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Pilot study on wholesale drug prices
in Europe



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for Drugs and Drug Addiction

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Thematic paper: Pilot study on wholesale drug prices in Europe

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1. Introduction

The European Union Drug Strategy for the period 2009–12 sets the goal to yield concrete and identifiable improvements concerning the knowledge of drugs trafficking. In addition, the EU Drugs Action Plan for 2009–12 defines among others the objectives to develop key-indicators of policy-relevant data on drug markets, as well as a strategy to collect them.

In October 2010, the EMCDDA, with the support of the European Commission, developed concrete efforts to launch this process organising the first European conference on drug supply indicators. There, some additional steps were taken to define a set of technically sound and sustainable indicators for monitoring drug markets, crime and supply reduction for Europe. This event brought together a wide range of European and international experts, aiming to assess the current state of the art in this domain and develop a realistic strategy for moving forward in this area (EMCDDA and European Commission, 2010).

This Pilot study on wholesale drug markets aims to contribute to this process, starting by discussing the utility of collecting wholesale drug prices in Europe. In order to assess the feasibility of this collection process, this study provides an overview of the procedures implemented nationally and of the information available in European countries on wholesale drug prices. Then, it suggests what information would be necessary to collect in the future, as well as the instrument to be used — a questionnaire. This questionnaire was tested by several countries which reported real data for 2008 and 2009. Finally, the data collected during the two rounds of actual data collection are presented.

This study has been possible due to the contribution of the EMCDDA's Reitox network ⁽¹⁾ and national experts involved, as well to the support of Europol. This Pilot study officially started in November 2008 when the EMCDDA requested the Reitox network to nominate national experts on wholesale drug prices. A first meeting took place in May 2009. There, national experts discussed the feasibility and interest of developing this Project plus ⁽²⁾ with the support of Europol. Subsequently, Europol hosted a meeting where, with the help of the Serious Organised Crime Agency (SOCA), the first template to collect wholesale drug prices in Europe was drawn. This template was used to make the first round of wholesale drug price collection in Europe, with 2008 data. In June 2010, a second expert meeting occurred in London with the support of the UK National Focal Point and SOCA ⁽³⁾, to improve the questionnaire. Then, the second round of data collection was launched for 2009 data.

During the implementation of this study, the utility and feasibility of improving the current systems of collecting wholesale drug prices was analysed by national and European experts. Benefits were compared with the required investments. In this framework, 10 countries revised or have set plans to revise their internal law enforcement practices, to comply with this data price collecting framework. In Germany, the BKA arrived to an agreement with the 16 Federal States offices to adapt their price reporting and collecting procedures. They have agreed to harmonize their price categories with those defined in this Study. In France, the Office Central pour la Repression du Trafique des Stupéfiants (OCTIS) has linked wholesale drug prices to purity. In Austria, the Criminal Intelligence Service, MOI, has improved their Internet-based application (which links local police stations to the central police office) with

⁽¹⁾ Reitox is the European information network on drugs and drug addiction. The network is comprised of national focal points of the EU Member States, Norway, the candidate countries and the European Commission. Under the responsibility of the governments, the focal points are the national authorities providing drug information to the EMCDDA.

⁽²⁾ 15 countries were represented: CZ, DE, IE, IT, ES, FR, CY, LT, AT, PL, PT, SK, SE, UK and TR.

⁽³⁾ 20 countries and Europol were represented in this meeting (BE, CZ, DE, EE, ES, FR, IE, IT, CY, LT, HU, NL, AT, PL, PT, RO, SK, UK, HR and TR).

the objective of relating purity to prices. In the Czech Republic, the National Focal Point has made an agreement with national law enforcement to relate wholesale drug prices to purity. In Belgium, prices have been related to the size of the underlying transactions or seizures, depending on the source of the information. In Italy, Lithuania and Turkey, training is already planned for law enforcement agents. In Cyprus and Hungary, national law enforcement offices are waiting for the final Wholesale Drug Prices Questionnaire to adjust national procedures accordingly.

This Pilot study is organised as follows. After a brief introduction in Section 1, Section 2 provides a definition of wholesale drug prices. Section 3 discusses the relevancy of having this data to different players in the field of illicit drug policy. Section 4 describes the information required in order to make wholesale drug prices meaningful. Section 5 makes a brief presentation of data availability in Europe. Section 6 describes the questionnaires suggested and used to collect wholesale drug prices, as well as the results of two rounds of data collection, concerning 2008 and 2009. In order to provide a detailed overview of different national collection systems, Section 7 presents the national collection systems. Section 8 concludes.

2. Defining wholesale drug prices

Wholesale drug prices are prices that refer to large bulks traded with the objective of distributing drugs within a country, either to subsequent wholesalers or to retailers. By European retailers, we mean those who sell small amounts of drugs (limited number of doses) to final drug users in the European territory ⁽⁴⁾.

In order to operationalise this concept, wholesale drug prices are those charged to transactions of approximately 1 kg or more (cannabis, cocaine, opioid products, amphetamine or methamphetamines). With respect to ecstasy and LSD, transactions are of approximately 1 000 pills and 1 000 doses or more, respectively.

These volumes were adopted for several reasons. First, because according to European experts ⁽⁵⁾, drug traffickers use this weight and number of pills as standard transactions measures for bulk transactions. Second, because national authorities and the international community is used to applying this definition, and to collecting and reporting prices using these units of account ⁽⁶⁾. Additionally, this definition also has the advantage of being objective and simple.

Despite the 'kilo' weight being a common size of wholesale transactions, sometimes these transactions occur with different weights. Transactions with smaller than 1 kg volumes also occur, due to the wide variety of the European drug markets sizes and characteristics. There are countries where transactions of relatively 'small' volumes take place at the wholesale level, since their drug markets are small. Consequently, transactions of quantities smaller than 1 kg are still considered as being wholesale transactions. The definition of the lower limit of what is considered wholesale transaction is quite arbitrary, being based on experts' empirical evidence. In this framework, since a cut-off point had to be decided, it was agreed that the lower volume considered as being wholesale would be 0.5 kg. As mentioned, this volume might be more adequate to apply in certain countries than others. However, this smaller limit was set high enough to be unlikely to integrate prices charged at the lower level of the market, excluding retail transactions ⁽⁷⁾.

Accepting higher than 1 kilo transactions is also necessary, since there is not a clear upper limit of wholesale transactions, when compared to the next layer of drug market: the import market. Therefore, the agreed solution was to accept any quantity above the 'kilo' level, but distinguishing prices applied in different weight intervals (see Section 4.1).

According to law enforcement experts, wholesale transactions are normally priced in units of 1 kilo (or 1 000 units). The price of 1 kilo of drugs is commonly used as the unit of reference by traffickers to trade wholesale drug volumes, even in situations where the transaction volumes differ. This fact simplifies reporting, since it avoids conversion prices when different volumes of transactions occur.

⁽⁴⁾ For a detailed analysis of the retail drug market, see EMCDDA and European Commission (2010).

⁽⁵⁾ Based on the conclusions of the 1st and 2nd Expert Meetings on wholesale drug prices in Europe (EMCDDA, 19–20 May 2009 and 28–29 June 2010).

⁽⁶⁾ UNODC has been publishing this information for many years in the World Drug Report. However, experts are unanimous in recognising the lack of effort invested in reporting reliable data.

⁽⁷⁾ See EMCDDA and European Commission (2010) for a discussion of the underlying difficulties inherent to the definition of retail drug transactions and for some suggestions on how to implement this definition. There, it is suggested to use maximum quantity (unadjusted for purity) thresholds under which transactions would be considered as retail.

Box 1: Is there a unique definition for wholesale drug markets and prices charged?

As Moore et al. (2005) points out, there is no common terminology for different levels of the drug markets. Concerning heroin, these authors refer the existence of six market levels: cultivation (opium); production (heroin); trafficking (source country to distribution country); distribution (within destination country); street level; and consumption (final user). Then, this author calls for a careful specification of the 'market' in any analysis.

Johnson and Golub (2006) define the role of the wholesale distributor as a major distributor in the destination market, called 'kilo connection', differentiating from importers who are in charge of smuggling drugs from outside the country into the domestic market. This author also distinguishes from other sources of traffickers that he classifies as dealers, who trade or intervene either at the regional or local level.

UNODC (2007) bases its market level definition on the volume (weight) of the transacted drugs. Accordingly, it sets up a methodology to define wholesale transactions and equivalent prices based on the volume of the transaction. This definition has the advantage of being objective, easily understood and assessed by data providers and users. Prices are categorised according to the weight of the drugs which were traded. Thus, the UNODC assumes that transactions at the wholesale level involve at least one kilogram of cocaine, heroin, cannabis (herb, oil or resin), amphetamine or methamphetamine. Wholesale level transactions of ecstasy involve one thousand tablets. The main limitation of this analysis remains the quality of the data supplied to the UNODC. This institution bases its information on its Annual Report Questionnaire. Sometimes, the UNODC does not receive data referring to the pre-defined amounts, which obliges them to estimate prices after converting the amounts reported into those pre-defined. This operation may introduce an element of error to wholesale prices. As Caulkins and Padman (1993) extensively demonstrated, drug prices react strongly to changes in the size of the transactions. As a result, conversions may lead to erroneous calculations.

Caulkins et al. (2009) describe drug transactions based on interviews of convicted drug law violators. They argue that the wholesale drug market links import markets to local retail markets and that the wholesale drug market is characterised by the existence of transaction cycles. These transactions cycles show important similarities across the different drugs traded.

3. 'Need to know approach': Why collect wholesale drug prices?

The collection and monitoring of wholesale drug prices will contribute to supporting the work of those who implement supply reduction policies. Since the close monitoring of these prices facilitates a better understanding of the main goal of drug traffickers, i.e. of drug profits, its monitoring enables the improvement of current strategies to combat illegal trafficking. Box 2 describes some features of wholesale drug markets and prices.

There are different actors involved in supply reduction and in the monitoring of drug markets: law enforcement and judicial staff, policy makers and researchers. A better monitoring of these prices will contribute to support their activities in different ways. Sub-sections 3.1, 3.2, and 3.3. discuss the utility of monitoring wholesale drug prices. Sub-section 3.4 extends this analysis to purity-adjusted wholesale drug prices.

Box 2: The functioning of the wholesale drug market: paying for the service of distributing drugs?

As in any other market, licit or illicit, wholesale prices reflect the interaction between supply and demand at the wholesale or bulk level, with the aim of distributing goods to other intermediate traders, lower in the distribution chain, or to retailers. This is still the case when it concerns drugs. In Europe, the supply of wholesale drug markets can have either an imported origin (for instance, in the case of cocaine or heroin produced in the Andean region or in South Asia, respectively) or they are produced domestically (in the case of methamphetamines or cannabis). In wholesale drug markets demand can come either from another level of the wholesale distribution within the consumer country (e.g. when regional wholesalers sell to local ones), or from retailers.

At the wholesale drug supply level, the elements that influence the prices charged are several:

1. The cost of the drugs traded — the price that the wholesaler has paid either to the importer, the previous wholesaler or the domestic producer will impact the prices charged by wholesalers. When drugs are imported, besides the price of drugs itself, the currency used to set this transaction has also an impact on the cost of drugs (for example, if drugs are sold in dollars to European wholesalers, a decrease in the price of the dollar decreases the cost to the wholesaler who pays in euros). When drugs are produced domestically and the wholesaler is also a producer, he will have to take into account his producing costs (for instance, in the case of cannabis in-house production: seeds, land, electricity bills, etc.);
2. The costs of distributing — these costs range from expenditures in personnel (if he employs lower level traffickers), to technological devices (e.g. specially adapted vehicles that allow drug transportation without being detected or high technology telecommunication tools); transportation (vehicles and petrol used, for instance), packaging, etc;
3. Stocking — in case the distribution process requires that merchandise is kept in stocks for certain periods of time, then the costs associated with the storage and hiding of drugs can be relevant;
4. Risk — in order to account for the illegal activity of trafficking drugs, individuals require a certain remuneration that compensates for the risk of either going to jail or of being subjected to violence (since there is no legal way of guaranteeing the respect of buyers/sellers rights). In addition, part of the merchandise can be seized and they may lose part of the payments due,

with no legal methods to guarantee transactions;

5. Purity/potency — the mixing/dilution of drugs with cutting agents (normally traded in the legal sector) despite reducing the quality of the drugs provided, increases the volume of drugs sold, at a small cost. Since the change in final quality of drugs is not easily perceived by the next buyer in the purchasing chain, reducing purity is a method used to reduce costs in the wholesale drug business. At the wholesale level, this incentive to reduce the cost of the drugs, might be somewhat compensated by the potential increase in the risk of trafficking. When drugs are adulterated, the volume of the illegal merchandise increases. Consequently, cutting might lead to a rise of the probability that these drugs become easily detectable by law enforcement;
6. Branding — some drug dealers try to assign brands to their drugs in order to differentiate them and to associate this drugs with a certain purity/potency or special qualities of these drugs in order to charge higher prices. This happens frequently with ecstasy pills (where logos and colours are assigned to drugs) and in the packaging of cocaine bricks at wholesale level;
7. Profit — the net revenue that high-level traffickers gain from their activity of distributing drugs on the market is crucial to determine drug prices. The total profit is the profit gained on each kilo of drugs sold (profit margin) multiplied by the total volume of drugs sold. Besides the six elements previously considered, profits also depend on the structure of drug markets. The higher the number of sellers competing to sell drugs in the market, the lower the prices charged.

Where drug demand is concerned, the main components that will determine the maximum price retailers are willing to pay for the drugs they buy with the intention of selling it afterwards to drug users, are the same as for the wholesaler, i.e., the expected profits of trafficking these drugs to the next level of the market. The main differences compared to previously enumerated factors are the smaller volumes traded and the proximity with the final drug user.

All in all, wholesale prices will result from the interaction between demand and supply. In situations where there is a large volume of drugs supplied to the market, as compared to demand, the 'equilibrium price' tends to decline. The opposite happens when demand of a drug is much bigger than its supply. Additionally, the structure of the market is also relevant. Normally, when the number of wholesalers increases, there is more competition within sellers, so price tends to decline. The opposite tends to happen when there is an increase in the number of buyers.

3.1. Need to know: law enforcement and judiciary perspective

(Pascal Garllement, Tony Saggars, Cláudia Costa Storti)

A more effective fight against drug traffickers requires a good understanding of their business, since profit is one of their main driving forces. Policy-makers and law enforcement officials will be more effective when traffickers' business plans are well understood.

Since crime is global, i.e. it is not limited or severely constrained by national borders, the understanding of national crime networks and markets becomes more and more insufficient. This is especially true in Europe, where full mobility of people, goods or capital is almost complete across European countries. Elements such as international agreements settled by EU countries; technological developments — allowing decreases in the cost of international communications and transportation; or high volumes of international trade; and financial

integration have reinforced the need to draw a clear and wide picture of worldwide drug trafficking.

A good knowledge of wholesale drug prices and an effective sharing of this information within European partners contribute to this task. There are several reasons for this:

- Wholesale drug prices (WDP) are a key variable to drug dealers, since they determine their revenues and profits and, therefore, sustain their business (See Box 2 for further insights). It is important to note that wholesale drug prices will influence the profits of both the drug importers — since they sell drugs to wholesalers — and to drug retailers. The higher the price paid by drug retailers to the wholesaler, the smaller the retailer's profit (considering that the purity level remains unchanged) or the higher the price retailers charge to drug users. Knowledge of WDP will allow a good understanding of local drug markets;
- Wholesale drug price awareness facilitates opportunities to interpret markets, understanding new market trends, and expose elements of industry, logistics and associated criminality;
- Wholesale drug prices are less influenced than seizures by small changes in trafficking routes, so they give a better indication of the level of total drugs available in a country. Furthermore, the geographical spread of offences and seizures, may more easily reflect forces' investment in data capture rather than the actual depth of the problem in an area;
- Organised crime and drug trafficking operates on national and international levels. Consequently, the sharing of wholesale drug prices in Europe enables a better understanding of domestic trafficking and to detect new international trafficking trends. All importation investigations will, by the very nature of the enterprise, involve trafficking activity and commodities within multiple countries and trading environments. Consequently, a full picture is only provided when assessing and comparing national wholesale prices with a wider arena;
- In operational terms, the collection of WDP allows law enforcement to build awareness of the 'most commonly encountered' prices which, when monitored over time, may provide valuable information concerning market trend changes and, eventually, alert mechanisms.

Can wholesale prices be used to reflect law enforcement activity? On the one hand, wholesale drug prices also indicate law enforcement activity, as a consequence of changes in risk depending on the intensity and effectiveness of law enforcement activity (see Box 2, for further information), and are sometimes used as indicators of policing activity⁽⁸⁾. When police forces invest more in combating high-level drug trafficking (e.g. devoting more staff and money to arrest important traffickers and make large seizures), this makes trafficking more expensive (replacement of either lower level traffickers or seized drugs). In this case, more and better law enforcement leads to higher wholesale drug prices. On the other hand, these prices are influenced by factors other than law enforcement activity. For instance, in case there is a sudden decrease in drug production due to bad weather, prices of imported drugs may rise sharply, with an impact on domestic wholesale drug prices. In this case using WDP to assess law enforcement activity is misleading. This is also the case when prices vary due to changes in drug demand. Thus, wholesale drug prices can also change due to reasons which are not explained by policing activity. All in all, it must be concluded that prices should be carefully used when the intention is to measure law enforcement activity.

⁽⁸⁾ See Bright, D. and Alison, A. (2010), for a deeper discussion of this topic.

