SUPMAP

SUMMARY AND RECOMMENDATIONS

The illegal drug supply in Belgium: What do we know? A feasibility study of reliable indicators for the drug supply

Valérie Smet
Brice De Ruyver
Charlotte Colman
Tim Surmont
Lieven Pauwels
Tom Vander Beken

Table of contents

1. Context

This document provides an extensive summary of the SUPMAP study. The study was financed by Federal Science Policy and the Federal Service of Public Health (BELSPO). *The study was managed by Prof. Dr. Brice De Ruyver (coordinator), Prof. Dr. Tom Vander Beken en Prof. Dr. Lieven Pauwels (promotors). The goal of this summary is to provide an overview of the most important conclusions of the scientific research, with a focus on its recommendations. The full research was published: Smet, V., De Ruyver, B., Colman, C., Surmont, T., Pauwels, L. & Vander Beken, T. (2013). Het aanbod van illegale drugs in België: wat weten we? Een haalbaarheidsstudie van betrouwbare indicatoren voor het drugsaanbod. Academia Press, Gent.*

At the European level (EMCDDA), so far various **demand** indicators have been developed (EMCDDA, 2012b). Up till now, indicators concerning the **supply** have been studied considerably less (Kilmer & Hoorens, 2010). Scientific literature offering a complete and reliable overview of the supply chain in Belgium remains limited (Fijnaut & De Ruyver, 2008; De Ruyver & Surmont, 2007; Decorte & Tuteleers, 2007). Therefore, it is necessary to confront international literature and scientific findings about the drug markets with the Belgian reality, as well as verify which reliable indicators can be identified for the Belgian drug markets. Currently a similar exercise takes place at the EMCDDA level. The SUPMAP research can be regarded as a feasibility study for monitoring the drug markets in a European Member State.

2. Objectives

The SUPMAP research has four major research objectives:

1. Describing the indicators which can generate relevant data concerning the supply of the drug phenomenon:
    - their finality
    - what do they measure/what do they not measure
    - criteria for use in monitoring
    - additional information for indicators

2. An inventory of the possible sources and actors which can generate data for the foundation of the developed indicators, mapping the willingness of the providers to collect and provide these data, as well as their appreciation of the use of indicators
3. An evaluation of the (level of) availability of data in Belgium
4. Recommendations and contexts for a correct interpretation of the developed indicators

3. Content of the research

The focus of the SUPMAP research lies on **four classical illegal drug markets**: heroin, cocaine, ATS (amphetamines/XTC) and cannabis. We discuss the different segments of the drug market, in casu the division between the **echelons** production, wholesale, middle market and retail (Dorn, Murji & South, 1992). Regarding the production of cannabis, this research only applies to professional production, *social supply* is not treated.[1]

The study consists of **two parts**:

The first part concerns the survey of key figures of the law enforcement community and the main toxicological laboratories. The main objective of this survey is the development of a pragmatic operational model to identify and create feasible indicators for monitoring the Belgian drug market.

The second part of the study is practical and specifically aimed at the registration of drug-related crime which forms an important indicator of the supply (Disley, et al., 2011). For this, the focus lies on the optimal use of the existing registration systems, allowing measurements of the nature and size of drug-related crime on a regular base.

In addendum an analysis of a survey of actors involved in drug trafficking in Belgium, can also be found. This approach was aimed at a bottom-up check of law enforcement community's knowledge of the terrain. During the research however it we found the information for indicators to be rather

[1] Currently a research, commissioned by the Belgian Science Policy Office (BELSPO), is being conducted concerning the cannabis market which includes a survey of the small-scale cannabis-breeders: http://www.belspo.be/belspo/fedra/proj.asp?l=nl&COD=DR/63

limited, causing the focus of the research to shift towards the law enforcement community, as they will be the one's implementing these indicators.

4. Method

A combination of various research methods was used:

- A literature study of (inter)national academic literature and policy documents about drug markets and drug-related crime
- A survey of various key figures (n=77) with knowledge about the Belgian drug market, including the Belgian law enforcement and laboratories
- A survey of people involved in drug trafficking in Belgium (n=10).
- Updating of tools for measuring drug-related crime

5. Prerequisites for the supply indicators

Based on the SUPMAP research four prerequisites which need to be considered when developing supply indicators, can be distinguished:

PREREQUISITES FOR THE INDICATORS

- The indicators need to be adjusted to and feasible for the Belgian law enforcement
- Development of general as well as echelon-specific indicators
- Indicators must contain quantitative as well as qualitative data
- Indicators must be flexible in order to pick up on the changes of the drug market

FIRST CONDITION: Adjusted to and feasible for law enforcement

The law enforcement community forms the first step in the growth process to develop effective indicators. Of course, other instances, apart from law enforcement, must also be inquired for indicators. The data collection needs to be completed with further scientific research and expertise. The SUPMAP research constitutes an important step in the development of a feasible, pragmatic

and operational model, and it fits in with the efforts of the EMCDDA concerning the development of supply indicators. The SUPMAP research can therefore be regarded as a case study for the development of feasible indicators in an average European Member State.

Since the implementation of the indicators will have to be carried out by law enforcement, the most important starting point when developing indicators is to focus on the usefulness and feasibility for the *law enforcement community*. Law enforcement must be convinced that the indicators are useful to them, since this is the most important step towards of a qualitative and adequate registration.

SECOND CONDITION: General + echelon-specific indicators

In addition to the development of general key indicators it is necessary to verify which aspect of the supply chain the identified indicators cover. The supply chain can be divided into multiple parts: drug production (cultivation, manufacturing), wholesale (import/export), middle market level and retail level (Dorn, Murji & South, 1992). When merely focussing on indicators that are generally applicable to the entire supply chain, a significant amount of information is lost. It is important to identify where the important information channels are situated and which groups of the *law enforcement community* dispose of indicators for the different levels of the supply chain (Hughes & Chalmers, 2012). The information position on the specific echelons of the different sectors of the law enforcement community varies. For example, the Local Police mainly has a view on the retail level, demand and production aspects, the Federal Police on production, import and middle market, and customs on wholesale/import. This is being reflected by the indicators that are presented by the law enforcement. Compiling this information allows to bring the fragmented knowledge of the law enforcement community to a higher level. It furthermore helps to contextualize this knowledge in terms of the international and dynamic feature of the drug markets. Interviews with key figures prove a relatively high number of indicators can be identified for the retail and production echelon, significantly less indicators were encountered when it comes to wholesale and middle market echelons.

THIRD CONDITION: Quantitative and qualitative indicators

The inquired law enforcers consider indicators mainly as information sources and canals. The importance is assessed by the specific aspects these sources can provide information on. The most important elements, in this area, are information concerning actors, modus operandi and locations. Figures such as the number of offence reports, seizures, etc., that are relevant from a national and international perspective (Ritter, 2006; Thomas et al., 2012), do not or only insufficiently grant the law enforcement insight into drug markets to enable them to act proactively. As it appears, to (proactively) monitor the supply and potential changes in, it is especially **soft information that is** being used as an indicator (information reports or RIR's[2], telephone taps, etc.). Given the crucial role of this type of information for the law enforcement, soft information therefore must be integrated in the yet to be developed monitoring system. The most important advantages of soft information are:

- it provides information on **actors, modus operandi and locations** (<-> seizures)
- **it is a tool to check seizures** with the information about the actual market supply (e.g. which products are available or are scarce)
- it contains information that could not be confirmed (seizure/arrest no longer possible, but prove that something is going on, e.g. cargo that had already been removed)
- it monitors **the effects of seizures** and arrests on offer and demand

Good practice: The AIK[3] Bruges saves soft information per drug type and presents it graphically in their info magazine '*Drugbrug'*, which is sent to every zone in the district. The magazine links these reports to the locations where the different drug groups should be found.

Various indicators can be distinguished within soft information:

[2] RIR refers to information reports containing so-called soft information.
[3] AIK: Arrondissementeel Informatiekruispunt, an in charge of the processing and analysis of so-called soft information from Local as well as Federal Police.

