central- and East European labor migrants, such that their willingness and opportunity to use drug-checking services is maximized. There are several different malleable factors that can influence behavior change. These factors are knowledge on drug-checking, general knowledge on drugs and knowledge on contaminated drugs. Other factors were risk perception and problems in the work space. These factors lead to two different behaviors that can be changed. These behaviors are the behavior of drug-checking, and the behavior of employment agencies towards labor migrants.

To change these behaviors, in order for labor migrants to go check their drugs, change mechanisms have been determined. The change mechanisms for the behavior of drug-checking, is providing more information towards labor migrants about drugs. The change mechanism to change the behavior of employment agencies, is about improving the communication between employment agencies and labor migrants.

To figure out how to deliver these change mechanisms, the behavioral change wheel of Michie (2012) has been used. This wheel describes the sources of behavior, intervention functions and policy categories, in order to find out how a change mechanism is best delivered. The behavior of labor migrants visiting drug-checking services, is an 'opportunity' behavior. The intervention function that is most suitable for this behavior in this situation, is education. To deliver this education, the government should create a policy of environmental/social planning, in which experts go talk to labor migrants, in order to provide them information about the topic drugs. This will help with the improvement of the number of labor migrants visiting drug-checking services.

The behavior of employment agencies, in case of putting too much work force on labor migrants, fits in the 'motivation' source of behavior. The intervention function that fits best for this behavior, is training. The policy category that is most fit, is service provision. In this case, the government provides training to employment agencies (and so provides a service), in which employment agencies can learn to better communicate with labor migrants. In the point of view from labor migrants, this can create a better working atmosphere, in which less drugs will be used.

From the point of view of the employment agencies, the sources of behavior can either be 'motivation', since employment agencies seem to not be motivated to help labor migrants, or 'opportunity', because 'opportunity' because this behavior can also be a social behavior that exists between agencies. Therefore, it is either important for the government to provide training, or education, to change this behavior and create more communication between employment agencies and labor migrants. This can help with a mutual feeling of understanding, in which more help towards each other can exist. This can lead to more information providing, which can lead to a better risk perception on drug use and so a greater amount of labor migrants checking their drugs.

In conclusion, it is for the government and the employees of DIMS important to create an educational set-up for labor migrants, and a training combined with education for employment agencies, to tackle the two most important behavior's that have an influence on the amount of labor migrants checking their drugs.

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