Being more specific, the periodic sharing of WDP at European level contributes for local law enforcement activity because it allows:

- Better management of scarce resources: a deep knowledge of on what level of the trafficking chain profits are higher, allows for a better management of law enforcement scarce resources, since law enforcement activity can be focused at the core of the criminal action;
- Intelligence interpretation: intelligence takes many forms but often demands elements of interpretation as the information is not always specific and transparent. With particular regard to covertly monitored conversations, criminals rarely use explicit vocabulary with regard to intentions or commodities. Awareness of national and international WDP greatly increases capabilities to understand this form of intelligence with obvious implications upon the allocation of resources and successful targeting of criminals;
- Briefing covert deployments: the safe and resilient deployment of undercover officers demands credible and often detailed awareness of criminal markets, including WDP. Many such investigations entail international influences and a demand for wider knowledge. Highly informed briefings and operative insight are linked directly to risk management and ultimately to successful operations;
- Evidence and expert evidence: at the conclusion of an operation, it is often highly beneficial to identify evidence that can be presented or interpreted to demonstrate criminal conspiracy or conduct. Covertly recorded conversations, written notes or calculations by those arrested will often implicate drug commodity and price awareness. It is possible to introduce such evidence if links can be drawn to prices applied at the time of the events in locations where these events occurred. If law enforcement collects and monitor prices, this will likely afford greater evidential value, enhancing the impact of the case;
- Proceeds of crime: the value of a drug consignment can often be estimated when calculating profits achieved and illicit income generated over a period of time from drug trafficking. As many of these cases involve wholesale quantities, it is essential to apply credible and up-to-date WDP to each consignment or string of events. If drugs are being traded across international boundaries, values in other countries may also be applied to such cases;
- Assets confiscation: A criminal file needs information about WDP in order to obtain accurate and credible estimates of illegal profits. Only then will it be possible to estimate the value of the equivalent asset that should be confiscated;
- Market trends: New and emerging trends can be identified through monitoring WDP. Trends may be influenced by the economic environment, law enforcement impact, policy and law and criminal innovation or seeking out new opportunities. If law enforcement collects and assesses drug prices throughout the year, the emergence of new high or low prices either at regional or national level may indicate changing trends, trafficking methods or regions/countries within which they are acquired. This cannot be achieved as efficiently if conducted periodically;
- Impact assessments: It is fair to acknowledge that law enforcement activity can impact upon the price of certain commodities within given periods. While this is not always easy to measure; it is far more achievable if prices are being collected and

monitored as changes or reactions to specific priorities or targeting can be assessed. While price is not necessarily the only indicator, it can, however, be analysed and compared to other factors, such as purity (or quality) for powder drugs or availability. It is important noticing that interventions with influence on the wholesale market are going to have an impact also at retail and import level.

- **Formal reporting:** All countries have formal demands to report drug prices. By creating a central and credible framework within which WDP are collected, monitored and reported will generate corporate returns and externalities. As drug trafficking is a European/international problem it can only be solved through European/international cooperation. European and international wholesale drug price monitoring is one of the tools available to law enforcement but must be maintained within a credible framework to be successful. Collecting data at the EMCDDA is an effective way of sharing information at European level, since this Centre is specifically devoted to the task of managing, sharing and monitoring data at European level.

3.2. Need to know: policymakers' perspective

At international level

At the 52nd meeting of the Commission on Narcotic Drugs (CND) for UNODC on March 2009, the latest international gathering of drug policy-makers, it became clear that an international focus would improve the quality of data collection in the drug field. Out of this meeting, a political declaration was issued with the following text ⁽⁹⁾: '[...] Member States took account of the need for indicators and instruments for the collection and analysis of accurate, reliable and comparable data on all relevant aspects of the world drug problem and, where appropriate, the enhancement or development of new indicators and instruments.' Consequently, the CND requests a revision of the data collection tools, as well as additional funds to member countries.

At European level

In the EU Drug Strategy, it is concluded that continued progress should be made concerning the availability, quality and comparability of information on monitoring the drug situation. Furthermore, in the field of supply reduction, the document sets the objective of yielding concrete, identifiable and measurable improvements by 2012 concerning the effectiveness, efficiency and knowledge base of law enforcement interventions and actions, targeting production and trafficking of drugs, among others. This strategy also recognises that in order to implement this priority, it is necessary that policy makers and law enforcement agencies — both EU and national — improve and share their knowledge.

Furthermore, the EU Drugs Action Plan for 2009–12 sets the objectives of developing European indicators to collect policy-relevant data about, among others, drug markets, as well as to develop a strategy to collect them. The EMCDDA and Europol are referred to as being in charge of this task.

This project contributes to attain this objective in different ways. First, it enhances the sharing of operational information that can have a positive impact on law enforcement activity. Second, together with other variables, WDP may constitute an instrument to evaluate the effectiveness of law enforcement intervention either at local, regional or aggregated level.

⁽⁹⁾ See UNODC 2009, CND Resolution 52/12.

At national level

This concern has been reflected in the national strategies in different ways, especially in those written after the EU Action Plan for 2005–12. Until January 2010, there have been at least two national policy documents approved in European countries, with special reference to this area.

One is the Spanish National Drugs Strategy 2009–12 ⁽¹⁰⁾. This document follows the EU Drug Strategy guidelines. It sets as one of the top priorities for the supply reduction strategy the need to increase the effectiveness, efficiency and knowledge base of law enforcement interventions and actions, targeting production and trafficking of drugs. Then, it goes further in detail, setting the priority that the Spanish law enforcement bodies should fight drug organized crime, especially in the following four stages of the process: first, at drug production; second, during its distribution at the wholesale level (where international trafficking and domestic trafficking are explicitly considered); third, at the retail level, and; finally, during money laundering. Furthermore, it sets as a core priority the need to build on the current intelligence capacity to analyse the drug phenomena, anticipating new trends and reacting to new drug trafficking and money laundering developments.

The other one is the Portuguese Action Plan for the period 2009–12. There, it is set as a priority to increase the Portuguese capacity to collect information on drug supply and drug-related criminal activity, as a tool to enhance the Portuguese supply reduction policy. Additionally, the need to implement research that helps explaining drug supply and markets is also identified.

It is thus clear in both documents that the analysis of markets is a top priority for these countries. In the Spanish case, the wholesale drug market is viewed as an important market to monitor, while in the Portuguese case the emphasis is given to the need of building on existing information, namely developing the dataset currently available to monitor supply and supply reduction activity. In both cases, collecting wholesale drug prices can give a useful contribution to the implementation of the recent European national drug policies.

3.3. ‘Need to know approach’: the research community

One of the main challenges faced by researchers in the drug field is the scarcity of data. This problem is particularly relevant where drug supply is concerned. When compared to other regions of the developed world such as the US and Australia, the European picture becomes even gloomier. There are several contributing factors to explain this. Nevertheless, its consequences are that scientific knowledge in this area is still craving for a sufficient volume of data that allows evidence-based analysis.

A full understanding of the relationship between wholesale drug prices, retail prices and the availability of drugs is necessary to understand how supply reduction policies can become disruptive, making drugs less available to final drug users.

Wholesale prices and purity adjusted wholesale prices are a further step in a long journey. The utility of this database increases when it complements others existing and more developed data bases. This is the case for the European retail prices database or the large volumes seizures databases. This is also the case when researchers and policy makers try to apply harm reduction considerations to drugs supply policies, as it has been the case in the UK and Australia.

⁽¹⁰⁾ See Bolletín Oficial del Estado, N 38, Sec I, Pag. 15284, 13/02/09.

4. Enhancing the utility of collecting wholesale drug prices

The interest and reliability of the wholesale drug prices collected is enhanced when complementary information is also monitored. Therefore, this section discusses the utility of monitoring and sharing information on wholesale quantity discounts, on the methods used to collect prices, on drugs purity and on regional price differences at European level. The statistical methods used will also be reported briefly.

4.1. Quantity discounts

The further one moves down in the distribution chain — from the source to the consumer — the higher prices become. The same is true for illicit drug markets (Caulkins and Padman, 1993 or Caulkins et al., 2009). As in legal markets, the price charged per kilo increases when the total volume traded declines. Drug prices tend to increase when the volume of the underlying transaction declines.

In real life, wholesale drug transactions occur within a wide range of traded volumes. Consequently, in order to have meaningful information about prices in the wholesale markets, where the weight of the transaction may vary from 1 kilo to 1 tonne, it is important to have prices reported according to volumes traded.

As mentioned in Chapter II, trading volumes of approximately 1 kg are considered as the common threshold of wholesale transactions. Based on the empirical evidence reported by national experts, it is difficult to clearly define a maximum threshold towards the next upper level of the drug market, i.e. the import market. Therefore, it was decided to consider as wholesale drug prices every price charged in transactions close to and above 1 kilo, occurring within the European territory. This characteristic entails important consequences to the price collection system, namely, that the system receives price information of very different volumes traded.

In order to operationalise this market 'empirical rule', capturing the impact of quantity discounts on wholesale drug prices, it is desirable to associate the wholesale drug prices reported by the weight of their underlying transaction. In this case, it is avoided to arrive to unrepresentative mean prices, charged to transactions varying between 1 kg and more than 1 tonne.

The price of individual transactions is not relevant at the European level, since it would be too much data. Instead, it is useful to have information on prices associated with weight ranges. Four main weights ranges were defined, as agreed with national experts, according to their empirical experience. The defined weight ranges intend to accommodate the characteristics of different national European drug markets. These weight ranges are: 0.5 kg–1.5 kg (500 to 1 000 pills), between 1.5 kg and 10 kg (1 000 to 10 000 pills or units), between 10 kg and 100 kg (10 000 and 100 000 units) and, finally, weights above 100 kg (100 000 units).

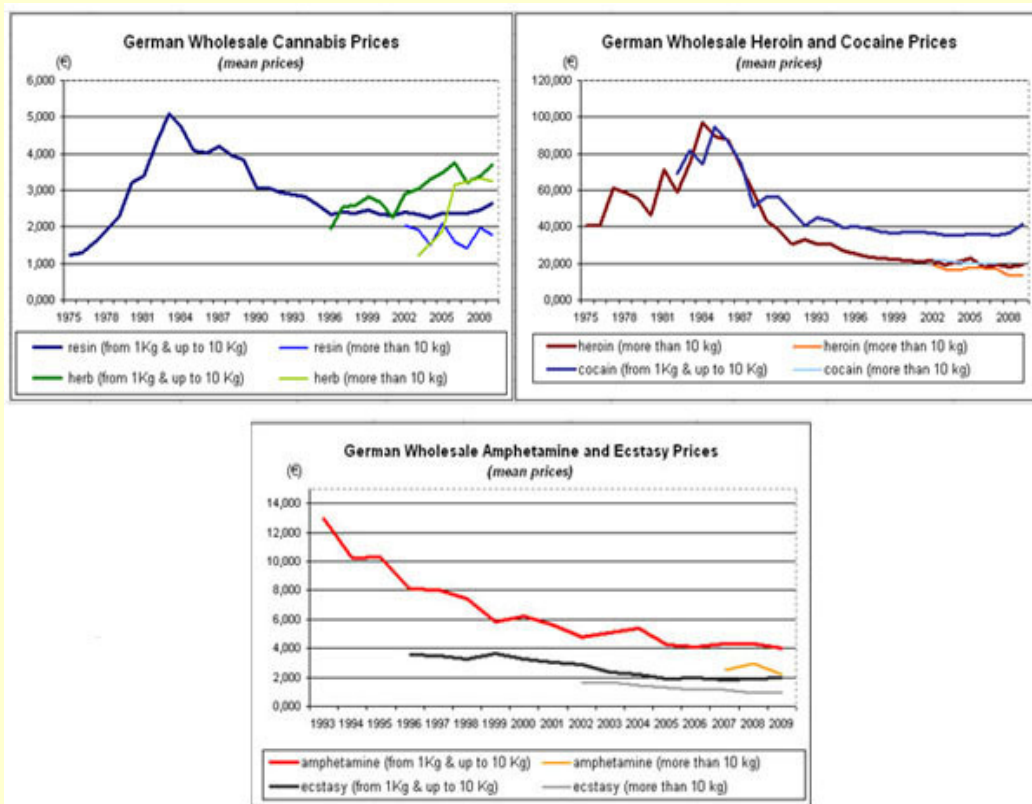
However, empirical experience shows that there are still countries which are not ready to report with this level of disaggregation and detail. Consequently, taking this into account, the possibility of reporting undifferentiated wholesale prices in a separate column is still foreseen (if assured that prices correspond to transactions with volumes close or above 1 kg).

Box 3: A case study — Germany: different wholesale volumes, different prices

(Heiko Hergenhausen and Cláudia Costa Storti)

Germany has collected wholesale prices of the main drugs trafficked in the country for many years. The length of data series differs according to drug and to the segment of the wholesale market. Transactions with volumes close to 1 kg have been collected for long periods: cannabis resin and heroin prices have been collected since 1975. The collection of prices of larger transactions (above 10 kg) is more recent, having started for most drugs in 2000. In this case, since the number of very large transactions is naturally smaller, information is scarcer and price series fluctuate more over the years. Figure 1 shows the available data ⁽¹¹⁾.

Figure 1: German wholesale drug prices: different volumes, different prices



Source: BKA, 2010.

German wholesale drug prices show:

- when analysing WDP, we conclude that prices applied in smaller wholesale transactions (of volumes between 1 and 10 kg) are consistently higher than those charged in larger transactions (volumes superior to 10 kg), when the same drug and year are considered. So, it is clear that quantity discounts are applied in the German wholesale drug markets;
- wholesale drug prices of different drugs show clear trends over time;
- concerning cannabis wholesale drug prices, data show that resin and herb prices had different patterns. While herbal cannabis prices revealed a clear upward trend, resin prices show signs of relative stability. Furthermore, while wholesale cannabis herb intermediation margin (the difference between the price of big volume and small volumes) declined significantly, the same is not observed in the resin market;

- heroin wholesale prices show continuous declines after 1985. It is interesting to notice that intermediation margins are also among the smallest observed, when compared to other drugs, over the same period;
- in the cocaine market, after 1985, the decline observed in the prices of small volumes was followed by a fall in the prices of large volumes; revealing that the intermediation margin has remained relatively constant in Germany;
- ecstasy wholesale prices have also declined, in both large and smaller volumes. However, intermediation margins have been increasing slowly but firmly in this market.

4.2. Collecting purity adjusted prices

(Klaus Stempel, Pascal Garlement, Tony Saggars, Cláudia Costa Storti)

As mentioned in Box 2, reducing the purity/potency of traded drugs is a way of reducing wholesale drug costs and, therefore, of increasing traffickers' profits. Consequently, all drugs are vulnerable to and inevitably subject to adulteration. It is common that the bigger volumes traded, the higher their purity or potency, since adulteration occurs within the distribution chain. In order to reduce the costs of transportation and the probability of being seized, there is an incentive to do bulky wholesale transactions with a high degree of purity, reducing the volume of the shipment. However, along the distribution process, the volume of the shipment becomes smaller. Therefore, the risk declines of having a large volume of drugs detected and seized. Consequently, it becomes more attractive to cut drugs, which decreases its cost and, if sold at the uncut price, increases its profitability. Since drugs sold in smaller portions usually pass through many transaction cycles of the supply chain, they are traditionally adulterated.

It should be stressed that wholesalers rarely know the exact purity level of drugs they sell ⁽¹²⁾. However, they are usually aware of its approximate or perceived quality. With respect to drug retailers, the purity of drugs is usually even less known. So, prices reflect not the exact level of purity sold, but an approximate value that, on the one hand, sellers think they have to sell and, on the other hand, buyers perceive to be buying.

In this framework, purity is an element to take into account when drug prices are analysed, for the following reasons:

- Reflects the real value for money of drugs traded. Since there is some nominal price stickiness in markets, i.e. retailers do not like to pay different prices for the same purchased good, and since there is no accurate information about the purity of drugs that are being bought, an 'easy' way of increasing the price received for the selling of the same weight of pure drugs is decreasing supplied purity ⁽¹³⁾.
- Informs about the volume of revenues and profits gained by traffickers in drug transactions, with the consequences discussed in Box 2.
- Allows for more accurate regional and international comparisons of drugs prices. Comparing drug prices in different locations might become erroneous if purity is not taken into account. Indeed, the same price may reflect a very different actual volume of the drugs traded, when different cutting levels are applied to the same drug.
- Higher purity may indicate proximity to trafficking routes and/or higher levels of the wholesale drug markets. Big bulks of trafficked drugs are a factor that can

contribute to higher probability of being detected by law enforcement. Consequently, the wholesaler traffickers have incentives to keep drugs pure. However, when the level of the market approaches the final users, this risk is counterweighted by the increase of profit due to selling drugs which are less pure. So, the purity-adjusted price can be used as an indicator of proximity to the trafficking source.

- Allows for more accurate comparisons of drug prices over time. Comparing drug prices in different periods of time became erroneous if purity is not taken into account. Indeed, the same price may reflect a very different actual volume of drugs traded, when different levels of cutting exist.
- It contributes to a more effective law enforcement intervention. The knowledge of the purity-adjusted prices practiced in the different local and regional markets is essential to guarantee law enforcement effectiveness and security when developing under-cover operations. The same is true for the intelligence interpretation, analysis of new trends, evidence and expert evidence, proceeds of crime and assets confiscations. Impact assessment is also only accurate when purity issues are taken into account.
- Compared to other frequently used market indicators, such as seizures and number of arrestees, wholesale prices are less dependent on the level of efforts taken by law enforcement staff. Consequently, they are a better measure of drug markets activity than these other more traditional alternatives.

Box 4: Purity-adjusted prices: The UK example over the last decade

In the UK, the evolution of cocaine prices shows the importance of analysing prices and purity in parallel, in order to fully understand cocaine markets. Over the last 10 years, the price of the 'cocktail containing cocaine' sold in the UK (within a gram deal) has fallen consistently. From about GBP 65 per gram, in 2000, it declined to about GBP 35 per gram, in 2009. Conversely, the price of a compressed kilogram of cocaine rose steadily from about GBP 20 000 to GBP 52 000 (with examples of over GBP 60 000) over the same period. These two examples, when considered without taking purity into account, generate obvious conflict and suggest profit has become much smaller recently across the UK market supply chain.

However, the monitoring of purity levels throughout these domestic markets show that significant profits have been achieved, by adulterating cocaine at various stages of the supply chain. Indeed, in 2009, it was common that one wholesale kilo of cocaine would originate over 6 kg at retail, by bulking it with pharmaceutical and commercial powders. The purity-adjusted trends have evolved as follows:

- Over the 2000–05 period, the common purity of street level cocaine varied between 40 % and 50 %;
- Over the 2005–08 period, common street level purity fell to a range between 30 % and 40 %;
- From late 2008 to the end of 2009, street level purity fell dramatically to a range between 10 % and 20 %, with frequent examples below 10 % towards the end of 2009;
- Over the complete period 2000–09, the common purity of wholesale kilogram blocks of cocaine ranged consistently between 65 % and 70 %, within a wider range of 60 % to 80 %.