INDICATORS AND SUB-INDICATORS OF SOFT INFORMATION
▪ Total number of drug-related information reports-RIR's ▪ Evolutions and number of information reports-RIR's/drug types ▪ proportion of the different drug types in the information reports-RIR's (comparison between police zones and districts) ▪ Soft information about one person coming from different sources ▪ Soft information about one location coming from different sources ▪ Number of times a certain name is mentioned in telephone taps ▪ Frequently returning names (the disappearance of a name may indicate actors climbing the ladder of the supply chain) ▪ Frequently returning names of places/locations ▪ Information on the evolution of demand ▪ Information on the evolution of supply

FOURTH CONDITION: Flexible indicators

Successful investigation activities tend to have perverted side effects, as they result in changes of modus operandi. More specific, they generate increased attention being paid to securing and masking illegal activities, as well as *displacement* (also known as the balloon- or waterbedeffect) of these activities towards locations that are less susceptible to detection (Neve & van Ooyen-Houben, 2006; Bouchard, 2007; Spapens, 2011). This phenomenon occurs at every echelon of the supply chain. The developed indicators must be therefore sufficiently flexible in order to catch up with these kind of changes on the drug markets. Due to the importance of the phenomenon *displacement* within the drug markets, the interpretation of the data from police statistics must take place at a European and national level, as well as at an interregional level.

6. Which information do we dispose of? What are good, feasible indicators?

Law enforcement data form the base for monitoring drug markets (Willis, Homel & Anderson, 2011) and need to be completed with scientific research and intelligence.

Two important findings emerged from the interviews. Customs and the Airport Police Service are the only two groups that report consistently using indicators. In addition, the majority of the law enforcement seems to attach little value to existing indicators such as seizures, price and quality.

Through the SUPMAP research, many indicators for the production and retail echelon were identified. Concerning the wholesale and middle level markets the number of indicators is significantly lower. However, there are exceptions: based upon the data of customs, information can be deduced on the level of import. In the field of dealing premises and drug trafficking -a specific aspect of middle-level drug supply- a relatively high number of indicators were identified. Belgian knowledge is fragmented, (especially) concerning the responsible actors of the higher echelons. A link with Holland when it comes to the organization of the echelons of the supply chain was established throughout the interviews. This proves the urge for additional monitoring at European level.

Police and customs data appear to be an important source of information in monitoring Belgian drug supply. They can be completed with data from the Prosecutor Offices, toxicological laboratories, hospitals and drug care treatment centres.

6.1. Indicators that are applicable to every echelon

For a detailed overview of all the identified indicators, sub indicators and additional sources of information we refer to our publication (Smet, De Ruyver, Colman, Surmont, Pauwels & Vander Beken, 2013).

When it comes to data of police, customs, Prosecutor Offices and laboratories, the following indicators that are applicable on the different echelons could be identified:

GENERALLY APPLICABLE INDICATORS

SEIZURES

- number
- drug type
- packaging material
- packaging modality
- quantity: min/max/median/modus
- purchase price
- selling price
- place of the seizure

ARRESTS

- number
- nationality
- domicile
- criminal record
- product/proportion and ratio of products

SOFT INFORMATION

- changes in the number of information reports-RIR's/drug

PROSECUTOR OFFICES

- number of conducted investigations and convictions for production/wholesale/import/export/middle market/retail:
  - drug type and proportion/ratio of drug types
  - nationality and domicile
  - criminal record
  - number of cases qualified with criminal union as aggravating circumstance
- number of drug-related cases organized crime
- number of drug-related criminal profit investigations
- number of drug-related requests for international legal assistance/cooperation:
  - country of origin
  - individuals or organisations
  - outcome

LABORATORIES

- quality (purity + adulterants)

Drug demand and its features may provide information on drug supply (Van Laar, Frijns, Trautman & Lombi, 2013; Frijns & Van Laar, 2013; Trautman & McSweeney, 2013; Kilmer, Taylor, Hunt & McGee, 2013; Caulkins & Kilmer, 2013). The data coming from drug care treatment and hospitals are additional sources of information for monitoring the drug supply.

Drug care treatment can provide information about the products that are available on the market, possible new products, changes in the availability and popularity, locations where drugs are purchased (cfr. social supply, drug tourism, etc.), the number of (problematic) users and the users' treatment demand (Mounteney, Fry, McKeganey & Haugland, 2010; Trautman, Kilmer & Turnbull, 2013). When it comes to hospital information, the following aspects are imperative:

- number of drug-related emergency admissions
- number of drug-related traffic accidents
- number of drug-related deaths

Figures concerning drug-related deaths are forwarded to the WIV[4] and are maintained by the EMCDDA at a European level. However, these data only distinguish between opiate-related and non-opiate-related.

6.2. Indicators for the different echelons of the supply chain

As already indicated in the basic prerequisites for indicators, echelon-specific indicators are required in addition to indicators that apply to drug markets in general. When merely focusing on the indicators that are applicable to the supply chain in its whole, a significant amount of information is lost.

6.2.1. Drug production

Concerning Belgian drug production, the SUPMAP-research is limited to professional cannabis production and ATS (XTC/amphetamines) production. A relatively high number of indicators has been identified in the field of production. The view upon the organisers of the production remains however limited, a clear link with the Netherlands is being established (Boerman, Grapendaal, Nieuwenhuis & Stoffers, 2013). The following two tables provide an overview of the identified indicators for ATS and cannabis production.

[4] Belgian scientific institute for public health.

ATS PRODUCTION

POLICE DATA

- precursors:
  - theft/burglaries (companies using precursors)
  - seizures
- hardware theft
- dismantled sites and laboratories:
  - number
  - location/type of the premises/surroundings
  - production capacity
  - previous production
  - production method
  - hardware
  - signature of the cauldron + material
  - origin of the cauldron
  - level of sophistication (custom-made equipment)
  - machinery set-up
  - type of glassware used
- waste dumping:
  - number of products
  - number of dumping locations
  - type of location
  - type of products
  - size of the flasks
- packaging material/labels
- soft information:
  - suspicious orders of hardware & chemical
  - people approached for hiring out an industrial/other building for an elevated price
  - noise/odour

CUSTOMS

- precursor seizures (origin/destination/label inscriptions)

LABORATORIES

- seals of vacuum machine
- XTC logos
- chemical signature
- mixing profiles of the precursors
- toxicological post-mortems

CANNABIS PRODUCTION

POLICE DATA

- dismantled plantations
  - number
  - production capacity and signs of previous production
  - location
  - level of security
  - signature of the electrician
  - professionalism of the cutting method
  - features of the arrested persons present & front men
- indicators for criminal profit:
  - pollution of carbon filters
  - amount of dust in drying baskets and on machines
- soft information:
  - taped windows
  - new chimneys
  - Dutch license plates near farms/industrial buildings
  - odour
  - sudden activity in previously empty buildings
  - people approached for hiring out an industrial/other building for an elevated price

LABORATORIES

- THC
- evolution in the proportion/ratio of THC/CBD/CBH
- cutting method

When it comes to new psychoactive substances, Belgium appears to be involved in the import of precursors, production and packing, as well as in the internet distribution to both smart shops and individual users (WIV-ISP, 2013; Statement of clarification of the amendment proposal of the Belgian drug law of February 24th, 1921). The actors involved differ from those in classic drug trafficking, it mainly involves opportunistic business men using the loopholes in the law, rather than being part of criminal networks. The recently proposed amendment of the law of February 24th, 1921[5], of which the Council of Ministers approved the preliminary draft of April 26th, 2013, will

[5] The law of the 24th of February 1921 concerning the trafficking of toxics, sedatives and tranquilisers, psychotropic substances, disinfectants and antiseptics as well as substances that are used to illegally produce narcotics and psychotropic substances.

definitely change this. Due to this amendment, the generic classifications for new psychoactive substances will be illegal. Because of this, the substances will already be under control before they reach the Belgian markets. In addition, also preparatory actions, such as (pre-)precursor trafficking, will be an offence.

6.2.2. Wholesale, import and export

Belgium plays a crucial part in international drug trafficking and forms an important transit zone for the European drug import (De Stoop, 2012). The port of Antwerp plays a significant role in Belgium's role as a transit country. Customs do have a good view upon the import. Within the import, Belgium has a clear view on the import of cocaine and hashish. The knowledge about heroine is rather limited, the number of seizures of imported heroine is very low. Export, however, is not being controlled, causing the knowledge on Belgium as a transit country to be fragmented.

Belgian law enforcement's knowledge on wholesale is limited. Wholesale seems to be situated predominantly in the Netherlands. Drugs are imported in Belgium and then taken to the Netherlands for adulteration and distribution (Boerman, Grapendaal, Nieuwhuis & Stoffers, 2013).

WHOLESALE, IMPORT AND EXPORT

CUSTOM AND POLICE DATA

- seizures
- total weight
- comparison seizures on risk flights in other countries
- concealing/smuggling methods
- cocaine stamps
- number of drug couriers caught at airports
- number of Belgian couriers detained abroad
- route:
  - origin/stopover/destination
  - distribution routes
- transportation method
- soft information:
  - cargo already unloaded
  - reports of approaches about employee crime

6.2.3. Middle market echelon

Belgian law enforcement only has a limited and fragmented view upon middle market, as the organizers of this echelon tend to be located in the Netherlands as well as due to the specific feature of cross-border cooperations of different criminal networks, which also is the case for wholesale (Boerman, Grapendaal, Nieuwhuis & Stoffers, 2013). We do however have a good idea of the problems relating to dealing premises and drug runners, which constitute a specific aspect of middle market. The outcomes of the SUPMAP research confirm previous research concerning these problems in the EU-region Meuse/Rhine (De Ruyver & Fijnaut, 2008; Van Wijk & Bremmers, 2011). The number of indicators for middle market remains rather small. Relating to dealing premises and drug tourism a series of indicators were identified. In these premises polydrug distribution takes place, different types of drugs are being sold (although the SUPMAP interviews proved that mostly one drug type is predominant).

A new phenomenon witnessed at the middle market level involves the use of internet forums to supply drugs, to make contact and to arrange purchases. The coordinators of this internet supply seem to be located in the Netherlands and have the drugs delivered in Belgium. This modus operandi applies especially to cannabis and to a lesser extend for ATS as well. A similar modus operandi for other hard drugs was established on the less accessible *dark net* (see Trautman, 2013). Until now, knowledge on the exact features of this new semi-open or closed market is limited.

MIDDLE LEVEL MARKET

POLICE DATA

- transporting method
- drug tourists
  - number
  - nationality
  - drug type
  - quantity
  - location of arrest
  - transportation
  - purchase location
- dealing premises
  - number of premises
  - location (postal code + features of the place)

- features of premises
- product sold/polydrug distribution
- stock size
- number of clients + average purchase quantity
- packaging modalities
- modus operandi and changes within
- features of the dealers
    - nationality
    - criminal record
    - legal/illegal

- features of the drug runners
    - nationality
    - criminal record
    - legal/illegal

6.2.4. Retail echelon

Retail is the aspect of drug markets which has been studied in scientific literature the most (Korf et al., 2005; Massari, 2005; May & Hough, 2004; May, Duffy, Few & Hough 2005; Pearson & Hobbs, 2003; Pearson & Hobbs, 2004; Pearson & Hobbs, 2001; Wilkins & Sweetsur, 2006). Belgian law enforcement has a good view on retail. As a consequence, a lot of indicators for retail were identified. The Local Police knows the problem users and retailers in their area. Furthermore, many of the indicators providing information on demand also constitute an additional source of information concerning retail in the supply chain.

At retail level, all types of drugs are easily accessible in Belgium. A temporary XTC scarcity was established, however recently the market seems to have recovered from it and more recently very high-dosed MDMA was found. The SUPMAP interviews showed that street dealing is most common for heroin. A similar organisation structure as seen for the dealing premises is being applied here, the use of illegals to sell heroin and sometimes cocaine as well. The use of mobile phones in retail has risen (Barendregt, van der Poel & van de Mheen, 2006; van Wijk & Bremmers, 2011), more specifically involving cocaine where a closed market with home-deliveries was established. Knowledge on retail market for synthetic drugs is limited, interviews only indicated that these tend to be mainly linked to the club scene. Most probably this is due to the fact that it concerns a closed

market with informal networks. Effects of the *weed-ID*[6] (that had only just been introduced at the time of the interviews) on the Belgian cannabis retail market could not be identified.

[6] The weed-ID or 'wietpass' was introduced in three southern provinces of the Netherlands in November 2012 in reaction to drug tourism and allowing only residents of the Netherlands who registered themselves to purchase weed in coffeeshops.

RETAIL

POLICE DATA

- selling method
- purchase method buyer
- purchase method seller
- acquisitive crimes
  - number
  - location
- drug-related nuisance
  - number of cases
  - location
- drugs in traffic
  - saliva testing
  - seizures
- drug tourists
  - number
  - nationality
  - drug type
  - quantity
  - location of the arrest
  - transportation method
  - purchase location
- dealing premises
  - number of premises
  - location (postal code + name of the place)
  - features of the premises
  - product sold/multi-selling
  - stock size
  - number of clients + average purchase quantity
  - packaging modalities
  - modus operandi and its changes
  - features of the dealers
    - nationality
    - criminal record
    - legal/illegal
- features of the drug runners
  - nationality
  - criminal record
- legal/illegal soft information
  - potential dealing locations
  - supposed quality
  - availability/accessibility
  - changes in demand

- visible criminal profit
- changes in the number of information reports-RIR's/drug
- foreign license plates (drug tourists)
- a lot of activity + short visits in one place
- drug-related nuisance

7. Key findings of the SUPMAP research

The following key findings resulted from the SUPMAP research:

KEY FINDINGS OF THE SUPMAP RESEARCH
▪ Many indicators for production and retail, a limited amount of indicators for wholesale, import/export and middle market ▪ The importance of indicators concerning demand for monitoring supply ▪ Limited value of seizures and arrests as indicators ▪ Limited value of price and quality as indicators for the Belgian law enforcement ▪ Possibilities to monitor drug-related crime

Key finding 1: Many indicators for production and retail, a limited amount of indicators for wholesale, import/export and middle market

As already pointed out above, the majority of the indicators that have been identified in the SUPMAP research concern retail and production. Although wholesale and middle market constitute the motor of the supply chain, information about it remains limited and significantly less indicators could be identified (with an exception for import and for dealing premises at middle level market). Wholesale and middle market involve cross-border changing joint-ventures of varying criminal networks (changing joint-ventures) (Rubin, Pardal, McGee & Culley, 2013).

The inquired law enforcers indicate a high demand for more knowledge on middle level supply and are frustrated not more means are being provided to investigate this particular level of the drug market. Arresting small dealers or facilitators such as drug collectors has little effect on the drug

supply, their places immediately taken by others controlled by the middle market. On the other hand, the respondents do agree the majority of the organisers of wholesale and middle market is being located in the Netherlands, obstructing detection and chances of investigations that manage to climb higher up the echelons.

Key finding 2: The importance of indicators concerning demand in order to monitor the supply

Offer and demand are inevitably correlated, although these two sides of the drug market often seem to be considered as separate domains at the level of the EMCDDA, as well as in scientific literature. The basic principle is simple: what is being consumed has been supplied at one point. Not only are these two aspects interrelated, the SUPMAP interviews indicated the importance of indicators concerning demand in order to monitor the supply chain, which was also confirmed by recent research (Trautmann, Kilmer & Turnbull, 2013). Local police also want to gain more knowledge on the demand side. It goes without saying that a large part of this information concerns retail, even though certain data also provide insight in the middle market level, and even in the production level. Demand side information provides an overview of the consumed substances, the market supply (which drugs, prices, availability) and patterns of use (poly use). Furthermore, this information may also clarify certain aspects of drug production, such as the availability of new, contaminated substances on the market. Overdoses or other drug-related hospital admissions can result in police investigations. These investigations sometimes reveal dealers, networks and even possible small-scale producers (e.g. speed and GHB).

The most important aspects regarding drug supply, on which demand indicators may offer knowledge, are:

- what does the supply comprise (products + availability)?
- which evolutions exist within the supply?
- how do demand and supply relate to each other (e.g. demand elasticity)?
- where do demand and offer meet (what are the canals for retail and the selling locations)?

Based on the SUPMAP interviews, the following information sources concerning demand that are relevant for the supply side, were identified:

- care centres (drug care treatment in particular)
- hospital information
- laboratory analyses
- population and youth surveys (prevalence of use)
- user forums

One of the major assets of including demand involves the use of this information for a 'reality check' on seizures and the knowledge on drug markets law enforcement already possesses. It can be a tool to check the relation between actual demand, actual offer and seizures. At a local level, the number of known users (and an estimate of the quantity they need) can be compared to the quantity that is being confiscated, the number of known dealers and their turnover, making it possible to identify blind spots and to adjust investigation priorities. Evolutions in the number of known users, and in the moving patterns of members of a group of known users, may indicate changes in supply (*displacement*). Furthermore, changes in problematic use can be a sign of changes in supply (different quality, higher availability, etc.).