Table 1

	Retail level					Wholesale level				
Cocaine	2000	2005	2008	2009	2009-2000 growth	2000	2005	2008	2009	2009-2000 growth
Price per gram (£)	65	50	40	35	-46 %	20	28	38	52	160 %
Purity	50	40	28	10	-80 %	70	65	63	65	-7 %
Purity-adjusted price	130	125	143	350	169 %	29	43	60	80	180 %

Source: SOCA 2010 data.

Please note that the figures engaged in the above calculations are accurate and representative of findings at the time, sufficient to demonstrate the principles regarding wholesale price and purity, but should not be taken as totally encompassing of all data available within any given period.

These figures allow drawing a clear trend when comparing price and purity. Despite the quality of cocaine at wholesale remaining very much the same over the last 10 years, its wholesale price has consistently increased. Consequently, the traffickers' value of a kilogram has increased by 180 %. At the retail level, traffickers' cocaine value has also steadily increased (169 %): despite the quality of cocaine at street level has decreased by approximately 80 %, while prices have less than halved.

We conclude then that the price of pure cocaine at the wholesale level has consistently increased in the UK over 2000–09. Simultaneously, while the price of 'the cocktail of powder marketed as cocaine' at street level has fallen, its cocaine content has dropped even further. Therefore, the retail price paid for pure cocaine over this period increased markedly. This market trend information contradicts the 'simple' picture provided by the analysis of price data alone (without considering purity).

This example shows that the simple analysis of drug prices may hide contrasting underlying trends when adjusting for purity. Judging law enforcement activity based on prices without taking purity into account may lead to erroneous conclusions.

4.3. Methods used to collect wholesale drug prices

(Tony Saggars)

The methods used to collect price data are an important issue since they determine the quality of databases. In the case of illegal wholesale prices, collection methods became even more relevant. Collection of illegal data, especially concerning huge transactions (where the financial amounts involved are big), requires very specific and sometimes onerous techniques. These techniques are frequently under the responsibility of law enforcement forces (being possible that other actors may play this role), whose motivation to collect data is sometimes limited. This section describes the most frequently used techniques and discusses their advantages, from the perspective of price data monitoring.

Arrestees

Many persons arrested for criminal offences have involvement with trafficking. Their detention facilitates an opportunity to discuss WDP at the time of formal interview (if their detention is drug-related) or on a more casual basis if their knowledge of WDP later becomes apparent. One of the dangers of seeking such knowledge at a time when an individual is under investigation for drug trafficking is that they may provide data which supports an element of

their defence, being potentially more motivated towards self-preservation. Consequently, there is a strong probability of underestimating WDP prices revealed.

Convicted prisoners

Visiting convicted prisoners to debrief them regarding WDP provides an opportunity for seeking knowledge from those proven to be directly involved in the wholesale drugs industry. While there may be personal motivations for the prisoner to interact, it is less likely that the information they provide will have a direct impact upon their own situation. Consequently, despite there being sometimes the problem of short memory, so prisoners may not accurately remember prices applied, there is less incentive to underestimate prices charged. Sometimes, detainees may overestimate their importance in drug trafficking, increasing drug prices if they perceive that the value of their trafficking may 'increase the respect' of the interviewer (Matrix Knowledge Group, 2007). The collection of such data can be tested against other similar and existing insight and often directly correlated with the level of activity the prisoner was known to be engaged in or around.

Informants

The use of paid or rewarded individuals providing information to law enforcement (LE) is well established. These persons are often very well associated with criminal enterprises and may have maintained personal involvement over a prolonged period of time. Although the primary focus for LE is very often the recovery of intelligence leading to successful operations, such contacts offer excellent opportunities to monitor thematic changes within the dynamics of the drugs industry. As this system commonly operates upon a reward-based platform, and although misinformation does occur, individuals are likely to be motivated towards good-quality information.

Covert purchases

LE officers are routinely deployed into undercover environments where they become involved in the negotiation and often agreed purchase of wholesale quantities of drugs. Over a period of time, their insight of changing WDP becomes highly insightful as this will often be accompanied by perspectives of what has influenced certain prices, why, where and when. Like informants, undercover officers (UCO) gain insight of WDP within national and international markets but also provide reassurance of the integrity of the information. UCO can, of course, also be misinformed by criminals who they encounter. Misinformation is common within organised crime but through this methodology, the UCO can also provide degrees of certainty as to the genuine nature of their encounter.

Interception of conversations (intelligence or evidential)

Although misinformation exists and criminal conversations are often coded or less than explicit, it is possible for LE staff with experience in this field to extract detail which, when interpreted or placed into context can be highly insightful concerning WDP within national and international arenas. Care must be taken to assess such data within the wider perspective of the scenario to ensure the correct price, currency and commodity is being reported. It is common for traffickers to remove zeros from the figure being discussed and it is therefore also necessary to understand the quantity of drug being discussed to accurately interpret the monetary value per unit.

Evidence recovered (written notes, calculations and ledgers)

Drug trafficking is a cash rich industry with many variations of payment. For this reason, traffickers will often maintain records in open or coded formats. They also maintain stock control and conduct calculations regarding outlay, logistical costs, transport, overheads and

profit margins. The recovery and interpretation of such documents can be highly informative regarding WDP and influences upon these prices. Achieving such interpretation often requires assessment from a specialist.

Collateral operational intelligence

Throughout any operation, there is the potential for information and intelligence to emerge that is neither sought after nor relevant to the particular investigation. WDP have the potential to emerge within various other organised crime investigations and if prioritised, as an issue of LE importance can be captured and contributed into the necessary reporting mechanism.

Expert assessments

Experts with knowledge of WDP and the markets within which they are applied exist within various establishments, agencies and LE. These individuals have the potential to take information and data which does not necessarily explicitly reflect a specific commodity price but by applying perspective, insight and context can demonstrate how this particular data reflects WDP or can be used to generate an indication of what they are likely to be for a certain commodity or market place.

International cooperation and insight

Many of the examples above have the potential to entail international cooperation with partner agencies and opportunity for one country to achieve insight into WDP within several others as an operation or intelligence commitment develops. Collating and sharing this insight in an appropriate and timely manner can afford significant international benefits. Drug prices vary from country to country and are influenced by many factors including location and discount for bulk purchase. International cooperation through law enforcement, academic or other establishments will inevitably generate a sound platform upon which prices can be monitored and understood.

Academic and social surveys

Many surveys are facilitated by departments for health, welfare, counselling agencies, academics and independent bodies. Although these tend to commonly focus upon street or retail drug prices (as the demographic for such surveys is far greater) they may occasionally retrieve information and data concerning WDP. While such surveys are often anonymous (and therefore have no implication to the contributor), they can also be difficult to assess for credibility unless conducted with a wide reaching approach and with data requirements that can be applied and assessed to ongoing thematic information. Few WDP are currently generated from such surveys.

Open source and research material

Open source reporting is commonly initiated by academic research, national surveys or sanitised LE data edited to protect sensitive aspects of knowledge or methodologies. The content of open source material may often have been generated by contributions from many of the more sensitive methods detailed above; having been sifted and collated within a greater sphere of knowledge and data. Publications from national focal points, the EMCDDA and United Nations regularly contain sanitised data which has been subjected to professional review and analysis prior to inclusion. The Internet, research papers, non-fiction books and documentaries all offer varying opportunities to acquire knowledge of WDP. E-forums are a particular source of market information with participants freely sharing experiences and views of their own encounters.

4.4. Methods used to relate wholesale drug prices with purity

In order to arrive at prices adjusted for purity, there is the need to integrate two types of data. The first is obviously the wholesale drug prices data, while the second is the data on purity of traded drugs at the wholesale level. While most of the time the main source of wholesale drug prices is law enforcement, this may not always be the case where purity/potency is concerned. This fact raises specific issues. In this section, we will list some of the issues that need to be tackled, to link these two datasets:

- While in the case of wholesale drug prices, the purity at different market levels may be collected through methods which do not require the seizure of drugs, in the case of purity this always has to be the case;
- In some countries the information on purity/potency is only requested for a small sample of the drugs seized. The criteria to determine the number and characteristics of samples that are analysed vary from country to country;
- In some countries, the purity/potency analysis is made in institutions other than those where the seizures were made. Additionally, there are countries where there is only one public institution in charge of purity analysis, while in some other countries this service is decentralised and operated both by public and private entities. Consequently, it may happen that the results of the forensic institutions are not resent to the price data collectors and/or that the articulation between these two types of data collectors is not fully integrated.
- In the case where information on purity is re-sent to the price data collectors, it is not always the case that purity samples are fully identified, so it is not possible to establish a clear link between the price of the drug transaction (and its weight) and its purity.

Currently, there is a great diversity of situations in Europe. It seems that each country presents a unique situation. The data that we will present on purity related to wholesale prices is based on national expertise. Further effort still should be done to better analyse the available information and collecting situation in European countries. Box 5 presents the German practice, as an example of integration of wholesale drug prices and purity/potency data.

Box 5: Collecting wholesale drug prices and their purity in Germany

(Klaus Stempel)

This box describes the basis of the procedures followed in Germany concerning the collection of data on wholesale drug prices and purity. It intends to show how the results of forensic analyses, carried out to determine the active ingredient content of narcotic drugs seized by the authorities, are used as an indicator for the development of the drug market and how a comparative examination with wholesale drug prices can be conducted.

Between 50 000 and 60 000 seizures of narcotic drugs are carried out in Germany each year. Not all of the seized drugs are forensically examined to determine their active ingredient content. The active ingredient content is only determined in cases where it is not clear whether the quantity seized is to be classified as a so-called 'non-negligible quantity', because this classification serves as the basis for the indictment and the assessment of punishment by the court. In some other cases, the active ingredient content of seized drugs is determined, by order, by the public prosecutor's office. Information on the active ingredient contents and cutting agents of the most important drugs, which are detected by the forensic laboratories of the state criminal police offices, the Federal Criminal Police Office and the

Federal Financial Directorates, is forwarded to the Federal Criminal Police Office and analysed on a yearly basis. The central analysis of active ingredient contents is based on approximately 20 000 individual results of forensic examinations carried out by German laboratories each year.

For heroin, cocaine, amphetamine and amphetamine derivatives, the median active ingredient contents are calculated. With regards to cannabis, the active ingredient contents of herbal cannabis, cannabis resin and cannabis concentrate are recorded and analysed separately. Since the purity of heroin and cocaine preparations depends on the quantities seized, their active ingredient contents are broken down into three weight categories. One category comprises samples weighing up to one gram, which represents the lowest trade level, the so-called 'street-level trafficking'. The second category contains preparations with a weight of more than one and up to 1 000 grams. The third category is comprised of samples with a weight of more than 1 000 grams.

The active ingredients are usually contained in the drug preparations in the form of either base or salt. For the better comparability of the results, the contents of the psychotropic ingredients are referred to in base form, irrespective of the chemical form the addictive substance actually has in the illegal preparation.

The frequency distribution of the content values is usually not normal, but shows a one-sided distribution. The dispersion range in all weight categories does not correspond to a Gauss distribution. For this reason, it is not the statistical mean value but the median value that is used for stating the average content.

The informative value of the indicator 'active ingredient content of drugs' could be further increased if each register of the price of the drug seized would be linked to its active ingredient content. The data come from different sources and may refer to different periods of time — while the drug prices are based on information gathered by police investigations (with a valid date registered), the central analysis of the forensic results, which serves as basis for the information on active ingredient contents, provides only the date of sample-analysis. In practice, however, it is difficult to link the data. In general, it should be noted that in the 'segment of wholesale trade' cases, which provide concrete information on prices and where it is furthermore possible to seize the drug in order to establish its active ingredient content, become known only sporadically. In addition, linking the data requires considerable coordinating and recording work, which cannot be made considering the added value to be expected for practical police work and the human resources needed to fight drug crime.

In Germany, the average drug prices and their active ingredient contents are compared once a year. The results of the relevant category of active ingredient contents are placed in relation to the wholesale drug prices in the framework of a comparison involving several years. This comparative study of the data of both series of numbers basically yields results with a higher informative value than those of the individual indicators.

4.5. Regional differences

In the current European political framework borders have become less and less relevant as administrative barriers to economic and social interactions. The same is true in drug trafficking. The dismantling of some of the traditional border controls in European countries has contributed to the integration and change of trafficking routes in Europe. Furthermore, as in any other business, drug traffickers adjust quickly to environmental changes that occur within a country. Consequently, law enforcement effectiveness is highly increased when there is a good knowledge of the geographical distribution of wholesale drug price levels. Since

drug trafficking is international, the sharing of this information with other European countries, will certainly contribute to more effectively combating drug trafficking.

The French experience will be given as a case study. Box 6 describes how OCRTIS – *L'Office Central pour la Répression du Trafic Illicite des Stupéfiants* — has in the last three years used regional wholesale drug price analysis as an important tool to monitor and combat drug trafficking.

Box 6: Collecting wholesale drug prices in France: understanding drug markets

(Marc Geny)

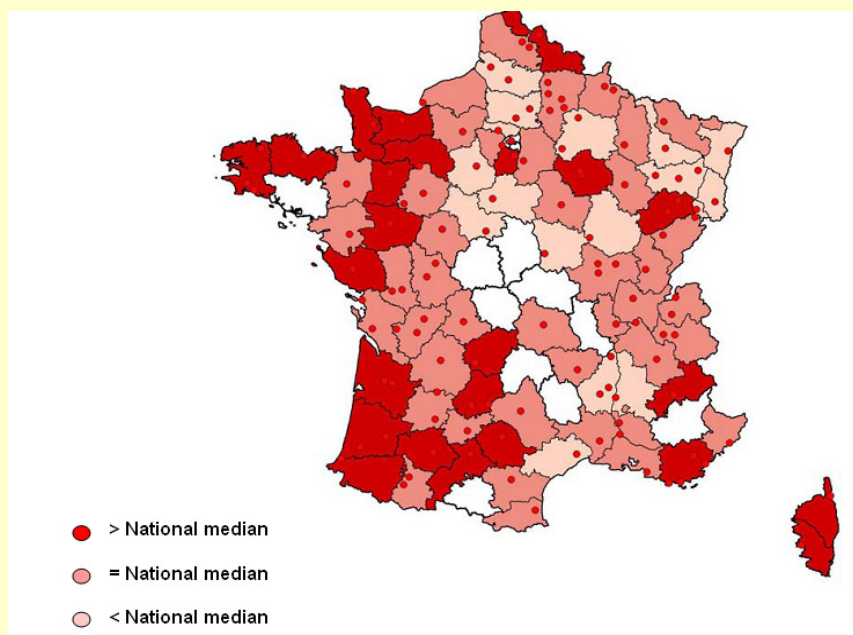
The system to collect regional drug prices: a system available for a decade

The OCRTIS has collected wholesale drug prices for the main drugs consumed in France since 2000. This data collection has been made due to the cooperation of regional and local law enforcement police forces, which are in charge of combating drug trafficking. However, until recently, this information was only used to build aggregated national data prices series. The information available at regional or local level was not used disaggregated.

An ambitious system, taking into account the complexity of this information

Assessing the relevant drug prices is complex, because within the same geographical place prices may vary due to the quantity purchased, the quality of the drugs (i.e. purity/potency, indicating the percentage of cutting agents included in the drugs sold) or, among others, the relation established between drug sellers and buyers. Nevertheless, the collection of regional and local prices have the objective of supplying law enforcement with a detailed cartography of wholesale drug prices, taking into account urban versus rural areas, different transportation networks, and their evolution over time.

Figure 2: Regions where heroin price are higher/lower than the national median price (1st semester 2009)



Renewed methodology

OCRTIS has implemented this data collection exercise three times. The first was in 2006, then in 2008 and the latest in 2009. OCRTIS has used a specific methodology to collect data at regional and local level:

- a matrix of data collection has been done in advance: combining the requirement to fill in prices in euros with comments describing drug supply level and its evolution over time;
- this matrix has been sent to each local police officer (with the capacity to collect wholesale drug prices and to describe the details of drug supply in its area of circumscription);
- a synthesizing table has been filled in each local police station;
- an analysis of each region has been made, based on the quartile method (method that reports those prices that are the lowest within 25 % of all the prices collected; the next quartile corresponds to the price of the 50 % lowest prices registered, then the 3rd quartile is the 75 % lowest off all the prices registered and finally, the 4th quartile is the highest price collected in this police station);
- based on these prices a synthesizing map was drawn, allowing a quick overview of prices zones and to compare the positioning of each region towards others. It is frequently possible to detect the main trafficking routes and consuming areas.

What has this experience taught?

This method has allowed a deeper knowledge of regional trafficking routes and entry points in France to imported drugs:

- providing a quick visual picture of drug prices and trafficking routes within the country, regions or population agglomeration, combined with information on main transportation routes;
- allowing to make fast comparisons within localities, regions and cities;
- giving a better understanding of the dynamics of trafficking networks active in France, showing which are the main entry doors by road, airports or ports;
- providing a good alert system to emerging trafficking routes;
- providing useful information that helped reorganise law enforcement priorities, and staff allocation, taking into account new trafficking routes or changing consumption patterns observed in certain regions/localities.

4.6. Statistical measures used to summarise the collected WDP

(Catarina Guerreiro and Cláudia Costa Storti)

One of the objectives of this Pilot study is to discuss the methods used to collect WDP, the main goal of this session is to discuss how to organise and report the information resulting from this data collection. Taking into account that the ultimate aim of the wholesale drug prices collection mechanism would be to provide national information of those prices charged in every wholesale drug transaction, within a certain timeframe and in a defined territory, is impossible to attain; this analysis should discuss how to overcome this limitation.