Key finding 3: Limited value of seizures and arrests as indicators for the law enforcement

Two reasons make law enforcement attribute little value to data such as seizures and arrests. Firstly, these data do not provide relevant information concerning actors and modus operandi, therefore not allowing pro-active investigations. Second, seizures and arrests are mainly a reflection of (the success of) the investigation policy. These kind of crimes are so-called control offenses, investing more time and resources increases the chance of seizures (Willis, Anderson & Homel, 2011). An increase of the number of seizures for one particular drug type does not automatically mean the demand and/or supply of this drug has increased, nor does a lack of seizures indicate the absence of this particular drug on the market.

Key finding 4: Limited value of price and quality as indicators for the Belgian law enforcement

1. The value of price and quality at a Belgian level

Price, quality and purity-adjusted price were, until recently, the most important indicators to monitor drug markets at European level for the EMCDDA (Kilmer & Hoorens, 2010). The SUPMAP research nuances the usefulness of these indicators considerably. The law enforcers we inquired appear to attach little value to them as these data do not provide them witha lot of insight in the aspects of the drug market of their concern (actors, modus operandi, locations). Law enforcers mainly need indicators that help them to take action proactively.

When it comes to monitoring the drug supply, both price and quality are mainly valuable as a comparison tool between countries. Price could indicate the success of the local investigation efforts (temporary market disturbances) (Best, Strang, Beswick & Gossop, 2001; Bright & Ritter, 2010; Caulkins & Reuter, 1998; Caulkins, 2007; Costa Storti & De Grauwe, 2007; Costa Storti & De Grauwe, 2009; Desimone, 2006; Pacula, Kilmer, Grossman & Chaloupka, 2010; Caulkins & Reuter, 2010; Wilson & Stevens, 2009). An important precondition, lies in frequently repeating these price measurements. It is deemed appropriate to keep a close eye on the local retail prices in the different zones and districts, where data need to be updated monthly rather than annually. These data also need to be linked to the context of the investigation initiatives and priorities of the different zones and districts. Furthermore, it might be relevant to focus on the **mark-up**, on the price differences between the different echelons of the drug markets (EMCDDA-Europol, 2011; Wilson & Stevens, 2009). It is unclear to which degree the price accounts for certain risks, and to which degree market changes at higher echelons affect the prices at lower echelons (Bright & Ritter, 2010; Pearson & Hobbs, 2001). The question is to which degree price changes in one particular segment of the market do say something about changes in other echelons of that market (Desimone, 2006).

Law enforcers only use price to calculate the illegal profits. The two most important arguments against **price** as an indicator for the Belgian law enforcers are:

- the fact that Belgian retail prices have remained equal or have slightly decreased over the last few years. Only some very small or interregional differences are established, generally rather indicating the distance to the middle market
- big seizures do not or hardly affect the price, indicating a very flexible import and a market that recovers very quickly from interventions[7]

Quality as an indicator is of little use to the Belgian law enforcement, however, it is useful to monitor drug supply. Interviews with toxicological laboratories proved quality to be a useful indicator when it comes to the production of synthetic drugs, more specific for monitoring the effectiveness of the precursor policy, and as an indicator for adaptations in the modus operandi of the producers. The most important arguments against quality as an indicator for the Belgian law enforcement are:

- quality is not included in criminal law and has no effect on the sentence. This is why law enforcement attaches so little value to it.
- confiscations are not tested systematically. Mainly, the major seizures are tested, which cause the data concerning quality to be, to a large extend, indicators of wholesale and production (with its high purity level) and providing only limited knowledge on the retail level. Currently we have a rather fragmented view on quality on the retail level. As for synthetic drugs we do have a limited view upon the quality of these products, due to the European pill testing programs (TEDI), the Early Warning System (EWS) and online databases such as Pill Reports, where both lab analyses as well as users report about the quality are provided.
- furthermore, mainly product analyses are being conducted (e.g. does it concern drugs or not?), analyses of purity and composition are less common.

[7] The major seizures in the port of Antwerp are most probably drug batches that are not meant for the Belgian market.

2. Price, quality and purity-adjusted price at the international level

Price is mainly a comparison tool between different European countries (prices per product for the different echelons). Drug supply takes place at an internationally organized open market, causing the national registration to be of little value.

The comparison of the relation between price and quality (**purity-adjusted price**) between different European countries is a valuable tool to monitor the European drug supply (Kilmer & Hoorens, 2010). It is also an important indicator for drug tourism. The interesting price/quality ratio explains the presence of Northern-French drug tourists at the Belgian market (Lamkaddem & Roelands, 2010). Consequently, it is very useful to compare the data concerning price and quality in Belgium to those of the neighbouring countries.

Quality is an important indicator for identifying the most important drug producing countries, for wholesale and middle market and, to a lesser degree, an indicator for retail. Furthermore, it is an important indicator for monitoring the production of synthetic drug (precursor policy and changes in the modus operandi).

Key finding 5: Possibilities for monitoring drug-related crime

Drug-related crime and drug supply are strongly related to one another: drug-related crime can be associated with different echelons of the supply chain, from drug production to dealing in order to finance one's drug use (Disley, et al., 2011). Changes in drug-related crime may be a significant indicator for alterations within the supply chain.

The need for epidemiological data concerning drug-related crime is high, both at local, national as at European level. However, the usability of drug-related crime as a key indicator for drug supply demands a high-quality registration, which remains problematic (Brochu 1997; Holloway 2007; Macdonald 2008; Nicholas 2001; Teplin 2005).

There is no clear-cut definition of drug-related crime. Four classic forms of drug-related crime can be distinguished:

- **psychopharmacological crimes**: crimes committed by people who are under the influence of illicit drugs
- **acquisitive crimes**: crimes to finance and support the (costly) drug abuse
- **systemic crimes**: crimes committed within the functioning of illicit drug markets, as part of the business of drug supply, distribution and use (Parker & Auerhahn, 1998; Hoaken & Stewart, 2003). It mainly involves violent crimes related to the drug supply markets
- **consensual crime**: violations of the Drug Law (drug law offences)

Consensual crimes are easier to identify than the other three forms of drug-related crime. In order to obtain more insight in the functioning of the European (drug)markets, further differentiation between different types of drug-related crimes in the registration system is necessary.

The SUPMAP research was able to distinguish three possible types of measurement:

- local level measurements
- national level measurements
- European level measurements

For each of these measurements tools exist that can be implemented straight-away.

Local level measurements in order to monitor one particular phenomenon: the implementation of the DRUGCRIM tool (De Ruyver et al., 2008). Preferably, this method is used for specific needs in the field, when the instigator immediately wants to measure the share of drug-related crime. The strategic analyst, functional administrator or ISLP[8] spokesman within the police zone can add the tool, making it possible to save registrations concerning drug-related crime from thereon.

National level measurements: at a national level, it appears to be quite easy to systematically measure the systematic and consensual crimes. The degree of drug-relatedness of psychopharmacological and economic compulsive crimes, however are hard to ascertain. Nevertheless, it remains possible to efficiently monitor drug-related crime using the existing

[8] ISLP: Intregrated System Local Police, the system that contains all police reports from the Local Police.

registration possibilities. In principle, systematic and consensual crime can be filtered out from the police statistics using the field 'context'.

European level measurements: EULOCS (*EU level* Offence Classification System) is a conceptual classification system, developed by the IRCP (Vermeulen & De Bondt, 2009), commissioned by the European Commission. In addition to the difference between offenses that are punishable in all EU Member States, and offenses that may not be punishable everywhere, EULOCS has a second important feature. For each offence the chance is given to declare the context in which the offense was committed. These so-called "additional context fields" allow to indicate whether the offence is drug-related or not.

8. Which additional information is necessary for future monitoring?

Based on the indicators that were identified in the SUPMAP research, some aspects requiring further research in order to optimize the monitoring of the supply were established. Generally, we need more knowledge concerning wholesale and middle market echelons. It hereby mainly concerns organisational aspects of the higher echelons of the supply chain:

- more knowledge about the role of Belgium as a transit country
- more knowledge on organized criminal networks in drug trafficking
- more knowledge about the role of facilitators in the different echelons

8.1. More knowledge about the role of Belgium as a transit country

Belgium is a transit harbour and plays an important role in international drug trafficking (Boerman, Grapendaal, Nieuwenhuis & Stoffers, 2013). The fact of being on this axis makes it hard to collect representative data concerning the drug supply in Belgium. Many of big batches that arrive in Belgium are destined for other countries. We need a better insight in the exact part Belgium plays as a transit country and the organisational and structural factors that facilitate this role. This is ought to be linked automatically to a more profound knowledge about the involvement of Dutch criminal networks in higher echelons of the supply chain, and about the way they use Belgium as an import and distribution point.

8.2. More knowledge about the features of organized criminal networks and alliances in drug trafficking

Without additional knowledge about the criminal networks involved, data of the law enforcement services provide too little insight in drug trafficking (Blinckman, 2005). More specifically, we need knowledge about:

- actors
- alliances
- organisational structures
- polycriminality
- polydrug distribution
- role of the facilitators

It is necessary to continue working on the role of organized crime, as well as on the polycriminality characterizing the higher echelons of the drug markets (see also Rubin, Pardal, McGee & Culley, 2013). The links between the different drug types and the polydrug distribution phenomenon, drugs sometimes being traded for other types of drugs, requires extra attention (Europol, 2012; Europol, 2013). Concerning the actors and organization, extra attention needs to go to the volatility characterizing the temporary alliances between the different organized criminal groups. Currently there's still too little knowledge on the organizational structures of the criminal networks. Criminal case file studies on organized crime in Belgium prove Dutch criminals' involvement for all drug groups, except for heroin (Dienst Strafrechtelijk Beleid, 2010).

8.3. More knowledge on the role of facilitators in the different echelons

Although quite a lot of research has been conducted concerning the drug market itself, the knowledge about an important aspect of it is relatively limited: the facilitators. Every link in the supply chain has its facilitators and their role can be filled in many different ways. They often operate for different criminal networks at the same time. There are collectors, stash keepers, money launderers, recruiters of drug runners, middle market errand boys, handy men to set up the plantations, front men to hire the premises, chemical helpdesks for synthetic drug production, etc..

Facilitators constitute an important part of the supportive and executing power of drug trafficking. More specifically, the different types of facilitators and their roles need to be identified, as well as the degree to which criminal networks use facilitators and the role they play in the criminal organizations.

9. Recommendations and suggestions for further research

Based on the SUPMAP research, some **policy recommendations** were formulated. We opted to distinguish four types of policy recommendations:

- structural (organizational aspects for monitoring)
- functional (tools to use the existing information optimally)
- operational (in order to further optimize the drug detection research)
- international

STRUCTURAL POLICY RECOMMENDATIONS

- a better placement of the Central Drug Service of the Federal Police[9] as a focal point for the police information keeping and intelligence, both for the Local as for the Federal Police
- optimization of the information flow and cooperation between different investigation services
- optimizing of the knowledge on supply at the level of laboratories
- developing precoded questionnaires based on the SUPMAP research

FUNCTIONAL POLICY RECOMMENDATIONS

- additional directions concerning the registration of the offence reports (PVs) for strategic analysis
- consequent and more streamlined exploitation of soft information concerning drugs

OPERATIONAL POLICY RECOMMENDATIONS

- further attention for the role of the port of Antwerp in international drug trafficking

[9] Centrale Dienst Drugs, DGJ/DGP Drugs.

- more attention for criminal profits and financial cash flows
- more attention for cross-border cooperation between police forces
- more attention for cross-border cooperation in scientific research

INTERNATIONAL POLICY RECOMMENDATIONS

- the ideal monitoring combines the national monitoring in the Member States with monitoring at a European level

9.1. Structural policy recommendations

The basic rule for optimal monitoring: knowledge is power

Only by gathering enough knowledge, the Belgian drug markets can be monitored adequately. Effective **information management** at the level of the different groups of key figures is a necessary condition to obtain qualitative monitoring. Most essential is a **two-way** information exchange, being of **benefit for all parties**. The survey throughout Belgium proved a lot of information exists. However, this information often is too diffuse and the different services and key figures often do not know which relevant information is at hands.

Some tools are available for an effective information keeping:

- valorisation of the Central Drug Service of the Federal Police
- optimizing the information flow and cooperation between different investigation services
- optimizing the knowledge about supply at the level of the laboratories
- developing precoded questionnaires based on the SUPMAP research

Structural policy recommendation 1: a better placement of the Central Drug Service of the Federal Police as a focal point for policing information and intelligence keeping, for Local as well as for the Federal Police

At the level of the Central Drug Service of the Federal Police, the SUPMAP research points out a lot of the necessary information concerning the Belgian drug market is available and can be distilled

from the data that are at this service's disposal. However, the different zones and districts often seem to be oblivious about the relevant knowledge of the Central Drug Service of the Federal Police, consequently they do not provide much information in their turn. Currently many zones and districts appear to have set up their own registration system, in addition to the existing systems, to systemize all their information, which is very valuable at a local degree, but is suboptimal when it concerns information flows towards the higher levels of law enforcement. The most important question/demand of the zones and districts concerns a return: they want feedback when forwarding data.

Given the knowledge and central role of the Central Drug Service of the Federal Police, special attention needs to be attributed to a profound valorisation. The different zones and districts need to be pointed out to that this service disposes of relevant information. It furthermore is important and needs to be assured that the more locally-based levels receive more of a return in the future, since this will only increase their willingness to pass on data.

Structural policy recommendation 2: optimization of the information flow and cooperation between different investigation services

The SUPMAP research proves Belgian law enforcement demand improvements of the information flow between the different police services and between different zones, districts and central levels (cfr. supra). This information exchange should mainly focuss on the modus operandi, its changes and the features of the drug supply locations. Given the importance of *centralizing* the information in order to monitor the Belgian drug supply, as well as the importance of a *uniform information exchange*, the information flow must be directed by the Central Drug Service of the Federal Police. Central coordination can avoid different services to work separately.

In addition to the cooperation between the investigation services, an exchange of information with other governmental services such as the fire department (drug production), food and medicine inspection (drug production and import of precursors/new psychoactive substances) might provide relevant elements for investigation.

Good practice 1: Setting up seminars concerning the detection of plantations with police services (special attention to community officers) and other actors, such as the fire department, civil protection and the magistracy. For synthetic drug production this could also prove to be a valid tool, sensibilising park keepers en garbage collectors to be attentive for signs of dumping.

Structural policy recommendations 3: optimizing of the knowledge of the supply at the level of laboratories

Concerning laboratories, there still remain a lot of opportunities for optimizing the analyses of drug quality for future monitoring of the Belgian drug supply:

- **developing procedures and protocols for sample analysis**: currently there is no clear-cut protocol to analyse samples. That is why every laboratory deals with things in its own way, which is not in favour of comparability of the results. When it comes to the coordination thereof, there may be a significant role for the NICC[10].
- **optimizing the information flow from the laboratories to the WIV[11]**, and developing tools to ensure the **Royal Decree of the 17th of October 2006** is being respected. Currently, too little information is passed on and the process of the information flow takes too long (among other things because the regulation is not in accordance with the confidentiality obligation in investigation or judicial cases, as determined in the Criminal Code)[12]. Underreporting is also an issue. This recommendation is also important for an optimal functioning of the Early Warning System. The recent amendment proposal of the law of the 24th of February 1921[13] (which has been approved by the Council of Ministers on the 26th of April 2013), where the deviation from the confidentiality obligation in an investigation or judicial case is incorporated in the law, should change all this.

[10] NICC: National Institute for Criminalistics and criminology.
[11] Scientific Insitute for Public Health
[12] Art. 28 quinquies §1 and 57 §1
[13] The law of the 24th of February 1921 concerning the trafficking of toxics, sedatives and tranquilisers, psychotropic substances, disinfectants and antiseptics and of substances that are used to illegally produce narcotics and psychotropic substances.

- **Linking the laboratory analyses to the case file** in order to be able to check the seizures' lab analyses for potential links between different networks. Currently the NICC attributes its own number to the analyses, therefore the analysis of seizures cannot be linked to the case.
- **Passing on the feedback of the laboratory analyses to the police services concerned** instead of only forwarding it to the magistrates. The police services that were interviewed rarely know the results of the laboratory analyses. A comprehensible report could provide them with a better view on the quality of the seized drugs.
- **Faster response of the government** when **dangerous psychoactive substances** emerge. In Belgium it takes very long before a new substance is put on the banned drug list. The recent case where six people died from contaminated speed proved the urge for an effective response (cfr. supra, amendment proposal of the law of 24 February 1921).

Good practice 1: Some laboratories suggested to sit down once a year with all toxicological laboratories, the WIV[14] and the different Focal points. These meetings need to focus on giving updates about new substances available on the market, the way these substances need to be analysed, as well as the development of a standardized protocol to determine the product and its purity (this also includes determining what the norm will be to declare a substance as positive). This protocol also needs to take other products into account (such as Methadone, Rohypnol, new psychoactive substances) that might have been taken in simultaneously and, consequently, might interact, but that are not yet included in the product determination (which only focusses on classic drugs).