If prices of licit goods are collected through a sampling process, in a framework of illicit transactions it is particularly difficult to know what the prices charged in every single transaction were. Different methods are commonly used in order to overcome this difficulty, i.e. different methods are used to collect prices of illicit transactions, as discussed in Section 4.3. These methods should allow us to build price samples. These price samples allow us to estimate prices effectively charged in drug transactions, with the support of statistic measures which serve to summarise the available information and extrapolate central drug prices tendencies. In this session we are going to briefly describe the statistic measures which we suggest and that are commonly used in this framework.

After having collected illicit drug prices, a serious effort should be made to guarantee data accuracy at national level. The quality of the statistical results depends upon the quality of the data collected and compiled.

Samples get more representative as the sample size increases (as a proportion of the reality it represents). So, in this case, the higher the number of WDP records collected to form a sample, the higher the likelihood that statistic measures build on it represent wholesale markets correctly. Consequently, it is important to have the possibility to assess the size of each sample and, preferably, to compare the size of the sample with the measures they represent. In practical terms, in this Pilot study, it is highly advisable to report the number of recorded prices, used to build price statistics. Additionally, it is also very useful to compare this number with information concerning, for instance, the estimations of the total number of wholesale transactions, occurring in each wholesale drug market. In case this information is not available, the comparison with the total number of seizures occurring with wholesale volumes can also be used as a proxy.

After having the sample compiled, there are some data management procedures that should be implemented. Manual or electronic checks may be necessary to ensure that information is correctly compiled. The use of software might be useful to check for anomalies. When checking the data included in a dataset, the most common checks that should be done are:

- out-of-range or inliers values (data values that are quite unlikely to have occurred or even if they are likely to have occurred, are still errors);
- missing values (data omitted due to an error);
- errors (data incorrectly recorded);
- duplications (the same observation registered more than once);
- inconsistencies (prices registered in different places or reporting contradictory values).

Once data collectors have built the best possible sample of wholesale prices, descriptive statistics will be used. The aim is to describe prices observed in a region or country within a certain period of time. In order to do so, this Pilot study will focus on the type of measures that will estimate 'central tendencies'.

In this study, it was decided to use five main statistical measures to describe central tendencies. These measures are the minimum and maximum prices observed in the sample, the mean (or average), the mode and the median. Taking into account the framework where these measures are going to be used, their main strengths and weaknesses are briefly described.

Minimum — the smallest value registered in the sample:

- clearly understood by different types of readers;
- provides an idea of the 'most common corridor' where prices float;
- does not give much information on the most common prices;
- useful to detect trends changes;
- easily influenced by extreme values.

Maximum — the largest value registered in the sample:

- clearly understood by different types of readers;
- gives an idea of the 'most common corridor' where prices float;
- does not give much information on the most common prices practiced;
- helpful to detect trends changes;
- easily influenced by extreme values.

Mean (average) — it is the arithmetic mean:

- clearly understood by all, since it is the most common central tendency statistic;
- quick assessment of the distribution symmetry (verifying if it is smaller or larger than the median);
- vulnerable to extreme values.

Mode — the most reported value:

- represents the price charged more often, so it can be a useful descriptive variable;
- it is a price that was charged 'in reality';
- not sensitive to the existence of extreme values;
- possibility of more than one mode in the same sample — in this case, it is useful to have information about the values of the existing modes;

Median — once the price values are ordered from the smallest to the largest value, the median is the value that splits the ranking into two equally sized groups (50 % of cases in each side). When there is an 'even number of observations', the median is the average of the two prices of the centre of the distribution:

- represents the price charged when the number of times that smaller prices were charged equals the number of times higher prices were charged;
- comparing its value to the mean shows the symmetry of the distribution;
- not sensitive to the existence of extreme values;
- it was less commonly used some time ago by national reporting institutions, but currently a growing number of countries is using this measure.

The utility of these statistical measures increases substantially when they are reported together. For example, the meaning of the mean is increased when combined with the information given by the median: a very high mean with a much smaller median tell us that this average price is skewed by very high and uncommon maximum prices.

Typical prices

Finally, it should be mentioned that in this field it may happen that price information is not always systematically collected. There are some countries where the estimates of wholesale drug prices are based on key expert's opinion. Normally, these prices are known as 'typical prices'. This information is interesting to be reported, since it provides qualitative assessment of price levels, but should also be clearly identified as such and considered as complementary information to the statistical data reported.

Taken into account the different nature of these data sources (expert's opinion versus statistical information), it is important to identify which one is being reported. Consequently, it is requested that when 'typical prices' are reported, that data source is clearly identified in the reporting template, instead of filling in the fields available for the statistical measures with incorrect data. The opposite also holds true.

the answering European countries collect cannabis resin prices. Concerning cocaine and ecstasy, all countries but Ireland collect these prices. Heroin WDP are collected in 21 reporting countries (out of the 24 answering countries). Ireland, Estonia and Finland do not collect heroin prices. Wholesale prices of amphetamines are not collected only in the Czech Republic, Ireland, France, Cyprus and Portugal.

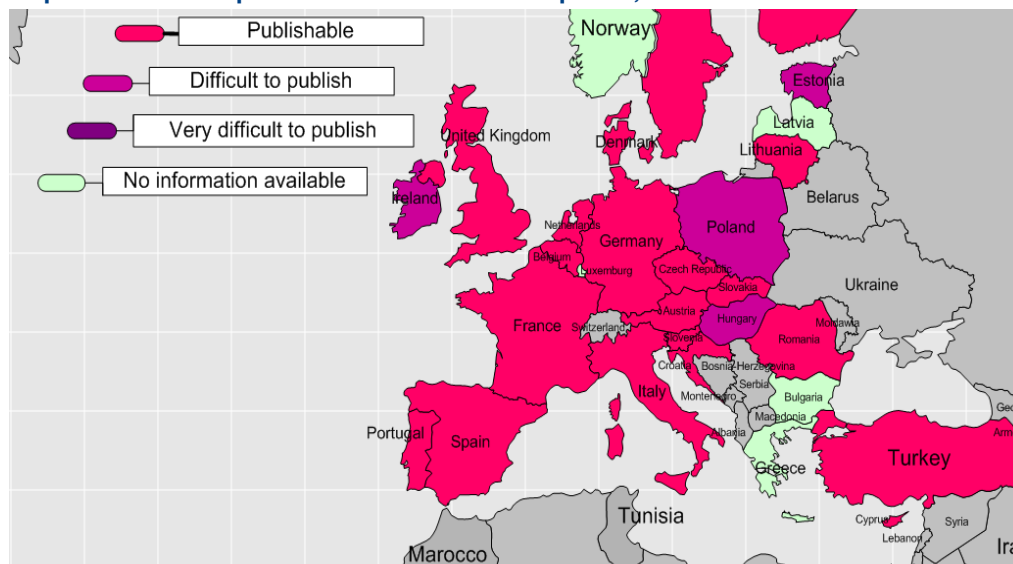
Starting year of the national collecting procedure

Table 2 of Annex 2 shows when countries started to collect these prices. The situation varies widely when different drugs and/or countries are considered. In Germany, wholesale cannabis resin or heroin prices have been collected since 1975. In Turkey, these prices have started to be compiled only in 2007. While in most countries these prices are published once a year, there are five countries that may report twice a year (CZ, ES, IT, LT, and TR). Additionally, three countries report these prices quarterly (CY, NL and the UK).

Countries where WDP are ready to be published by the EMCDDA

Annex 2 also shows those countries where WDP could be currently published by the EMCDDA. Although there are some differences within the same country for the different drugs considered, out of the 24 reporting countries, in 19 it is possible to report wholesale drug prices in the near future (BE, CZ, DK, DE, ES, FR, IT, CY, LT, NL, AT, PT, RO, SI, FI, SE, UK, HR and TR). Map 2 shows those countries where it is currently possible to publish cocaine wholesale prices.

Map 2: Possible to publish wholesale cocaine prices, in the near future



Countries using alternative definitions to wholesale drug prices

The EMCDDA asked national experts whether alternative definitions of wholesale drug prices were used in their European country, as compared to that one suggested by the EMCDDA. Out of the 24 answering countries, none is using an alternative definition. They all agreed that wholesale drug prices are those charged in transactions of large volumes. It was agreed and that the reference to a minimum of approximately 1 kg (1 000 units) threshold is adequate. It was decided that lower than 1 kg transactions (between 0.5 kg and 1 kg; and between 500 units and 1 000 units) should be accepted to take into account that in some countries,

wholesale transactions may start at a lower weight/number or units, due to the existence of smaller markets.

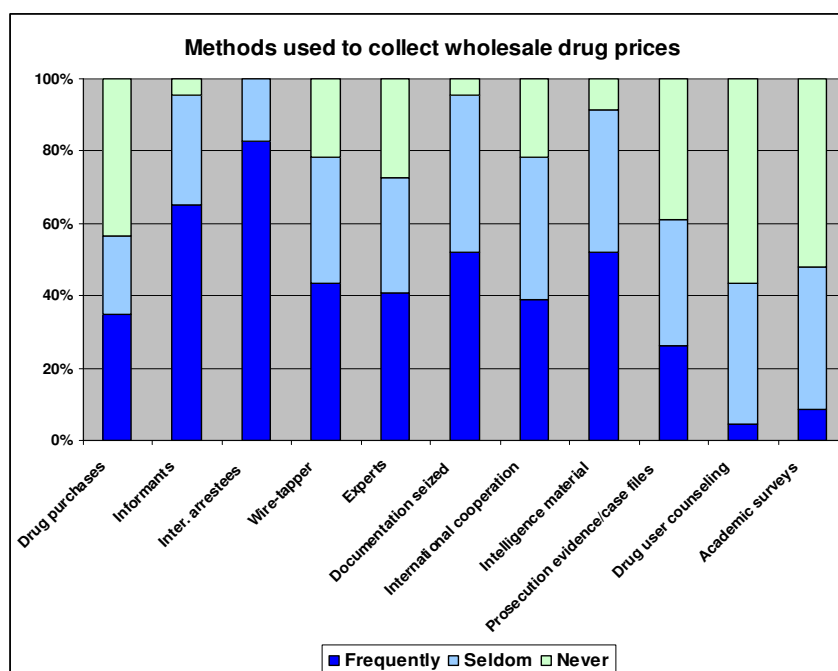
However, there is some discussion of what might be considered to be the lower limit of wholesale drug transactions for different drugs. Since dimension and habits of use vary across European countries, the lower limits of wholesale drug transactions may differ across countries. Chapter 4.1. discusses this topic.

Methods used to collect wholesale drug prices

As described in Section 4.3, there are several methods used to collect wholesale drug prices. The EMCCDA asked national experts what the methods are most commonly used by national law enforcement to collect this information. National characteristics may drive countries to prefer some methods to others. For instance, the characteristics of drug trafficking and drug use in a country, the legal frameworks, policy priorities, the organisation of the national law enforcement systems, and last but not least, the volume of resources allocated to this activity are factors that introduce wide diversity in each country's operational collecting mechanisms. Since there is consensus among national experts, that the methodology used does not considerably vary across drugs, a common questionnaire was drafted. This section presents the results.

Figure 3 summarises the results of the 23 countries that answered this question. The first conclusion we arrive to is that most of the countries combine different methods to collect wholesale drug prices, reducing the risk that prices become strongly biased. Second, all countries interrogate arrestees in order to collect wholesale prices (more than 80 % of the countries frequently use this technique, while close to 20 % do it seldom). The use of informants and documentation seized are also frequently used, as well as other intelligence material collected (more than 50 % of the countries use it frequently and 40 % use it seldom). Conversely, academics surveys and drug users counselling are techniques hardly ever used by most of the countries.

Figure 3: Methods used to collect wholesale drug prices



Statistical measures used to compile information on wholesale drug prices at national level

Section 4.4 discusses the main statistical methods usually used to summarise information on prices. 21 countries answered this question. From this group, seven countries (¹⁵) compile information using a complete set of statistical measures. These countries provide the minimum and maximum prices, average prices and either the mode or the median. With these statistical measures, it is likely that a good estimate of the prices in each of these countries is provided. In order to increase the representativeness of these statistics, the more often these prices were collected, the better. It can also be mentioned that the use of the median gives a better representation of the prices in every country. However, according to the available information, the number of countries that have this measure available is still small. Nevertheless, it is in the interest of this project that national reporting institutions will develop this tool. At the end of this Pilot study, there were a growing number of countries that started to calculate the median (DE, CZ, FR, TR, PT and PL).

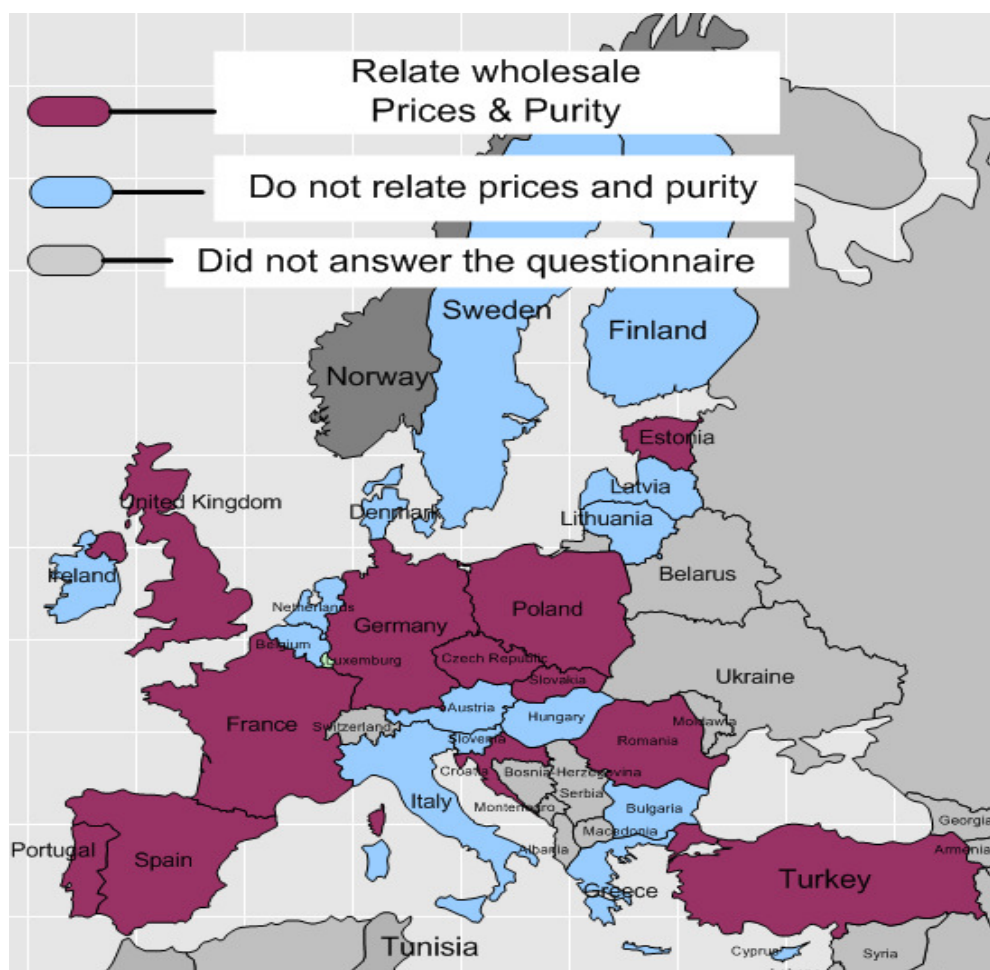
In the remaining countries, the situation varies considerably from country to country. The most frequently available measure of wholesale drug prices is the minimum and maximum prices. Besides being available in the seven countries previously mentioned, they are also published in eight other countries (¹⁶). In BE, DK and DE they are also published with the mean, which gives a better understanding of data variation. These statistics can, however, be easily influenced by extreme values that greatly influence averages. There are countries where only the minimum and the maximum values were published. This is the case in IT, AT, RO, SI and SE. However, in Italy and Austria, concrete measures are being taken in national collecting data institutions, i.e. police forces, to improve the situation, among other reasons, as a consequence of this project. In Finland, the minimum and maximum values are reported with the typical value.

There are three countries (EE, CY and HU) where typical values of wholesale drug prices are the only measure available. In these countries there is room for improvement concerning more of a statistically oriented production.

Relating purity/potency to wholesale drug price data

Out of the 23 countries that answered the questionnaire in 2010 there were nine countries that relate drug prices at the wholesale level with their correspondent purity level, as showed in Map 3. These countries are CZ, DE, ES, FR, PL, PT, SK, UK and TK. In some countries, these data only exist for some drugs (for instance, in the UK there are no data on the THC content of cannabis). Since then, other countries such as AU have also started to compile data on wholesale drug purity.

Map 3: Countries that relate purity data to wholesale prices in 2010



6. The Questionnaire on wholesale drug prices

In June 2009, Europol, SOCA and the EMCDDA met in The Hague to draw a first draft of the common questionnaire to collect wholesale drug prices in Europe. This template was analysed and tested with real national data for 2008, by the European Expert Group on Wholesale Drug Prices.

In June 2010, an expert meeting was co-organised by the UK focal point, SOCA and EMCDDA. Europol, as well as all the other 26 national representatives from 20 countries (BE, CZ, DE, EE, ES, FR, IE, IT, CY, LT, HU, NL, AT, PL, PT, RO, SK, UK, HR and TR) contributed to discuss the template and its first results. The main aim of this meeting was to improve the template of wholesale drug prices, after taking into account the first exercise of real data collection. The final template on wholesale drug prices is presented in Annex 3.

6.1. The main Questionnaire on wholesale drug prices

Annex 3 presents the main template to collect wholesale drug prices in Europe. It takes into account the information that was readily available in Europe and the minimum requirements of this dataset. The situation experienced in different countries varies widely in Europe. Consequently, the template adopted intends to accommodate these situations. On the one hand, it aims to provide a tool that allows to make a complete and meaningful report, answering to the needs of an advanced wholesale data price collection system. On the other hand, it also aims to allow countries with less developed data collection mechanisms to report in a framework where these reporting limitations are clearly identified.