Good practice 2: chemical criminalistics as used at the Lausanne University, where links between seizures and criminal networks are searched for based on the seizures' laboratory analyses.

[14] The Scientific Institute of Public Health (WIV-ISP) implements policies in response to the legal framework and priorities of the Federal Minister for Health and the President of the Federal Public Service for Health, Food Chain Security and the Environment.

Structural policy recommendation 4: yearly precoded questionnaires for the different groups of key figures

Research and inquiries such as the SUPMAP research are very time-consuming. In order to get to the same information in a shorter period of time, precoded questionnaires could be implemented. These consist of questions with set answer options, that can be processed in figures, and that are presented to groups of key figures every year. In that way, changes on the drug markets will be easier to be followed up and detected. Every year the trends on the drug markets can be inventoried and compared, using separate precoded questionnaires per key figure group.

The SUPMAP research identified the following groups of key figures to monitor the drug markets:

- police
- customs
- Prosecutor Offices
- laboratories
- hospitals
- drug care treatment

Based on the identified indicators in the SUPMAP research, a choice needs to be made which indicators provide the most information and can be converted into key questions. The results of the surveys of the different groups are compared to one another, validation is possible when different groups separately indicate the same market shifts. This kind of approach has already proven to be rather useful and effective for monitoring.

9.2. Functional policy recommendations

The SUPMAP research pointed out that law enforcement currently disposes of a lot of necessary information for monitoring drug supply. Based on the SUPMAP research the following tools are identified to use the existing information the most optimal way:

- additional directions concerning the registration of Offence reports (PVs) for strategic analysis

- consequent and more streamlined processing of the soft information concerning drugs

Functional policy recommendation 1: additional directions concerning the registration of Offence reports (PVs) for strategic analysis

Monitoring the Belgian drug markets and drug-related crime needs to combine bottom-up and top-down processes. The strategic analysts can be of importance when it comes to facilitating the interaction between these two processes. Regarding the strategic analysis, the following recommendations can be given:

- forwarding the complete Offence Report/PV for the analysis of the context
- linking laboratory analyses to the case file, instead of attributing a separate identification number to the analyses
- opening up the 'context' field in the ANG[15] for all verbalisers, in order to improve monitoring of drug-related crime. In association, additional information concerning the suspects can be included in the *speciality* field. This field contains information about the role of the suspect in the supply chain (cfr. part 2 of the publication);
- better estimates of the potential production quantity and yield of the cannabis plantations by adding surface area of detected plantations to the police statistics
- registration of packaging modalities of seizures (= how much do the packages contain)

➔ since it concerns control offenses, also very susceptible to *displacement*, police figures need to be contextualized in terms of the investigation activities and priorities, and need to be compared with the data of the neighbouring zones, districts and countries.

Functional policy recommendation 2: consequent, more streamlined exploitation of the soft information concerning drugs

The SUPMAP research proved soft information to be an important indicator when it comes to changes in drug markets. This information contains important additional insights that may frame

[15] ANG: Algemene Nationale Gegevensbank. De database containing police reports of both Local and federal Police.

arrests or seizures, and gives a better view upon the way these data need to be interpreted. It is the lack of contextualization and soft information law enforcers and policy makers at a European level keep on struggling with. This also attributes to the reason why it isn't always clear for these higher levels what is going on in the field. Soft information is mainly embedded in the Local and Federal Police. A good registration is essential in order to use the soft information at higher (national, European) levels.

The basic requirement for a qualitative registration and an optimal use of the information from the information reports-RIR's, is a standardization/systemization of the reporting. A good tool consists of making it obligatory to report which drug type the information reports-RIR's applies to. Currently, this very rarely is the case, thus these information reports are not further processed.

The important part soft information plays in obtaining knowledge on the supply chain makes the AIKs and strategic analysts occupy a key position when it comes to monitoring. An enhanced cooperation and communication between the different AIKs seems appropriate to counter the diffuseness of the information.

Good practice 1: Some AIKs keep track of the evolutions and the number of information reports-RIR's per drug, the proportion/ratio of them and how this evolves.

9.3. Operational policy recommendations

Some operational policy recommendations were identified based upon the SUPMAP research. This concerns recommendations for a more profound optimization of drug-related investigations. This involves:

- enduring attention for the role the port of Antwerp plays in international drug trafficking
- more attention for criminal profits and financial cash flows
- more attention for cross-border cooperation at the level of policing and scientific research
- more cooperation between law enforcement and drug care treatment

Operational policy recommendation 1: enduring attention for the part of the port of Antwerp in international drug trafficking

The Port of Antwerp is the second biggest one in Europe and plays an important part in drug import (De Stoop, 2012). Easy accessibility, as well as its location near the town-centre and close to the motorways, are facilitating factors for drug trafficking via this harbour.

To further optimize the investigations in the Port of Antwerp, experts proposed to develop a secured e-platform for the FGPs[16], customs and drug magistrates that are in charge of the harbour and where all information (hard and soft, other criminal information) concerning the drug phenomenon is collected. Similar databases can also be developed for other Belgian (air)ports.

An important point of interest is *displacement*. When more effort is made to investigate and secure the port of Antwerp, it is very likely that this will result in the *displacement* of the phenomenon to other ports that are less secured and where control is less thorough. As a consequence, the indicators need to be sufficiently flexible to notice changes in the phenomenon over time.

Good practice 1: Recently working groups have been installed to ameliorate cooperation between the different actors in the port of Antwerp. A similar working group should also be set up in the other Belgium ports. In future, there will be more cooperation with the Havenbedrijf[17] for the security of the port, as well as the fines for not respecting the container scanner regulations.

Operational policy recommendation 2: more attention for criminal profits and financial cash flows

Financial cash flows have to form a fundamental part of the research. The interviewed law enforcers all agree that investigations need to pay more attention to criminal profits (cars, houses, etc.) as well as the recuperation thereof through seizure and sequestration. This is considered to be an effective strategy for obtaining *supply reduction*, since these measures affect criminals the most (contrary to a prison sentence which tends to be seen as a risk of the trade). The prosecution policy

[16] FGP: Federale Gerechtelijke Politie or Federal Police.
[17] Organisation responsible for the organisation of the harbour.

needs to be stricter at this point: police services draw up calculations and cases of the financial benefits involved, but the court of justice does not follow these up sufficiently. Specifically for calculating the yield and the criminal profits associated, the SUPMAP research proved that the YILCAN research imposes a useful tool for different investigation services, as it allows to calculate and estimate the revenues of a cannabis plantation correctly (Van Hove, Vandamme, Surmont, Van Puyenbroeck & De Ruyver, 2012; http://www.belspo.be/belspo/organisation/Publ/pub_ostc/Drug/rDR56_nl.pdf)

Operational policy recommendation 3: more attention to cross-border cooperation at the level of policing

Drug trafficking is an international and cross-border phenomenon (Europol, 2013; EMCDDA-Europol, 2013). The SUPMAP research reconfirms that Belgian and Dutch markets cannot be treated separated, mainly because of the organisational link with the Netherlands when it comes to the different echelons of the supply chain. Cooperation treaties and the simultaneous execution of investigations in different countries can only add to the knowledge. This cooperation needs to be enhanced at the policing level. Bilateral treaties with the Netherlands are necessary to allow Belgian investigators to climb higher up the ladder of the supply chain, as well as to gain more insight on the involvement of Dutch criminals. More aimed investigations could prove to be a very good tool for this, for example by following drug tourists and retailers to see where they get their supply. Joining forces in a more functional way for these kinds of investigations has a bigger impact qua supply reduction than merely intercepting the drugs and the people who carry them.

Operational policy recommendation 4: more attention to cross-border cooperation in scientific research

In accordance with the abovementioned, we need to stress knowledge on the drug markets needs to increase at the scientific level as well. Preferably, a more cross-border approach that links the expertise should be used. More specifically, research should concern the different echelons and the part of the European Member States in this. This knowledge is necessary in order to develop feasible and realistic indicators that apply to all aspects of the supply chain.

9.4. International recommendation: the importance of monitoring at a European level

➔ **Ideal monitoring combines national monitoring in the Member States with monitoring at a European level**

An international framework for monitoring the supply is necessary. It is the only way to create an overall picture and to notice *displacement*s of the phenomenon in time. Drug trafficking is an international cross-border phenomenon (EMCDDA-Europol, 2013; Europol, 2013). Drug supply and demand are extremely mobile phenomena. The best example of this are wholesale and middle market, which spread across different countries and, according to the SUPMAP research, are being coordinated in the Netherlands (zie ook Boerman, Grapendaal, Nieuwenhuis & Stoffers, 2013). The drug phenomenon seems relatively easy to be displaced when more efforts are made and more resources for supply reduction are being provided. Examples of this are the *displacement* of synthetic drug production to countries where precursors are more easily accessible, or to countries where the demand is higher. The individual countries have a fragmented image of the higher echelons of drug supply. This indicates the importance of a monitoring system that transcends national borders, which is the only way to obtain a complete image of the different drug markets. The best monitoring system combines a top-down approach with a bottom-up approach. This applies to the monitoring at a national level as well as to the European monitoring level.

The most important recommendation to achieve this is to conduct a similar research as the SUPMAP research at a European level, where good and feasible indicators for the different Member States are investigated.

In addition to further research, it is also important to research how the existing datasets can be used within the future monitoring system. An important suggestion for the European level is the development of a common protocol for reporting data concerning seizures (EMCDDA, 2012a; Kilmer & Hoorens, 2010). Good quality data are essential to allow comparison at an international level. It goes without saying that an important role is played by the EMCDDA in terms of the

management and coordination of the European monitoring, especially as the EMCDDA is currently developing a full range of indicators.

10. Suggestions for further research

Research for drug supply indicators is still under development, the SUPMAP research is only the first step in this relatively new research field. In future, more funding for research on relevant indicators will be needed in order to be able to monitor drug markets, both at European level as at Member State level (EMCDDA, 2012a). The two most important aspects that should be targeted by further research monitoring the Belgian drug markets are:

- middle market level in Belgium
- the development of a monitoring system for the Belgian drug market

10.1. More research on the role and position of the middle market in Belgium

Our knowledge about the middle market in Belgium is limited, the SUPMAP research confirms this once again. The inquired law enforcers indicated their need for knowledge about the middle market level. Furthermore, there is frustration about the limited recourses that are at hands to conduct research about this level of the drug market. Further cross-border research has to focus on this echelon, the modus operandi, actors and features of the criminal networks the alliances involved. Three appropriate research methods can be distinguished:

- Questioning detainees that were convicted for aspects concerning middle market, in combination with case studies of major drug cases (Pernanen, Cousineau et al. 2002; Bunt, Kunst & Siegel, 2003; Grüter & van de Mheen, 2005; Pearson & Hobbs, 2001; Pearson & Hobbs, 2003; Pearson & Hobbs, 2004).
- *social network analysis*: method for studying the relations between the different actors: key figures, relations between individuals and potential weaknesses of the network that could be useful to law enforcement (Bright, Hughes & Charlmers, 2012). This method also gives insight in the role and relations of the facilitators.
- Studying the online sale through online user forums and the dark web.

10.2. The development of precoded questionnaires for different groups of key figures

Earlier in the recommendations we already indicated that using precoded questionnaires for the different groups of key figures forms a relevant tool to monitor the drug supply in Belgium. The SUPMAP research identified many indicators for monitoring drug supply in Belgium. It goes without saying that these cannot all be inquired. Further research needs to sort out which aspects of these different indicators should be elaborated and which elements should be included in the system of the annual surveys.

Once the useful indicators are chosen, the precoded questionnaires have to be subjected to a test phase, the first measurement will be the stage zero reference for further measurements. Best case scenario such a measurement will start up in 2013.

In addition, it is also necessary to further operationalize how the different information flows provided by these questionings will be included in the overall picture, and how this information will be linked to data of other relevant information sources concerning the Belgian drug supply.

Bibliography

Barendregt, C., van der Poel, A. & van de Mheen, D. (2006). The rise of the mobile phone in the hard drug scene of Rotterdam. *Journal of Psychoactive Drugs*, 38(1), 77-87.

Best, D., Strang, J., Beswick, T., & Gossop, M. (2001). Assessment of a Concentrated, High-Profile Police Operation. No Discernible Impact on Drug Availability, Price or Purity. *British Journal of Criminology*, 41(4), 738-745.

Blickman, T. (2005). The ecstasy industry in the Netherlands in a global perspective. In P. C. van Duyne, von Lampe, K., van Dijck, M. & Newell, J.L. (Ed.), *The organised crime economy. Managing crime markets in Europe*. Nijmegen: Wolf Legal Publishers.

Boerman, F., Grapendaal, M., Nieuwenhuis, F. & Stoffers, E. (2013). *Nationaal dreigingsbeeld. Georganiseerde criminaliteit*. Zoetermeer: Dienst IPOL.

Bouchard, M. (2007). On the resilience of illegal drug markets. *Global crime*, 8(4): 325-344.

Bright, D. A., & Ritter, A. (2010). Retail price as an outcome measure for the effectiveness of drug law enforcement. *International Journal of Drug Policy*, 21(5), 359-363.

Bright, D., Hughes, C., & Chalmers, J. (2012). Illuminating dark networks: A social network analysis of an Australian drug trafficking syndicate. *Crime Law and Social Change*, 57(2): 151-176.

Brochu, S. (1997). "Drogues et criminalité : point de vue critique sur les idées véhiculées." *Déviance et société*, 21(303-314).

Bunt, H. G., Kunst, D., & Siegel, D. (2003). *XTC over de grens. Een studie naar XTC-koeriers en kleine smokkelaars*. Den Haag: Boom Juridische Uitgevers.

Caulkins, J. P. & Kilmer, B. (2013). Estimating the size of the EU cannabis market. in Trautmann, Kilmer & Turnbull (eds.). *Further insights into aspects of the EU illicit market*. Brussels: European Union, 289- 318.

Caulkins, J. P. (2007). Price and purity analysis for illicit drug: Data and conceptual issues. *Drug and Alcohol Dependence*, 90, S61-S68.

Caulkins, J. P., & Reuter, P. (1998). What price data tell us about drug markets. *Journal of Drug Issues*, 28, 593-612.

Caulkins, J. P., & Reuter, P. (2010). How Drug Enforcement Affects Drug Prices. In M. Tonry (Ed.), *Crime and Justice: A Review of Research*, Vol 39 (Vol. 39, pp. 213-271). Chicago: Univ Chicago Press.

Costa Storti, C. & De Grauwe, P. (2007). Globalization and the price decline of illicit drugs. *International Journal of drug Policy*. 20(1), 48-61

Costa Storti, C., & De Grauwe, P. (2009). The cocaine and heroin markets in the era of globalisation and drug reduction policies. *International Journal of Drug Policy*, 20(6), 488-496.

De Ruyver, B., Lemaitre, A., Born, M., Colman, C., Pirenne, C. & Vandam, L. *Definiëring en meting van druggerelateerde criminaliteit*. Gent: Academia Press.

De Ruyver, B. (2006). Drugs in de Lage Landen, de Belgische kant van het verhaal. *Justitiële verkenningen.* 32(1): 135-145.

De Ruyver, B., & Surmont, T. (2007). *Grensoverschrijdend drugstoerisme: nieuwe uitdagingen voor de Euregio's*:. Antwerpen: Maklu.

De Ruyver, B., Lemaitre, A., Born, M., Ponsaers, P., Pauwels, L., Vander Laenen, F., Vanderplasschen, W., Van Malderen, S., Chapeau, M., Vindevogel, S., Cammaert, F., Moës, A., Devue, A., Vandam, L. (2009). *Do's and don'ts in een integraal en geïntegreerd drugbeleid – Faire et ne pas faire dans le cadre d'une politique intégrale et intégrée sur les drogues*, Gent, Academia Press