It should be emphasised that when this Pilot study was written, there were a large number of countries planning to revise or already revising their internal law enforcement practices in order to comply with the requirements set by the questionnaire. According to the reported practices, eight countries introduced changes in their law enforcement practices or subsequent procedures. In France, the *Office Central pour la Repression du Trafique des Stupéfiants* (OCTIS) has linked wholesale drug prices to purity. In Austria, the Criminal Intelligence Service, MOI, improved the Internet-based application (which links local police stations to the central police office) with the objective of relating purity to prices. In the Czech Republic, the national focal point has made an agreement with national law enforcement to relate wholesale drug prices to purity. In Italy, Belgium and Hungary, national law enforcement offices are waiting for the final wholesale drug prices questionnaire to adjust national procedures accordingly; In Lithuania and Turkey, training has already started to be given to local law enforcement agents.

The main wholesale drug price questionnaire includes seven main sub-tables. Sub-table 1 records the date of data transmission to the EMCDDA; which country or region and period of time it concerns and; finally, provides information concerning the reporting agency. Sub-table 2 provides detailed information concerning the contact person in charge of sending information to the EMCDDA, in case there are doubts with the information reported.

Sub-table 3 allows national authorities to report drug prices associated with wholesale drug transactions. In order to define criteria that are objective and easily to make operational, it is considered that wholesale drug transactions are those occurring when the volumes traded are approximately 1 kilo(or 1 000 units) and above, and taking place within the national jurisdiction of the reporting country. In any case, and no matter the volume traded, prices reported have to correspond to those charged to each kilo (or each 1 000 units). In another

words, the unit of count is always the kilo (1 000 units) price, even when the weight of the transaction differs from that volume.

This questionnaire identifies 12 drugs, the prices of which are considered relevant to be periodically reported. They are cocaine, crack cocaine, brown heroin, white heroin, opium, methyl amphetamines, ecstasy, LSD, amphetamines, cannabis resin, herbal cannabis and skunk. Nevertheless, in order to accommodate future drug market developments and the emerging of other drugs, it is possible to report prices of other drugs, if identified.

When reporting prices for a certain drug, there are some basic rules to respect:

1. WDP should only be reported if relevant information exists. In case there is no relevant information available, blank spaces should be left;
2. WDP reported should concern the price charged to each kilo (or 1 000 units), even when the underlying transaction had a different weight or if there is information concerning the total value of drugs traded.
3. WDP reported should represent prices charged in a certain country. It is also possible to report regional or local prices, but in this case it has to be clearly identified in the left top of the table, in the field 'country (or region)';
4. WDP reported should concern prices recorded over one year within a country (or region). It is possible to report prices that concern other periods of time, if clearly identified in the top left of the table, in the field 'reporting period';
5. In case the national currency is not the euro, prices should be reported in the national currency, in the respective field available. In these cases, it is also possible to report prices in Euros, but the exchange rate applied should be the official one calculated by the European Central Bank, for the concerned period of time (<http://sdw.ecb.europa.eu/browse.do?node=2018794>). When the national currency is the euro, prices should be registered in the fields (Euro);
6. The purity level (or the THC content in case of cannabis) observed in the drugs traded in wholesale transactions should be reported;
7. Whenever information exists, prices and purity reported should be stratified according to the weight of the underlying wholesale transaction, in order to provide information on quantity discounts. The weight ranges defined are:
 - Consignments above 0.5 kilo but inferior to 1.5 kilos (more than 500 units but less than 1 000 units);
 - Consignments equal or above 1.5 kilos but inferior to 10 kilos (equal or more than 1 000 units but less than 10 000 units);
 - Consignments equal or above 10 kilos but inferior to 100 kilos (equal or more than 10 000 units but less than 10 000 units);
 - Consignments equal or above 100 kilos (from 100 000 units onwards).
8. If it is not possible to stratify wholesale drug prices according to the above-mentioned weight ranges, price data should be reported in the column available for this purpose (column 9);
9. To report drug prices and drug purity (potency), the following statistical measures should be provided, whenever available: minimum value, maximum value, mean (average), mode and median.

10. The number of incidents that served as the basis to calculate the statistical measures provided should be indicated, when available.
11. In case there is information about an experts' consensus on minimum, maximum and mode prices (the most commonly observed prices), these prices should be reported. There are fields specifically available to report this information.

Sub-table 4 allows the reporting of information on what the most frequently used methods are to collect information on wholesale drug prices in that country over the concerned period.

Section 4.3 describes these listed methods in detail:

- drug purchases;
- informants;
- interrogation of arrestees;
- debriefing convicted prisoners;
- wire-tapper registers;
- other covertly collected audio material;
- documents seized by law enforcement;
- operational intelligence material;
- open source information (internet and public forums);
- academic and social surveys;
- market price appreciations from experts (police and academic).

Since the methods used to collect drug prices do not differ substantially across drugs, it was considered sufficient to use the same table to report this information once. However, since the different methods used may allow collecting data with different degree of reliability and with specific types of bias, it was considered appropriate to collect qualitative results. So, instead of aiming at counting the number of times that each technique was used to collect prices, the data collector is given the possibility to report the frequency with each technique was applied, within the criteria 'frequent', 'seldom' and 'never'. This information will allow understanding if there is any potential dominant bias in the reported data.

Sub-table 5 gives the possibility to report changes in the collecting methodology which may impact the comparison of the reported data with data available in dataset. Sub-table 6 allows the clarification of reporting methods different by those set by the EMCDDA. Finally, sub-table 7 allows the reporting institution to explain and provide contextual information about a particular trend or an emerging market influence with impact on wholesale drug prices reported.

6.2. The European Drug Wholesale Price Sample Submission Questionnaire

In order to make data wholesale drug collection procedures more flexible, a template for the European Drug Wholesale Price Sample Submission Questionnaire was defined (see Annex 4). This template shall also allow countries to provide qualitative information about wholesale drug prices or detailed information on a specific wholesale price related issue.

In a framework where this questionnaire has been conceived to allow data providers to describe specific situations when WDP have been collected, the theme of each round of data collection should be pre-agreed and clear objectives should be set, in order to make these data meaningful. These objectives can be different according to the needs. Examples of possible uses to the European Drug Wholesale Price Sample Submission template are: the description of the most common methods used to collect wholesale drug prices; the description of wholesale drug prices in regions where prices are remarkably different from national averages (suggesting some regional peculiarity); the analysis of wholesale drug prices collected with the support of a specific law enforcement technique (allowing to assess if this technique results in a specific price bias), etc.

This questionnaire has three main parts. Part 1 allows the overall characterisation of the data reporting exercise. This part is conceived to allow reporting information about submission date; country or region concerned, as well as the date when the exercise of price collection occurred; the agency which collected prices and; finally, information about the contacts of the reporting person.

Part 2 aims at allowing the report of information about the general circumstances surrounding the exercise of wholesale drug price collection. In order to do so, the collection technique(s) used to collect wholesale drug prices is (are) identified in the field 'data collection methods'. Since there are times when more than one method is used, it is possible to report these techniques in the fields 'data collection method'. Then, the description of the main drugs to which price information exists is to be reported; as well as the total volume of drugs involved. In case information on purity (potency) exists, it should also be reported. This questionnaire requests information about the type of evidence collected to support price information for each drug. Furthermore, space is given to provide a brief description of the incident of the investigation. Here, information about the countries involved, trafficking locations, methods of transporting drugs and possible seizures occurred, as well as the nationality of traffickers and level of trafficking conducted should be provided. Part 2 also provides a field to report information about the drug price insight achieved during the concerned investigation. Part 2 ends by requesting authorisation to publish this information on the EMCDDA website.

Part 3 is devoted to describe the information on wholesale drug prices collected in this investigation. There, it is possible to provide the minimum and maximum prices, as well as the price applied per kilo (or 1 000 units). There is space to report the currency in which transactions were made, as well as the total weight of the transaction and the specific weight of single doses. Again, it is desirable to report which methods were used to collect prices for each drug. In case prices reported implied some calculations, its methods used can briefly be described. Part 3 ends by requesting authorisation to publish this information in the EMCDDA website.

7. Results from two rounds of data collection (2008 and 2009 data)

Annex 5 presents the WDP data collected through the European network of experts on wholesale drug prices, for 2008 and 2009. Some preliminary conclusions can be drawn from these two experiences of data collection. However, these conclusions need to be interpreted carefully since this was an experimental project and, consequently, both data providers and collectors were passing through a 'learning by doing' process. Nevertheless, it should be noted that data collectors are planning to adjust or have already adjusted their collecting procedures in order to better comply with the data requirements and templates established within this Expert group.

The main conclusions concerning data availability drawn from these reporting exercises are:

1. There is a broad consensus about the operational definition of wholesale drug prices across Europe. This definition is used both by operational data collectors and by police analysts. This shared definition facilitates the implementation of this data collection exercise across different European countries and its use afterwards;
2. A considerable number of countries reported information on wholesale drug prices to the EMCDDA:
 - 18 countries (AT, BE, CZ, CY, DE, ES, HR, LT, PL, PT, SK, UK, IT, NL, FR, CY, TR, PL) provided wholesale drug prices either for 2008 or 2009;
 - 12 countries provided information filling in the main questionnaire with data for both 2008 and 2009; while there were three countries that reported information concerning 2008 only (until the closing of this report);
 - six countries provided examples of WDP collection exercises.
3. The volume of information available differs considerably by drug: cocaine, brown heroin and cannabis (resin and herbal) are those drugs with more information available;
4. The comparability of wholesale drug prices across countries is still limited, because methods of data collection vary and different countries face different limitations. Chapter VIII describes national collecting procedures with concrete examples. Nevertheless, the data reported provides sensible information and allows to sketch a picture of wholesale drug prices in Europe;
5. Six countries report wholesale drug prices stratified by the volume of the underlying transaction (CZ, DE, ES, FR, PT and UK). There are two additional countries that have information ready to be reported on purity stratified by the volume of underlying transaction (LT and SK), but prices are still unstratified at the level of 1 kg transactions. There are five countries which can report only aggregate wholesale drug prices (IT, CY, LT, AT, TR). However, within these countries, some have already either started or announced the intention to adjust their collection system in the near future (AT, IT and TR);
6. The number of countries reporting purity varies from drug to drug, but a considerable number of countries has information on purity at wholesale level for some drugs: nine countries reported cocaine purity (AT, CZ, DE, ES, FR, LT, SK, TR and UK) and brown heroin purity (AT, CZ, DE, ES, HR, FR, SK, TR and UK). Concerning cannabis, six countries reported the potency of herbal cannabis (CZ, DE, ES, FR, SK and TR) while

only 3 reported the THC content of cannabis resin (DE, ES and FR); 5 countries reported ecstasy purity (AT, CZ, DE, HR and TR);

7. All countries reported the minimum and maximum prices as measures of the WDP and purity observed. Most of the time, these measures were complemented with information on mean prices/purity (FR is the only country that does not report the mean). Information about the mode is reported in some countries (UK, BE, AT). The median has started to be provided frequently concerning 2009 data (DE, CZ, FR, TR, PT and PL).
8. 10 countries reported the total number of incidents to calculate drug prices, for almost all drugs;
9. Two countries reported prices based on the experts' consensus. In both cases, these prices were reported in addition to those prices calculated by statistical measures.

The main conclusions **concerning wholesale prices and purity** reported show some interesting features. The methods to collect and report drug wholesale prices differed substantially across countries in these two reporting exercises (2008 and 2009). Furthermore, even within the same country, there were a few cases where changes in statistical methods were reported. Consequently, conclusions obtained from these exercise have to be taken with much caution. Some preliminary analysis can be applied to some types of drugs. Box 7 presents an example of the type of analysis this data may permit in the future.

Box 7 — Cocaine wholesale drug prices in Europe

Table 7.1 shows the best comparable WDP data for 2009, reporting wholesale drug prices verified in transactions with volumes varying between 0.5 kg and 1.5 kg. This table also considered countries that reported prices but could not associate them to the precise weights transactions. The reason to compare these prices with those charged in 'small wholesale transactions' is that since smaller transactions happen more frequently in drug markets, it is more likely that when there are prices available, but not clearly identified, they were charged to smaller wholesale transactions. The higher availability of prices charged in smaller transactions is also shown in the number of incidents reported. From there, it can be seen that countries collect more information on prices charged in 'smaller' wholesale transactions.

Table 7.1 presents the cocaine wholesale prices 'central tendencies' in 2009 and 2009. Focusing the analysis in 2009 data, we arrive to a certain number of interesting conclusions.

In 2009, in the 14 European reporting countries, the price of 1 kg of cocaine (¹⁷) varies between EUR 20 000 and EUR 66 751. When measures of central tendencies are taken into account, prices can be grouped. Using the median whenever available (BE, FR, TR, DE and CZ) or otherwise the mean (ES, LT, IT and CY) and in the UK case the mode, we conclude that central prices varied between EUR 30–35 000 in six countries (AU, BE, ES, FR, PL and TR). There were two countries (DE, LT) where central WDP varied between EUR 35–40 000; while in the IT and the UK, these prices varied in a higher range (EUR 40–50 000); two countries estimate that central tendencies were higher, varying between EUR 50 000 and EUR 60 000 (CZ and CY).

Table 7.1 — Cocaine wholesale drug prices — summary table (0.5 kg–1.5 kg consignments)

Cocaine 2008 - 1 kg - (euros)		minimum	maximum	mean (average)	mode (common)	median	Profit margin (approximately)
BE	wholesale	32,000 €	35,000 €	32,500 €	35,000 €		43%
	retail	5,000 €	87,000 €	49,300 €	50,000 €		
CZ	wholesale	30,000 €	68,000 €		58,000 €		33%
	retail	29,600 €	111,000 €	73,200 €	77,200 €		
DE ⁽¹⁾	wholesale	26,904 €	46,865 €		36,818 €		#N/A
	retail			61,600 €			
ES	wholesale			33,039 €			50%
	retail			49,500 €			
FR	wholesale ⁽²⁾					35,000 €	71%
	retail	30,000 €	160,000 €			60,000 €	
IT	wholesale ⁽³⁾	36,343 €	50,036 €	43,189 €			81%
	retail	66,400 €	90,300 €	78,300 €			
HR	wholesale ⁽³⁾	34,607 €	41,529 €	38,760 €			55%
	retail	50,000 €	70,000 €	60,000 €			
CY	wholesale ⁽³⁾			50,000 €			#N/A
	retail	70,000 €	140,000 €			80,000 €	
LT	wholesale ⁽³⁾	30,120 €	40,547 €	33,306 €			83%
	retail	30,100 €	72,400 €	61,100 €			
NL	wholesale			31,700 €			58%
	retail	25,000 €	70,000 €	50,000 €			
AT	wholesale ⁽³⁾	28,000 €	50,000 €		35,000 €		#N/A
	retail	60,000 €	90,000 €	70,000 €			
SK	wholesale	73,027 €	99,582 €				#N/A
	retail	10,000 €	67,000 €				
UK	wholesale	36,419 €	43,954 €		40,187 €		25%
	retail	25,200 €	100,700 €		50,400 €		
TR	wholesale ⁽²⁾	16,000 €	21,000 €				#N/A
	retail	40,000 €	60,000 €				

Source of retail prices: The EMCDDA Statistical Bulletin

(1) Wholesale transactions of volumes between 1,5kg and 10 kg

(2) Wholesale transactions of volumes between 10kg and 100 kg

(3) Wholesale transactions of non identified volumes

Cocaine 2009		minimum	maximum	mean (average)	mode (common)	median	N° incidentes
BE	price (€)	30,000 €	35,714 €	32,991 €		33,125 €	4
	price (€)					57,700 €	10
CZ	purity (%)					16%	
	price (€)	31,692 €	49,462 €	41,115 €		38,875 €	10
DE ⁽¹⁾	purity (%)	6%	87%	60%		67%	
	price (€)			33,039 €			
ES	purity (%)			72%			
	price (€)					35,000 €	<25
FR	purity (%)					<=50%	
	price (€)						
IT ⁽²⁾	price (€)	40,826 €	41,103 €	40,964 €			
	price (€)	50,000 €	60,000 €	55,000 €			2
CY ⁽²⁾	price (€)	34,754 €	43,443 €	39,099 €			4
	purity (%)	78%	7810%	78%			
LT ⁽²⁾	price (€)						
	price (€)						
NL	price (€)						
	price (€)	28,000 €	50,000 €		35,000 €		
AT ⁽²⁾	price (€)	20,000 €	38,000 €	29,000 €		30,000 €	
	price (€)						
PL	price (€)						
	price (€)						
SK	price (€)						
	price (€)						
UK	price (€)	39,284 €	69,589 €	58,365 €	50509 to 617323		<25
	purity (%)	40%	89%	71%			
TR ⁽²⁾	price (€)	36,984 €	66,571 €	38,007 €		35,366 €	10
	purity (%)	10%	85%	23%			

(1) Wholesale transactions of volumes between 1,5kg and 10 kg

(2) Wholesale transactions of non identified volumes

From this data sample, and taking into account the 2008 and 2009 reported data, it is difficult to arrive at solid conclusions concerning the application of quantity discounts in the cocaine market. Data reported by Germany for 2008 suggests that prices tend to decline with the increase of transaction volumes. The same holds true in France in 2009, even if the average purity seized increased. So, in France the purity-adjusted prices revealed a strong decline with higher volumes traded. However, in another country with available data, the Czech Republic, prices reported do not confirm this tendency. Therefore, we cannot identify a clear pattern concerning the application of quantity discounts in cocaine markets in Europe.

Table 7.2 presents retail and wholesale drug prices in 2008. This analysis has to be interpreted with caution since data are not always reported by the same institution or collected with the same techniques, which may result in unknown estimation bias.

Taking this into account, Table 7.2 shows an accrue estimate of the profit margins attained in European retail markets. This estimation is based on the percentage difference between retail and wholesale drug prices. This data reveals that profit margins of retail cocaine markets varied widely in Europe. These preliminary estimates suggest profit margins varying between close to 20 % in Italy and 152 % in Lithuania, in 2008. The most common values, however, are close to 50 %.

Table 7.2

Cocaine 2008 - 1 kg - (euros)		minimum	maximum	mean (average)	mode (common)	median	Profit margin (approximately)
BE	wholesale	32,000 €	35,000 €	32,500 €	35,000 €		57%
	retail	5,000 €	87,000 €	49,300 €	50,000 €		
CZ	wholesale	30,000 €	68,000 €		58,000 €		67%
	retail	29,600 €	111,000 €	73,200 €	77,200 €		
DE	wholesale ⁽¹⁾	26,904 €	46,865 €		36,818 €		#N/A
	retail			61,600 €			
ES	wholesale			33,039 €			50%
	retail			49,500 €			
FR	wholesale ⁽²⁾					35,000 €	29%
	retail	30,000 €	160,000 €			60,000 €	
IT	wholesale ⁽³⁾	36,343 €	50,036 €	43,189 €			19%
	retail	66,400 €	90,300 €	78,300 €			
HR	wholesale ⁽³⁾	34,607 €	41,529 €	38,760 €			45%
	retail	50,000 €	70,000 €	60,000 €			
CY	wholesale ⁽³⁾			50,000 €			#N/A
	retail	70,000 €	140,000 €			80,000 €	
LT	wholesale ⁽³⁾	14,481 €	20,273 €	17,377 €			152%
	retail	30,100 €	72,400 €	61,100 €			
NL	wholesale			31,700 €			42%
	retail	25,000 €	70,000 €	50,000 €			
AT	wholesale ⁽³⁾	28,000 €	50,000 €		35,000 €		#N/A
	retail	60,000 €	90,000 €	70,000 €			
SK	wholesale	73,027 €	99,582 €				#N/A
	retail	67,000 €	10,000 €				
UK	wholesale	36,419 €	43,954 €		40,187 €		75%
	retail	25,200 €	100,700 €		50,400 €		
TR	wholesale ⁽²⁾	16,000 €	21,000 €				#N/A
	retail	40,000 €	60,000 €				

Source of retail prices: The EMCDDA Statistical Bulletin

(1) Wholesale transactions of volumes between 1,5kg and 10 kg

(2) Wholesale transactions of volumes between 10kg and 100 kg

(3) Wholesale transactions of non identified volumes

8. National overviews of collection procedures

This section gives a brief overview of how different countries collect wholesale drug prices and organise the reporting procedures within the different institutions in charge of collecting different types of information.

8.1. The Austrian collecting procedures

(Christian Mader)

In Austria, data from drug cases is transmitted electronically to the Criminal Intelligence Service Austria (CIS) — the Ministry of the Interior — by a web application within the 'Intranet' (i.e. an internal Internet to secure data transport). Forwarding data is one of the CIS-officers' reporting tasks.

In principle, all statistical data are collected as a by-product of criminal investigations. There is a big concern with data quality because the main goal of statistical data is to be meaningful and informative. Since 2000, all statistical and individual data contained in reports and complaints for violation of the Austrian Narcotics Act has been recorded electronically, passed on and analysed.

Close to 1 000 Austrian law enforcement stations register these data electronically and send it to the Criminal Intelligence Service Austria (CIS) — Ministry of the Interior. The communication system is based on a web application, developed in an 'Intranet' framework (i.e. an internal Internet to assure secure data transport). In order to implement a closed Internet framework, a secure line was developed to link the Ministry of the Interior, allowing this Ministry to compile and store this data. Within the Ministry, this task is performed by the Unit IT-MS (information technology, management and services). Subsequently, this information is made available to the CIS. Within the CIS, there is a unit in charge of screening data, to verify and rectify discrepancies (upon consultation with the local service). Person-related data are recorded and used for criminal investigations. Following this procedure, approximately 24 000 complaints in the field of drug-related crime are handled electronically per year. Subsequently, CIS analyses this data. At this stage, information is split into either 'statistics' or 'personal data'. Statistical data remains in the database, being available for analyses. This set of data is the basis of the Annual Narcotic Crime Report.

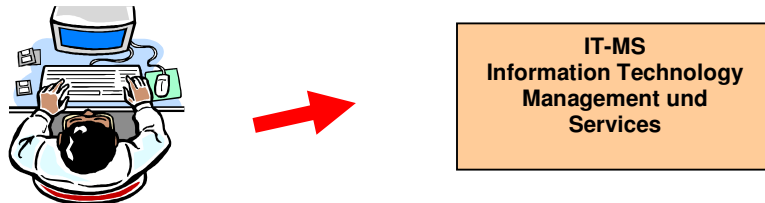
The entire database (statistical data and individual data) is electronically forwarded, via the 'E-Government' system, to the Federal Ministry for Health. Extracts of this database are then further relayed to the OBIG (Austrian Reitox Focal Point) and then transmitted to the EMCDDA.

Step 1 — Local police officers compile files for prosecution:

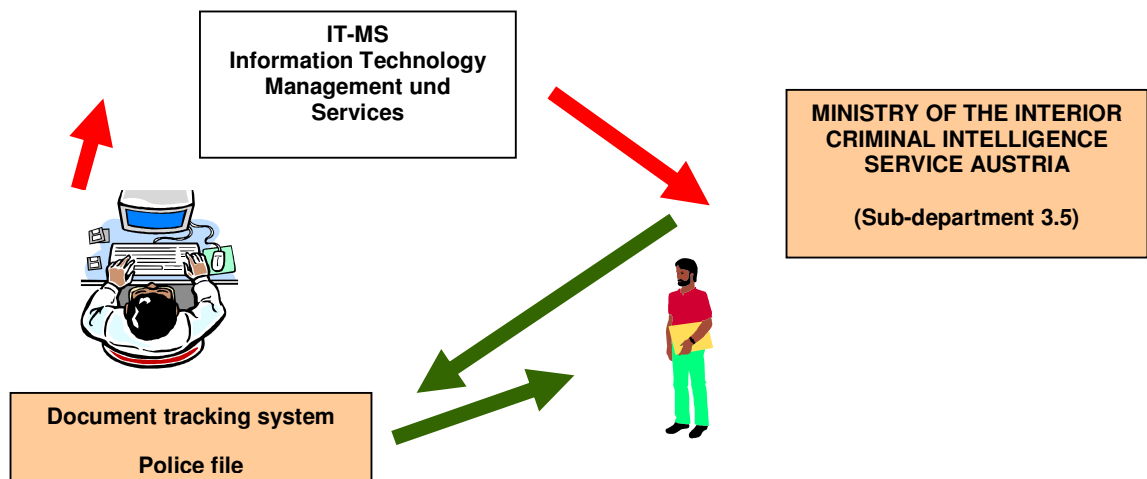


The electronic system is available for each police officer in Austria (approximately 23 000). Police officers compile each report for prosecution.

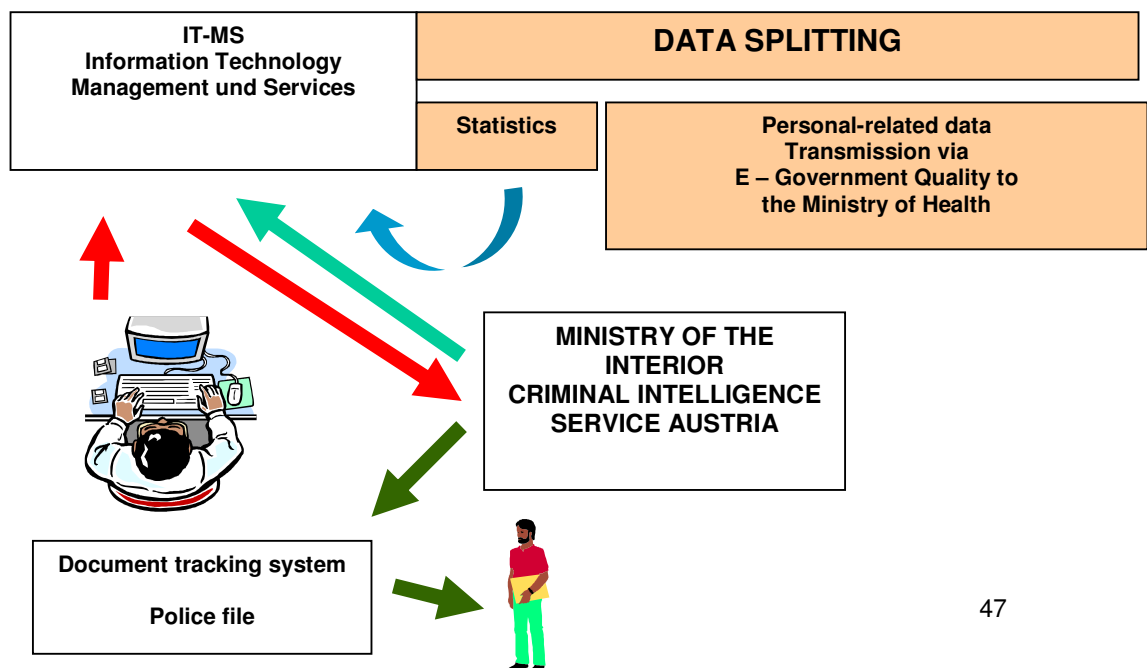
Step 2 — Data are electronically reported to CIS — Upon completion of the report, the system forwards the information in real-time via a secure line to the Ministry of the Interior, where data are stored in a database by the unit IT-MS and made available to the CIS Austria.



Step 3 — Data checking — The sub-department 3.5 of the CIS screens the data, detecting rectifying discrepancies (upon consultation with the local services). Person-related data are recorded and used for criminal investigations.

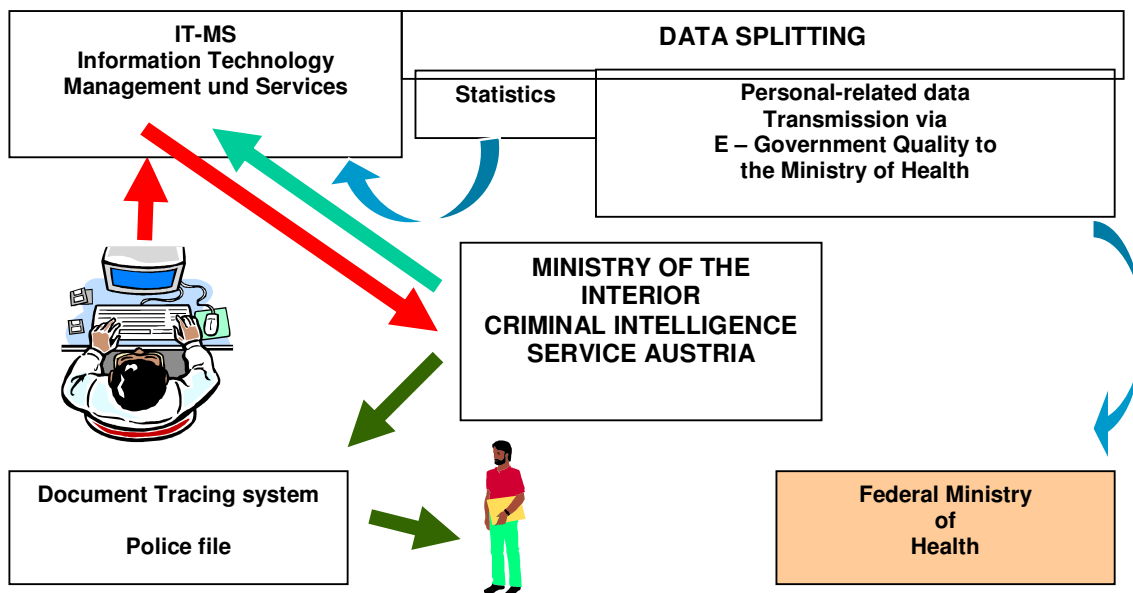


Step 4 — Data analysis



As the Austrian data protection law is very strict, the CIS organises available data. Data are split into 'statistics' or 'personal data'. Statistical data remain in the database and are always available to be analysed. This data will contribute to the Annual Narcotic Crime Report. Individual-related data are erased from this database.

Step 5 — Reporting results

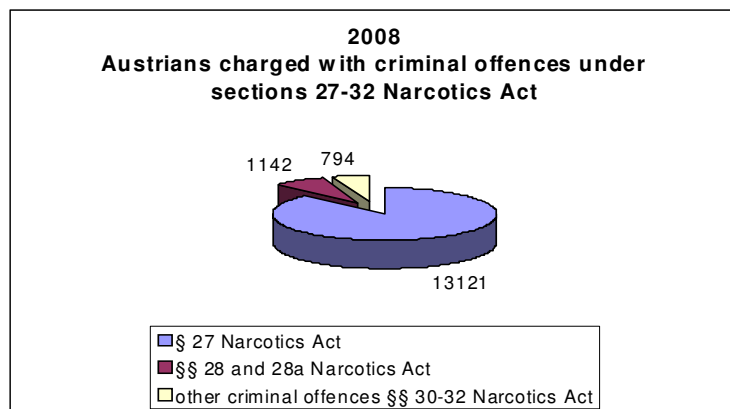


The entire dataset (statistical data and person-related data) is electronically forwarded to the Federal Ministry for Health. Extracts from this evaluation are then further relayed to the OBIG for onward transmission to the EMCDDA.

The main advantages of the system are:

1. Each individual-related data record is tagged with an area-specific personal identifier, allowing a cross-analysis of personal data. It also complies with the requirements of data protection.
2. Multiple and flexible breakdowns of the database are possible. Then, their analysis is used for steering human resources of criminal police, allowing the construction of the required statistics.
3. This process facilitates the creation of the Annual Drug Report of Austria (available on the Internet, www.bmi.gv.at/Kriminalpolizei — link 'Publication').
4. Timely delivery of data.

An example of possible data use: Austrians charged with drug criminal offences:



Notes: The data collecting system upgrading: at any time!

Innovative systems have to be easily upgraded, whenever required. Times, crimes and consequently, requirements change fast. As such, in 2009, the Austrian data collection system registered an upgrade: drug prices (retail and wholesale) and their related purity was inserted. In order to do so, a new template was created in the IT programme filled by local police officers:

BMI - Kriminalstatistik ONLINE - Microsoft Internet Explorer

Adresse: http://vapp110715/Kriminaltraining/

Hilfe | Startseite | Abmeldung | Benutzer | Neuer Beleg | Suche Beleg | Suchtmittel-Kontrolle

Tatort Wien 22 - Donaustadt

☐ Öffentliches Lokal ☐ in Schulen und unmittelbarer Umgebung ☐ öffentl. Verkehrsmittel

☐ Wohnung ☐ sonstige Orte

Grenzaufgriff: ☐ Zollaufgriff

☐ illegales Labor zur Suchtmittelherstellung ☐ Cannabisanbau outdoor

☐ Cannabisanbau indoor ☐ illegaler Mohnanbau

Tatzeit von (TT.MM.JJJJ): 01.08.2009

Tatzeit bis (TT.MM.JJJJ):

Drogenarten Hinzufügen

Substanz	Konsum	Injiziert	sichergestellte Menge in Gramm bzw. in Stück	Erwerb	Besitz	Erzeugung	Beförderung	Einfuhr	Ausfuhr	Weitergabe	Del
Heroin	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0 Gramm	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Substanzpreise

Substanz	Strassenhandelspreis	Grosshandelspreis	Reinheit	Del
Heroin	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input checked="" type="checkbox"/>

Transportroute

Substanz	Herkunftsland	Transitländer	Bestimmungsländer	Transportmittel	Del

Weitere Straftaten

☐ Weitere Straftaten

Start | PrinterSession | MonitorSession | Posteingang - Microsoft O... | BMI - Kriminalstatistik... | 16:07

Note: Strassenhandelspreis = retail price, Großhandelspreis = wholesale price, Reinheit = purity.

With this system, it is only necessary to collect key data to be reported to prosecution. The statistical data treatment is automatically realised by the system. Subsequently, an IT

application builds the required statistics (mean, median and mode). This application is generally applicable to all data fields. Data is a by-product of criminal investigations — the system performs the analysis.

The benefit of having invested in the current Austrian automated system of data collection system has been recognised as being worded since it has benefited law enforcement agencies, health institutions, policy makers and international organisations.

8.2. The Belgian collecting procedures

(Pascal Garlément)

Background information — the Belgian institutional cooperation

In Belgium, there are three power levels that are in charge of collecting wholesale drug prices: the federal government, the three regional governments (Flemish, Brussels and Walloon regions) and the three communities (Flemish, Walloon-Brussels and German-speaking communities). With regard to the gathering of information transmitted to the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), one national focal point coordinates the actions of three sub-focal points, organised by the communities. The police also cooperate with the national focal point, among others, for the drawing up of the Belgian annual report. The communication of the prices is part of the cooperation between the police and the national focal point. Although information regarding retail price provided by the police is completed with information in reference to the prices gathered by the sub-focal points, when it concerns wholesale prices (defined for this project as those concerning quantities of illegal drugs exceeding 500 grams) only police services are able to provide the requested information.

Police organisation elements influencing price collection

The Belgian police is organized on two independent but integrated levels. Integrated tasks relate, for instance, common recruitment, common training and the use of a single criminal data base. Beside the central service in charge of the coordination, the federal judicial police counts 27 decentralised units established in each of the 27 judicial districts where legal proceedings are organised (under guidance of a public prosecutor). The federal police also count some first line units that are entrusted with recording violations of the legislation on illegal drugs (railway police, highway police, waterway police and airport police). The 186 local police units are also involved in the fight against the sale, production and trafficking of illegal drugs.

On average, police services report more than 40 000 violations of the legislation on illegal drugs to the public prosecutor. The majority of these violations concerns possession or retail sale of drugs (about 85 %). In 2009, the central drugs unit only registered 583 seizures of more than 500 grams. However, Belgium has a huge consumption market of illegal drugs, and most of the drug seizures (in particular in the ports and airports) are in transit to another country. Indeed, almost 84 % of the persons intercepted in possession of drugs at the Brussels Airport do not live in Belgium and/or declare that Belgium is not their final destination. The fact that Belgium is an important transit country influences the collection of prices. When the police seize drugs that are intended to be sold in another country, the judicial investigation (that allows estimating the price charged) is often led either in the destination country or in the origin country where seized drugs come from.

Elements influencing the collection of information regarding purity

Belgium has a National Institute of Criminology that is under the auspices of the Ministry of Justice, which is entitled, among others, to make the analysis of drugs. This institute is not the only laboratory where judicial authorities can request the analyses of seized products. Numerous other laboratories (such as those from hospitals, universities and private laboratories) can be requested by magistrates to carry out drug analyses. The reports of these analyses are transmitted to the magistrate who adds the findings to the judicial file. The police service in charge of the investigation under the guidance of the magistrate is usually informed about the findings of the analysis but never obtains a copy of it. The findings of many analyses carried out on request of magistrates are thus not centralised and it is therefore impossible to publish representative findings.