De Stoop, C. (2012). Cocainehaven van Europa. *Knack* (21 november), 54-57.
Decorte, T., & Tuteleers, P. (2007). *Cannabisteelt in Vlaanderen. Patronen en motieven van 748 teler*s. Leuven/Voorburg: Acco.
Desimone, J. (2006). The relationship between illegal drug prices at the retail user and seller level. *Contemporary Economic Policy*. 24(1): 64-73.
Dienst voor het strafrechtelijk Beleid (2010). *Jaarrapport 2010. Georganiseerde criminaliteit in België 2007-2009*.
Disley, E., Hoorens, S., Hunt, P., Kilmer, B., Pacula, R.L., Rabinovich, L. & Rubin, J. (2010). Indicators for understanding drugrelated crime. in: Kilmer, B. & Hoorens, S.. *Understanding illicit drug markets, supply reduction efforts and drugrelated crime in the European Union*. Santa Monica/Cambridge: Rand Corporation/Rand Europe:83-104.
Dorn, N., Murji, K., & South, N. (1992). *Traffickers: drug markets and law enforcement*: Routledge Psychology Press.
EMCDDA (2012a). *Technical Review: concepts, data and methods. Technical document prepared in support of the Second European Conference on drug supply indicators, 22-23 November 2012*, Lisbon. Unpublished document.
EMCDDA (2012b). *De stand van de drugsproblematiek in Europa, 2012*. Lisbon: European Monitoring Centre for Drugs and Drugs Addiction.
EMCDDA-Europol. (2011). *Amphetamine. A European Union perspective in the global context*. Luxemburg: Publications Office of the European Union.
EMCDDA-Europol (2013). *EU drug markets report. A Strategic analysis*. Luxemburg: Publications Office of the European Union.
Europol. (2012). *Octa 2011*. The Hague: Europol.
Europol. (2013). *SOCTA 2013*. The Hague: Europol.
Fijnaut, C., & De Ruyver, B. (2008). *Voor een gezamenlijke beheersing van de drugsgerelateerde criminaliteit in de Euregio Maas-Rijn: een rapport voor het bestuur van de Euregio*.
Frijns, T. & van Laar, M. (2013). Amphetamine, ecstasy and cocaine: typology of users, availability and consumption estimates, in Trautmann, Kilmer & Turnbull (eds.). *Further insights into aspects of the EU illicit market*. Brussels: European Union, 183-242
Gruter, P., & van de Mheen, D. (2005*). Cocaïnehandel in Nederland. Impressies van deelnemers aan drugsdistributienetwerken*. Rotterdam: IVO.
Hoaken, P. N. S. & Stewart, S.H. (2003). "Drugs of abuse and the elicitation of human aggressive behavior." *Addictive Behaviors* 28: 1533-1554.
Holloway, K. & Bennett, T. (2007). "Gender differences in drug misuse and related problem behaviors among arrestees in the UK." *Substance Use & Misuse*, 42: 899-921.
Hughes, C. & Chalmers, J. (2012). *How can we/should we study purported changes in drug market supply*. Paper presented at the 6th International Study for the Society of Drug Policy Conference, Canterbury.
Kilmer, B. and Hoorens, S. (2010). *Understanding illicit drug markets, supply reduction efforts, and drug-related crime in the European Union*. Santa Monica/Cambridge: Rand Corporation/Rand Europe
Kilmer, B., Taylor, J., Hunt, P. & McGee, P. (2013). Sizing national heroin markets in the EU: insights from self-reported expenditures in the Czech Republic and England, in Trautmann, Kilmer & Turnbull (eds.). *Further insights into aspects of the EU illicit market*. Brussels: European Union, 257:267

Korf, D. J., Wouters, M., Nabben, T. & van Ginkel, P. (2005). *Cannabis zonder coffeeshop. Niet-gedoogde cannabisverkoop in tien Nederlandse gemeenten*. Amsterdam: Criminologisch Instituut Bonger, Universiteit van Amsterdam.

Lamkaddem, B., & Roelands, M. (2010). *Belgian national report on drugs 2009. New developments, trends, and in-depth information on selected issues*. Brussels: Scientific Institute of Public Health.

Macdonald, S., Erickson, P., Wells, S., Hathaway, A. & Pakula, B.((2008). "Predicting violence among cocaine, cannabis, and alcohol treatment clients." *Addictive Behaviors*, 33: 201-205.

Massari, M. (2005). Ecstasy in the city: Synthetic drug markets in Europe. *Crime, law and social change*, 44(1), 1-18.

May, T., & Hough, M. (2004). Drug markets and distribution systems. *Addiction Research & Theory*, 12(6), 549-563.

May, T., Duffy, M., Few, B. & Hough, M. (2005). Understanding drug selling in communities. Insider or outsider trading? York: Yoseph Rowntree Foundation.

Memorie van toelichting bij voorstel tot wijziging van de drugswet van 24 februari 1921, goedgekeurd op de Ministerraad van 26 april 2013.

Mounteney, J., Fry, C., McKeganey, N., & Haugland, S. (2010). Challenges of Reliability and Validity in the Identification and Monitoring of Emerging Drug Trends. *Substance Use & Misuse*, 45(1-2), 266-287.

Neve, R. & van Ooyen-Houben, M. (2006). Een verboden genotspil als exportproduct. XTC in de Lage Landen en de reactie van de overheid. *Tijdschrift voor Criminologie*. 48(2): 155-168.

Nicholas, R. (2001). *The relationship between illicit drug use and crime*. Marden, Australian centre for policing research.

Pacula, R. L., Kilmer, B., Grossman, M., & Chaloupka, F. J. (2007). Risks and Prices: The role of user sanctions in marijuana markets. *The B.E. Journal of Economic Analysis & Policy*, Berkeley Electronic Press, vol. 10(1).

Parker, R. N. & Auerhahn, K. (1998). "Alcohol, drugs and violence." *Annual review of sociology* 24: 291-311.

Pearson, G. & Hobbs, D. (2003). King pin? A case study of a middle market drug broker. *The Howard Journal*, 42(4), 335-347.

Pearson, G., & Hobbs, D. (2004). 'E'is for enterprise: Middle level drug markets in ecstasy and stimulants. *Addiction Research & Theory*, 12(6), 565-576.

Pearson, G. & Hobbs, R. (2001). *Middle market drug distribution*. Home Office Research Study 227.

Pernanen, K., M.-M. Cousineau, et al. (2002). *Proportions of crime associated with alcohol and other drugs in Canada*. Montreal, Canadian Centre on Substance Abuse.

Ritter, A. (2006). Studying illicit drug markets: Disciplinary contributions. *International Journal of Drug policy*, 17(6), 453–463.

Spapens, T. (2011). Interactions between criminal groups and law enforcement: the case of ecstasy in the Netherlands. *Global crime*. 12(1): 19-40.

Teplin, L. A., McClelland, GM, Abram, KM. and Mileusnic, D. (2005). "Early violent death among delinquent youth: a prospective longitudinal study." *Pediatrics*,115: 1586-1593.

Thomas KV, B. L., Castiglioni S, Covaci A, Emke E, Grabic R, Hernández F, Karolak S, Kasprzyk-Hordern B, Lindberg RH, Lopez de Alda M, Meierjohann A, Ort C, Pico Y, Quintana JB, Reid M, Rieckermann J, Terzic S, van Nuijs AL, de Voogt P. (2012). Comparing illicit drug use in 19 European cities through sewage analysis. *Science of the Total Environment*, 132, 432-439.

Trautmann, F. & McSweeney, T. (2013). Heroin markets: use characteristics, size of the market and impact of OST on the heroin market. in Trautmann, Kilmer & Turnbull (eds.). *Further insights into aspects of the EU illicit market*. Brussels: European Union, 243-255.

Trautmann, F., Kilmer, B. & Turnbull, P. (eds.). (2013). *Further insights into aspects of the EU illicit market*. Brussels: European Union.

Van Laar, M., Frijns, T., Trautmann, F. & Lombi, L. (2013). Cannabis markets: user types, availability and consumption estimates. in Trautmann, Kilmer & Turnbull (eds.). *Further insights into aspects of the EU illicit market*. Brussels: European Union, 73-170

van Wijk, A. & Bremmers, B. (2011). *Snelle jongens. Een onderzoek naar drugsrunners en daaraan gerelateerde problematiek in Limburg-Zuid*. Beke Reeks; GVO Drukkers & Vormgevers BV.

Vanhove, W., Van Damme, P., Surmont, T., Van Puyenbroeck, L., De Ruyver, B. (2012). *YILCAN. Yield of illicit indoor cannabis production*. Gent: Academia Press.

Vermeulen, G. & De Bondt, W. (2009). *EULOCKS. The EU level offence classification system. A bench-mark for enhanced internal coherence of the EU's criminal policy*. Antwerpen, Apeldoorn: Maklu.

Wilkins, C., & Sweetsur, P. (2006). Exploring the structure of the illegal market for cannabis. *Economist-Netherlands*, 154(4), 547-562.

Willis, K., Anderson, J. & Homel, P. (2011). Measuring the effectiveness of drug law enforcement. *Trends & issues in crime and criminal justice*(406): 1-7.

Wilson, L. & Stevens, A. (2009). *Understanding drug markets and how to influence them*. Drug Policy Programme. The Beckley Foundation.

WIV-ISP. (2013). *Belgian national report on drugs 2012*. Brussel: WIV-ISP.