The collection and use of prices in Belgium

For operational purposes

The price of drugs is mainly used for operational purposes. An actual and accurate knowledge of the prices is a necessity for the credibility of undercover operations. This knowledge is also useful when calculating the value of the illegal property that is confiscated by a dealer or trafficker. This knowledge, however, is only useful if it is up-to-date and detailed. An annual collection of prices does not meet this requirement of actuality and detail. For such a purpose, the determination of a price occurs by means of a punctual and accurate request to investigators who have been confronted with such a situation.

For strategic purposes

The Belgian federal police does not use prices as a strategy indicator, due to several reasons (e.g. size of the country, role of the country in trafficking, lack of reactivity of the price). Nevertheless, as (general) knowledge of the price of drugs remains crucial, the central drugs unit of the federal police uses a cheap procedure for the collection of this (general) information. Once a year, the federal and local drug investigators are requested to communicate price data (about minimum, maximum and common indicators) of the drugs they dealt with in their judicial district, both wholesale and retail price. In order to fulfil this obligation, investigators rely on the information from their inquiries, phone tapping and contacts with consumers and dealers.

The information is communicated by the investigators through the 27 information crossroads established in each judicial district. This working method allows, first, each district to gather the data received from the federal and local units and, second, the central level to gather the data per region or at national level. Beside the communication of data to the national focal point, the information is also communicated to the 27 information crossroads that have contributed to data collection.

Future developments

In order to give the EMCDDA a chance to carry out this project successfully and to evaluate if the collection of information regarding the wholesale prices is likely to contribute to a better understanding of the drug market, the Belgian federal police is ready, for a limited period in time, to improve the collection of information relating to wholesale prices.

During the second half of 2010 and in 2011, the central drugs unit will systematically gather data indications about the prices for seizures exceeding 500 grams, and information about the

origin and destination of the drugs or the characteristics of the criminal groups that are involved in the deals. At the end of 2011, a cost-benefit analysis will be carried out in order to decide whether this information gathering procedure can be maintained or if the former procedure should be implemented again.

8.3. The collecting procedures in Cyprus

(Elena Demosthenous)

Methodology of data collection:

The Drug Law Enforcement Unit of the National Police Department is the main actor in the collection of wholesale drug prices in Cyprus. The collection began in 2004 when the Cypriot national focal point set the requirement of monitoring drug markets, in order to have a better understanding of traffickers' activities. The monitoring and recording of wholesale prices has contributed to the improvement of the strategies designed to combat illegal trafficking by some key actors (i.e. policy-makers). In addition, among other data concerning illicit supply of drugs, wholesale prices are reported from the DLEU to the UNODC through Annual report questionnaires.

Concerning the collection of wholesale prices, there is a DLEU department in each district of the island that collects these prices, depending on available information. This data collection is based mainly on police undercover activities, seizures, arrests and also on informants. Wholesale prices are collected on a quarterly basis. However, the prices vary depending on the type and quality of the substances. Due to the fact that no purity testing is carried out by the State General Laboratory, this is the only source available, with regards to the quality of an illicit substance.

The data collection mechanism of wholesale drug prices could be further developed in order to meet European standards. First, the fact that there are few numbers of seizures involving huge amounts of drugs prevents an extensive analysis of these prices (i.e. minimum, maximum, mode, etc.) ⁽¹⁸⁾. Consequently, more investment in this area would be desirable. Secondly, the lack of an electronic system for the recording of wholesale prices database is also a constraint. This absence prevents both quick access to information and effective comparison between national and European wholesale price levels.

Steps forward

In January 2011, the DLEU has begun applying the same methodology suggested by the EMCDDA questionnaire on wholesale drug prices. This is an important step forward, since it harmonises collecting procedures with European standards, allowing more accurate comparisons with other countries. Difficulties in collecting procedures will be going to be discussed as soon as these questionnaires are going to be completed for the first time.

8.4. The Czech Republic collecting procedures

(Roman Pesek, Bretislav Brejcha and Jiri Vopravil)

The system of price data collection

In the Czech Republic, there are three levels of police forces in charge of combating drug-related crimes. Two levels of police units have a territorial scope: first, the district directorates (81 districts) and, second, the regional directorates (14 directorates). Finally, the third level is the National Drug Headquarters (NDH). Both the first and the second police units report data directly and independently from each other to the NDH.

The National Drug Headquarters (NDH) compiles data on prices of different types of drugs, based on the information supplied by regional and district directorates. The system of collecting data on drug prices has been running in the Czech Republic (CZR) since 2002. Until 2008, these data was collected based on expert's estimates and supplied by some districts and regional directorates. National drug prices were then published every 15 June and 15 January.

In 2009, the system of price collection was improved and statistical analysis was introduced. In order to implement the new data collection mechanism, specific internal instructions were issued by the Police President, guaranteeing that the delivery of price information to the NDH became mandatory. Consequently, currently, each time that drug cases have data on prices this information has to be registered and sent to the NDH by e-mail (via an internal police network), in an Excel file. In case a police directorate does not have cases concerning all types of drugs, data reported will be based on expert's estimates. Furthermore, if a police district detects a rapid change in the prices of a monitored drug (more than $\pm 25\%$), they are required to inform the central office immediately. Until now, no particular difficulties were detected in this operational system. A summary of these data is compiled and published in the NDH annual report. In this framework, the NDH annual report publishes wholesale drug prices statistics (average, mode and minimum–maximum range of wholesale drug prices) for each drug type.

Improvements foreseen in the collection system in the near future

As a follow-up to the first EMCDDA's Expert meeting on wholesale drug prices organised in Lisbon (May 2009), the NDH and the Czech focal point (the Czech FP) have been developing a better system to collect WDP. Following these two years of experience, the Czech law enforcement entity has increased the priority given to this issue. Special attention has been given to the availability of WDP data, its practices, the link between WDP and purity, patterns of construction of prices (pricing) from higher to lower levels in relation to purity and to the retail market. Consequently, there are improvements achieved in three main fields:

1. The CZR started using the same definition of WDP as the EMCDDA — two years ago, the WDP definition depended on the drug related legislation. In the past, the terminology 'larger extent' was used, without being precisely defined. In this framework, cases of more than 1 kg or 1 000 tablets were regarded as 'larger extent of drugs' or 'sale in bulk'.
2. The Czech police forces organised and collected information to fill in the EMCDDA's WDP template (with data concerning 2009) with the support of NDH — prices were reported in separate tables with information about the main type of drugs (herbal cannabis, cannabis resin, ecstasy, methamphetamine, opium, heroin, cocaine, LSD). Drug prices and correspondent seizures are split according to weight categories. The number of seizures with prices available is also reported by weight categories. Additionally, the NDH reports data on purity (for each weight category), whenever data exists.

Collected variables

Weight categories	Seizures	Purity	Price
0 – 10 g	Number Total Quantity	N. of analysed samples The highest purity The lowest purity Average purity Mode Median	N. of analysed samples The highest price/ 1kg The lowest price/ 1kg Average price/ 1kg Mode/ 1kg
11 – 50 g			
...			
...			
800 – 999 g			
...			
...			
10 000 g and more			

3. More detailed qualitative data is now available, describing each case of large seizures.

Further developments still required

Outcomes from a thematic study in 2006

In 2006, the Institute for Criminology and Social Prevention explored the difficulties in gathering seizures data. The study was published in 2008 and included a questionnaire survey answered by 168 experts with a professional background in criminal justice (judges, public prosecutors, officers of the NDH, customs officers and Prison Service officers). The questionnaire allowed officers from the NDH and Customs to comment on the difficulties of collecting seizures data. The pitfalls mentioned included: a drain in the experienced and trained staff consequent to the reduction of customs officers at the borders after the accession of the country to the Schengen Convention; the disclosure of investigation methods; the high level of organisation and extensive financial resources of drug traffickers; the insufficiency of drug enforcement legislation that could make drug-related cases more agile (e.g. the absence of the legal status of a chief witness); the fragmentation and poor interconnection of the information databases of cases under investigation between the individual branches of the police and the customs service; and corruption among Aliens and Border Police officers, civil servants, and judges.

Small proportion of seizures containing larger volume of drugs

Seizures data is collected by both the Police of the CZR (NDH) and by the General Directorate of Customs (Customs Drug Unit, CDU). Currently, the proportion of drug seizures containing more than 1 kg or 1 000 tablets observed in the CZR is relatively small. In 2007 and in 2008, only 5 % of the number of seizures reported were above 1 kg or 1 000 tablets. In total, there were 68 seizures with volumes above 0.5 kg in 2009, representing 8 % of all the total seizures in that year. In 2009, seizures above 0.5 kg concerned herbal cannabis (45 cases), cocaine (11), heroin (9), cannabis resin (2), and methamphetamine (1). However, information (estimations) concerning WDP per 1 kg (herbal cannabis (1), heroin (2)) was only mentioned in three of the aforementioned cases.

Difficulties faced in WDP data collection

According to police officers, it is more difficult to obtain information about WDP than retail prices. It is easier to get information from the final customer than from the manufacturer or from the drug middleman or dealer from higher levels of the drug market. The police mainly use interrogation of arrestees and market price appreciation from experts as main methods to get WDP data.

Drug purity data

Drug purity data are obtained mainly from both the Forensic Science Institute in Prague (NDH sends samples of drug seizures to this institute) and the Customs lab (dealing with the seizures performed by CDU). The Czech FP gets all the data available every year. They also ask labs for more precise information on samples subject to purity analysis, in order to distinguish between wholesale and retail drug markets. Nowadays, the situation is better because NDH uses a special table (see above) where it is possible to compare information on purity and WDP received from forensic labs.

Summary

The CZR reports a lack of data on WDP because there are not many wholesale drug transactions detected and/or occurring. Consequently, this data collection process is particularly difficult. The proportion of large seizures (more than 1 kg) is small and concerns mainly brown heroin, cocaine and herbal cannabis. Following the European attention given to this subject, the Czech Republic has recently invested considerable resources and efforts aiming to improve the system of WDP data collection in institutions in charge of these activities. Results are to be expected in the near future.

8.5. The German collecting procedures

(Heiko Hergenbahn)

Purity and price data

There are three different sources of data on drugs purity in Germany. These sources are the Central Criminal Police Offices in the Federal States, the Federal Criminal Police Office (BKA) in Wiesbaden, and the Federal Financial Directorates as the supreme authorities for the main customs offices. All these authorities assess the active ingredient contents and cutting agents of drugs being seized by police or customs in Germany. The samples of seized drugs analysed are most often those involving 'non-negligible' quantities of drugs or are sent in as a request from the public prosecutor's office.

The definition of 'non-negligible quantities of drugs' is provided in the German Narcotics Act. The drug amounts were determined by the Federal Supreme Court, and their classification as 'non-negligible' serves as basis for the indictment and support to courts' decisions. In cases where the Federal Supreme Court has not taken any decision yet, this classification should provide guidance to other courts or toxicology experts.

Definition of 'Non-negligible quantities' of narcotic drugs in Germany

Heroin:	1.5 g heroin-hcl — 150 units weighing 10 mg each; 30 extremely dangerous units weighing 50 g each
Cocaine:	5 g cocaine-hcl — no competent ascertainment regarding units possible (various application forms)
Amphetamine:	10 g amphetamine-base — 200 units weighing 50 mg each
Methamphetamine:	5 g methamphetamine-base — 200 units weighing 25 mg each
Ecstasy:	30 g base of MDMA, MDA, MDE (also MDEA) — 250 units weighing 120 mg each
Cannabis products:	7.5 g THC — 500 units weighing 15 mg each

In cases of seizures made by police offices or customs authorities, the State Criminal Police Offices and the Financial Directorates report purity data to the BKA. These reports flow into the so called Statistical Programme on Narcotic Drugs (SAR) at the forensic science office, section toxicology at the BKA, just as the results of the analyses of samples from drug seizures made by the BKA itself.

The SAR at the competent toxicology section in the BKA includes approximately 20 000 individual results of forensic examinations carried out by the German laboratories each year. The median of the active ingredient contents is calculated for each type of drug. In connection with cannabis, a distinction is made between marijuana, hashish plants and hashish oil.

The data is sent by the toxicology section to the competent section of the BKA to analyse the drug situation and to integrate it in the German annual drug report. The data include weight categories on street level (< 1 g), on mid-level (1–1 000 g) and on wholesale-level (1 000 g and more). There, it is possible to analyse data for different weight categories (such as 500 g to 1 500 g), at least for some types of drugs. It is also possible to calculate, for example, the arithmetical mean instead of the median of the active ingredient content. For the annual drug report, the BKA uses the median and the weight categories supplied by the 16 Germany State Criminal Police Offices.

To obtain a picture of the scale of forensic records in the SAR, the number of records reported in 2008 by the police in the Federal States, by German customs and by the BKA itself are as follows:

Collected forensic data of narcotic drugs (street-/mid-/wholesale-level) in 2008

Herbal cannabis:	2 762 records
Cannabis plants:	4 727 records
Cannabis resin:	3 048 records
Cannabis concentrate:	8 records
Cocaine:	3 256 records
Heroin:	4 364 records
Amphetamine:	2 866 records
Ecstasy:	541 727 tablets

These reports are the basis for the calculation of the median drug purity content.

Wholesale-based heroin and cocaine purity is determined as follows. Since the purity level of heroin and cocaine preparations depends on the quantities seized, three weight categories were set to register active ingredient contents. One category comprises samples weighing up to less than 1 g, which represents 'street-level trafficking'. The second category contains preparations with a weight of more than 1 g and up to 1 000 g. The third category comprises samples with more than 1,000 g, which represents the 'wholesale trafficking' of drugs. This complies with the classification used to register drug prices data.

Since active ingredients are usually contained in drug preparations in the forms of base or salt, in order to better compare the results, the contents of psychotropic ingredients are referred to in base form, irrespective of the chemical form the additive substance actually presents in the illegal seized drugs. The validity could be further increased if the active ingredient content of a seized drug would be linked to its price. As in the case of the purity indicator, the BKA is able to show the development of drug-prices at street- and wholesale-level over a certain period of time.

Several problems exist to link both data sources in Germany:

- In contrast to the drug prices gathered by police investigations, the information on active ingredient contents results only from the central analysis of the forensic results, based on samples built with drug seizures.
- Price-related data refer invariably to cases that happened within the year concerned. Prices reported in the standard tables of the State Criminal Police Offices have to be sent to the BKA until 31 January of the following year. However, purity-related data refers to cases analysed in the concerned year. This means that in case of a seizure made in December 2008, its analysis will only be carried out in January 2009, influencing data concerning only the 2009 statistics.
- The purity data include a high number of seizures made in some large or densely populated Federal States such as North Rhine-Westphalia, Bavaria, Lower Saxony, etc. in contrast to the scarcely populated Federal States with comparatively few seizure cases. To better understand this problem please take into account the German drug prices collection method:

Annual reporting of drug prices in Germany

The BKA receives annually price tables with summarised information of 16 German State Criminal Police Offices.

These Federal States' tables provide the following information: the minimum, the maximum and the typical prices of the main drugs, according to different weight categories (1 g, 1 000–10 000 g, 10 000 g and more). Broadly speaking, the 'typical price' registered is in a sense similar to the mode.

At the BKA, these 'typical prices' summed up and divided by the sum of the Federal States that have reported (principally 16), i.e. BKA calculates the mean of the prices provided by the 16 German States Criminal Police Offices.

That means that price-related data of the 16 State Criminal Police Offices are being taken in to account equally. In contrast to that, the development of purity data is decisively influenced by the data of the Federal States with more seizures made per year.

Since there are different sources, which are similar (but not identical), as well as different methods used to collect both prices and purity, it is not possible to link data on purity to prices

on a one-to-one basis. Therefore the comparison of both indicators can only be made taking into account their average values. This problem exists not only on the wholesale-level but also to the street-trafficking level.

Finally, it has to be mentioned that an assessment of the current drug situation is hardly possible on the basis of drug purity data and drug-price data.

8.6. The Italian collecting procedures

(Federico Quatrini)

The Central Directorate for Antidrug Services (DCSA) is the Institution in charge of providing information on wholesale drug prices in Italy. As a law enforcement agency, the DCSA is under the competence of the Ministry of Interior. The DCSA's main role is to centralise the information collected and provided by the regional Italian police forces from 12 provinces (Palermo, Reggio Calabria, Napoli, Bologna, Venezia, Firenze, Trieste, Roma, Torino, Genova, Milano and Verona). These 12 provinces are located in regions with the biggest drug markets, where the presence of organised crime and trafficking routes are notorious. These regional police forces report prices twice a year to the DCSA. This institution is in charge of compiling these data and estimating the minimum and maximum price for each drug type.

Future developments

Following the guidelines established by the EMCCDA, the DCSA has developed a project to optimise the wholesale drug prices collection system in Italy. The project is funded by the Italian Focal Point, and it will be a joint activity conducted by the focal point and the DCSA. The aim of this initiative is to improve the Italian data system on wholesale drug prices. In order to implement this goal, the DCSA will develop a template, which will be available to local police forces on an internet platform, to collect wholesale drug prices. This new template will collect information on WDPs, taking into account, among other characteristics: the methods used to collect WDP, transaction weights, and the overall information defined in the Project of wholesale drug prices launched by the EMCCDA. Concerning purity, this project intends to make a selective sample of purity tests, i.e. to require the purity testing of the most significant seizures.

The Italian Wholesale Drug Price Project aims to develop a national Pilot study, which will be followed by a training exercise conducted by police officers at the DCSA in every Italian region. This training exercise will aim at developing regional skills that should allow local police officers to collect wholesale drug prices according to the pre-defined requirements.

8.7. The Lithuanian collecting procedures

(Aiste Bakasenaite)

Since 2004, the Organised Crime Investigation 3rd Board of the Lithuanian Criminal Police Bureau has been the national coordinator, within national law enforcement agencies, in charge of compiling and analysing information regarding illegal drug trafficking in Lithuania. Consequently, every six months, the Lithuanian regional police divisions, the Customs criminal service and the State border guard service provide information on illegal drug markets to this Board. There are 10 regional police divisions with organised crime investigation services that send detailed reports on illegal drug markets. These reports include information on retail and wholesales drug prices in Lithuania.

Price information

Regional police divisions provide information complying with the following template (it is mandatory to fill in all the columns of the table):

Prices of narcotic and psychotropic substances — template of regional police divisions

Date of information received	Name of the substance	Total quantity of the substance (1)	Price of the indicated quantity (2) (currency unit)	Source of information (3)	Region	Identified purity	Retail/wholesale (4) (additional information)

- Total quantity of the substance — to indicate the total quantity.
- Price of the indicated quantity — to indicate the value of the total quantity.
- Sources of information:
 - purchases (information received from undercover agents, investigating operational case, etc.).*
 - use of technical measures (for example — wiretapping).*
 - informer.*
 - interrogation of a detainee.*
 - public source (press, anonymous information.)*
 - other.*
- Retail/wholesale — to indicate prices of other transaction volumes. For instance, when reported prices concern 1 g transaction (sometimes officers use this as an indicator of prices in wholesale markets).

In order to make a clear distinction between different market layers, minimum thresholds have been defined for wholesale transactions, middle market and retail transactions. When the total quantity traded is below 50 grams (50 tablets), prices are classified as retail. Drug transactions between 50 grams and 1 000 grams are classified as middle market transactions. Prices of transactions above 1 000 grams are accounted as wholesales prices. The Board uses a standard methodology to calculate the average wholesales drug prices (and retail prices).

Concerning the sources of drug prices data, information provided by hidden purchases and by other technical methods (for example, by wiretapping) are the most valuable. In case these methods do not provide price information, other sources are taken into account. In this case, average prices are marked as 'intelligence information'.

The Board summarises and analyses information on drug prices. This information is then used to prepare the Annual Report of Illicit Drugs Trafficking and Their Control in Lithuania. The Board provides this information, aiming at answering to requirement of the Government of the Republic of Lithuania and contributing to the draft of the National programme for control of drugs and prevention of drug addiction. The Board also provides this information to Europol and other international organizations. Last but not least, average drug prices are also provided to Lithuanian police officers.

The main difficulty faced by the Board when calculating national wholesale drug prices is the rarity of information provided by reliable sources, such as hidden purchases.

Purity information

Since 2008, Lithuania has been collecting information on drugs purity in relation to drug prices. This is especially the case when the method of drug purchases is used. In this case, it is asked to indicate the level of purity and to relate it to the price level. However, 2008 data shows that there is not enough information to build a reliable purity adjusted prices database at the wholesale level. The Board has mostly received information concerning retail prices and the purity of small quantities.

Foreseen developments

An electronic system has been developed recently to collect information about detentions or undertaken investigations regarding illegal drug circulation in Lithuania. Law enforcement officers from regional police divisions have to fill in detailed information in electronic format concerning detentions and investigations and to send these files to the 3rd Board. These electronic templates include questions about drug prices. Consequently, the Lithuanian Criminal Police Bureau expects that price information will become more reliable in the future, since it will be directly related to concrete cases. This information will be used to perform and report drug prices analysis.

8.8. The Portuguese collecting procedures

(Carla Ribeiro and Catarina Guerreiro)

Institutions in charge of collecting wholesale drug prices and purity

In Portugal, the Criminal Police (PJ) is the law enforcement body in charge of providing information and analysing the trafficking of narcotic and psychotropic substances. This Institution centralises information on drug trafficking, collected by those law enforcement agencies which participate in Joint Intervention and Coordination Units. The law enforcement agents working in the field are members of the PJ, the National Republican Guard (GNR), the Public Security Police (PSP), the Foreign Nationals and Borders Service (SEF), the Portuguese Board of Customs (DGAIEC) and other public bodies, such as the General Directorate for Prisons (DGSP) and Maritime Police (PM), with competence in the control, monitoring and prevention of drug trafficking. These law enforcement agencies collect information on drugs prices and, in particular, of WDP.

This information is gathered and centralised by the PJ, which is in charge of compiling, analysing and disseminating these data, taking into account the needs of the target audience. The Institute on Drugs and Drug Addiction (IDT, IP) is also a receiver of this information. The IDT itself is also in charge of analysing this information and disseminating it, in the context of the different national and international commitments.

Concerning the information on drugs purity, the PJ is also the main entity involved, with the cooperation of the Portuguese Laboratory of Forensic Science. The PLFS collects, processes, and records traces and performs tests in different fields of forensic science, including toxicology. Therefore, information on the purity of drugs at different levels of the drugs market is regularly collected.

Methods used to collect price information

The most common method used to collect wholesale drug prices is the interrogation of arrestees, directly linked to cases of drug seizures. For many years, the information on WDP has been gathered through a questionnaire that is to be filled in by police officers each time

the seizure of drugs, goods, values and documents occurs. This questionnaire should also be filled in when there were individuals identified (through evidence) as being possible drug traffickers or involved in either trafficking or use, independently of whether they had been detained or not.

Through these instruments — Forms TCD Model A on substances and Model B on the actors — diverse information has been gathered, including that on prices of the drugs seized and of the total volume of each seizure. This information has been filled in by the different law enforcement agencies and centralised by the PJ, incorporating the Integrated Criminal Information (SIIC).

Information on wholesale drug prices is also collected during criminal investigations, in particular through informants, documentation seized, operational intelligence material and evidence prosecution papers. The record of this information only indicates reference prices, more precisely 'typical' values, and it does occur less frequently.

Methods used to collect purity information

The PJ Forensic Laboratory regularly undertakes tests to identify and determine the purity of seized drugs at different levels of the market. This information is registered, made available and updated at a centralised level.

Reporting procedures

Currently, Portuguese institutions do not report data on WDP as defined in this Pilot study. The data analysed and reported by the PJ and the IDT, IP to the national and international *fora* refers usually to the average prices of drugs seized, according to the trafficking and trafficking-use cases. This information integrates price records related to the seizures of quantities inferior to those set in this Pilot study to WDP. However, the currently available procedures of collecting and recording price data do provide the required information on WDP, in line with the standards set by this Pilot study.

Portugal has been reporting data on drug prices since 2005 (although data has to be interpreted cautiously due to the small volume of data available for some years). Consequently, and taking this constraint into account, it should be possible to provide wholesale drug prices in the future, measured with the common statistical indicators.

Concerning purity, it has not been the practice to report data on the purity of drugs seized in the wholesale market as defined in this project. This data is usually produced in the context of criminal investigations and of investigations of criminal proceedings, being only occasionally reported for other purposes. However, the methods that are currently in place to collect and record this type of data can in the future be used to provide information in accordance with the required in the current WDP project.

Data limitations

The small number of incidents where drug price/purity data is collected every year is the major constraint of the report on wholesale drug prices and purity. This limited volume of information available may not guarantee representativeness and reliability of the wholesale drug price information, to be provided in the future.

Under this Pilot study, the IDT and the IP analysed WDP data available for the last five years (2005–09). They concluded that the greatest volume of records on WDP referred to cannabis resin, with about 10 records for each year (minimum = 5, maximum = 14). This figure represented, however, only about 10 % of the total number of seizures recorded with volumes equals or above 1 kg (1 000 units). Concerning other drugs (herbal cannabis, heroin, cocaine

and ecstasy), there were only a few WDP registers a year (1–2 cases). The number of registers varied a lot depending on the number of seizures. For example, in 2008, there were nine seizures of heroin, four of ecstasy and 151 of cocaine, within the defined volumes of transactions, with price information.

The small number of records of WDP is not easily surmountable, as many arrestees are only drug courriers, according to information gathered by criminal investigation, being paid according to the transport and not directly to volumes of transported drugs.

As for the purity of drugs, the volume of data records will ultimately depend on the number of seizures involving amounts bigger than 1 kg or 1 000 units and on the optimisation of the ratio of drug testing/wholesale seizures.

Availability of statistics

If the number of WDP records is large enough, Portugal can provide information on the statistical measures required in this phase of the project (minimum and maximum values, mean and median). Over the last years, the small number of WDP records available made impossible the compilation of statistical measures for every drug but cannabis resin. For other drugs, as herbal cannabis, heroin, cocaine and ecstasy, only the minimum and maximum WDP can be provided. Information on 'typical' prices as a complement to traditional statistical values is also available. It is also possible to provide information on purity of seized drugs, crossing this information with WDP.

Main strengths and weaknesses of data collection procedures

As already mentioned, the main weakness of the procedures for collecting data on WDP in Portugal is the small volume of WDP data available for most substances, which is largely due to exogenous factors and, thus, difficult to overcome.

One of the main strengths of the Portuguese collecting system is the fact that it has been in place for a long time. Consequently, there is some experience of gathering this information (prices of drugs seized at different levels in the distribution chain of trafficking and trafficking use), and consequently it is possible to provide additional information, which allows to contextualise the WDP database.

Another important point is that the information gathered by all law enforcement bodies is centralised by the PJ and regularly made available to IDT, IP, to the national focal point, and is then easily available to the EMCDDA.

Additionally, the systematic recording of purity tests to identify and determine the purity of seized drugs at different levels of the market is done within the same agency that centralises WDP information (Laboratory of Forensic Laboratory of the PJ). This is a strong advantage of the system, allowing to easily relate data on WDP and their purity. It should be possible to build purity-adjusted prices.

Last but not least, the need to optimise data on supply reduction, particularly on the purity of drugs, is inscribed as a national priority in the 2009–12 Action Plan. This optimisation may all ready consider the information needed for this project.

8.9. The Slovak collecting procedures

(Ivana Buckova)

Background information

Gathering intelligence information concerning available drugs in the Slovak drug scene is carried out during the activity of monitoring drug markets. More specifically, it is part of the Slovak law enforcement activity to gather intelligence information on drug markets while investigating offenders.

This activity provides statistical information about the volumes and types of drug seized, characteristics of drug-related offenders (e.g. age, education, employment status), modus operandi, purity of drugs seized, typical additives and precursors (on the basis of forensic analysis) and drug prices.

Collection of price data

There are two main types of Slovak police officers who collect information on drug prices. First, those from the National Drug Service (the Bureau of the Fight Against Organised Crime of the Police Force Headquarters) and from the regional anti-drug departments (the Bureau of the Fight Against Organised Crime of the Police Force Headquarters) and its investigation department. Secondly, those officers belonging to the Customs Directorate of the Slovak Republic. Additionally, there are institutions such as Europol which also provides price information.

The collected information is then reported to the Slovak national focal point, Europol, UNODC, and other organisations.

Information on drug prices is compiled every three months with the use of a specific template. On the basis of this data collection process within the Slovak law enforcement centres, we are able to: quarterly collect and compare intelligence on drug prices in Bratislava and eastern, central and western Slovak regions; define minimum and maximum drug prices for regions during certain time periods (e.g. in September 2009, in the region of western Slovakia) and; define minimum and maximum drug prices during the year for the annual reports.

In case a new sort of drug is discovered or if there is a rapid change in drug prices, police officers are due to inform the central Bureau immediately. In this case, custom services are informed, and adequate measures are implemented.

In the Slovak Republic, the main constraint is to report information complying with the definition of wholesale quantities of drugs traded. The volumes most frequently seized vary from drug to drug. Cannabis seizures are frequently above 1 kg, but when it comes to methamphetamine, 'cooks' prepare only smaller volumes of it, close to 1 kg. Since methamphetamine has to be consumed during the three days after manufacturing, it tends to be commercialized in small portions to prevent quality decreases. In this country, the typical volumes seized of heroin and cocaine varies between 30 grams to 100 grams, despite the fact that the Slovak Republic is also a transit country for this trafficking.

According to Slovak Penal Code, penalties applied to offenders depend on the value of the drugs seized. If the value of seized drugs is higher than EUR 2 665, the penalty is normally imprisonment, which may vary between 5 to 10 years. One of the main problems that occur in trial is the authentication of drug prices.

Collection of purity data

In the Slovak Republic, every suspicious substance seized by police is analysed by the forensic laboratory. The objective of these analyses is to determine the type, the quantity and the concentration of the active substance (i.e. purity). Based on the relation between purity and weight, it is estimated the amount of doses which would be possible to sell, as a consequence of trafficking. According to the quantity of doses estimated, there are two legally binding procedures foreseen. If the number of estimated doses is below 10, drugs are considered as being destined to own consumption, and neither the purity nor prices are registered. In case the number of doses exceeds 10, then, the price, the purity and the number of estimated doses are registered. This information is prepared to support a 'Suggestion of indictment' to be sent to court. This document should be presented in court and contribute for the trial. However, there is not an established procedure of compiling and making statistical data analysis of this information, currently.

8.10. The Spanish collecting procedures

(Alicia Peláez Santiago)

Institutions in charge of collecting data on wholesale drug prices and purity

In Spain data on drug prices and drug purity are collected by different Institutions. Drug prices data are collected by the *Oficina Nacional de Estupefacientes (OCNE)*. This is a law enforcement agency under the responsibility of the Spanish Home Affairs. Information about wholesale drug prices (WDP) is usually compiled in the course of regular drug investigations. The methods most often used to collect WDP information are interrogation of arrestees, inquiring convicted prisoners and suspects of drug dealing and, less frequently, information captured by informants and wire tapping procedures.

Information concerning drugs purity is obtained through sample analysis, reported by the laboratories of the *General Direction of Pharmacy (Dirección General de Farmacia)* or other regional institutions in charge, which answer to the Health Ministry. These reports are then communicated to law enforcement agencies and to the judicial authorities.

In Spain, there are different types of sanctions according the type of crime committed. In order to estimate the value of the financial penalties associated with drug trafficking, it is necessary to estimate the final value of the seized drug (Article 377 of the Penal Code — L.O. 10/1995). To comply with the principle of equal rights, the same price shall be applied across the country, except in the case where the actual price of the transaction is known. For this reason, the OCNE is the institution in charge of determining drug prices.

Drug prices are collected by units of the National Police force and by the Guardia Civil from each Spanish Region, more specifically, by the Investigation and the Crime Prevention Units (Grupos de Investigación de Estupefacientes y Unidades de Seguridad Ciudadana). These units, due to their daily contact with retail traffickers and expertise in combating drug trafficking, follow drugs prices evolution and trends closely. The information collected in each drug squad is send to the respective regional police station (Jefaturas Superiores de Policía y Zonas de la Guardia Civil). Regional units are in charge of calculating simple averages of the information collected and of sending this information to the OCNE. The OCNE centralises and summarises the received information. Subsequently, it estimates the national average and disseminates it (this value is a simple average that excludes extreme values). This information is then published each semester, in January and July of each year.

Publishing policy

Based on the data produced by OCNE, the Spanish Intelligence Centre against Organized Crime (CICO) periodically produces reports and studies about the evolutions of drugs prices and purity, seized at the level of a dose, a gram or a kilo of drugs.

Information on the purity of drugs allows to assess drug toxicity and its public burden.

Consequently, this information is used to determine penalties of drug trafficking.

Furthermore, purity levels are also indicators of drugs supply and demand, having also an impact on drugs prices. More specifically, CICO uses drugs purity information combined with drugs prices for different levels of drugs markets (retail, mid-market and wholesale markets). In order to analyse this information, a statistical analysis is performed for each market level, analysing possible correlations and market trends.

8.11. The Turkish collecting procedures

(Ali Ünlü)

In Turkey, law enforcement squads working in the drugs field compile information on wholesale drug prices. To this end, drug prices are queried and the resulting information compiled through structured forms and submitted to Turkish Monitoring Centre for Drugs and Drugs Addiction (TUBIM) every six months. Furthermore, drug prices reported by suspects interrogated during drug interceptions and prices identified through covert operations are also reported to the Department of Anti-Smuggling and Organised Crime (KOM), under which the National Focal point also operates.

Concerning drugs purity, data are provided by the National Forensic Laboratories and centralised by the Turkish Monitoring Centre for Drugs and Drugs Addiction (TUBIM) every six months. Drug purity results are based on the seizures made by law enforcement units.

However, price data for 2009 does not specifically distinguish between wholesale transactions (as defined according to pre-defined volume thresholds) or smaller transactions. The same is true concerning the level of purity reported. Until now, it has not been possible to clearly distinguish between the levels of purity associated with different volumes of drugs traded. Consequently, the data reported in this Pilot study are based on undistinguished volumes of drugs traded, as reported by local law enforcements in 2009.

Future developments

A workshop with law enforcement representatives at local level and forensic laboratory experts is foreseen to take place in order to introduce the new wholesale drug price and purity data collection requirements to local police officers.

8.12. The UK collecting procedures

(Tony Saggars)

Introduction

The Expert Evidence department, within the Serious Organised Crime Agency, maintains the responsibility to collate and disseminate final data regarding UK 'street level' (retail), 'mid-market' and 'wholesale' drug prices. This is achieved upon various platforms and interactions within SOCA and with law enforcement partners.

Although SOCA retains the lead with particular regard to wholesale prices, interactions are conducted throughout the year with partners who also contribute data with regard to the

domestic wholesale markets within England, Scotland, Wales, Northern Ireland, Jersey, Guernsey and the Isle of Man.

The data are supplied to SOCA, via various channels and liaisons, and ultimately coordinated for publication within a 'restricted' distribution. These data are also utilised for various other purposes, such as evidential valuations and interpretations, operational and deployment strategies and briefings, intelligence assessments, specialist staff training, press releases, responses to parliamentary questions, political reporting and drug market assessments. These data are also utilised to respond to the United Nations annual questionnaire and within aspects of the UK Threat Assessment.

Contributors

WDP are collected from 38 police services in England, four police services in Wales, eight police services in Scotland and the police services for Northern Ireland, Jersey, Guernsey and the Isle of Man. They feed price data to SOCA from their own varying collection methods on an informal but regular basis via practitioners, more formal quarterly updates (from some regions) and on an annual basis through the completion of a collection table instigated by SOCA. It should be noted there is no standardised approach to the initial recovery of price data, although there is a standard reporting criteria to SOCA.

Prices are collected and monitored for various unit sizes depending upon the commodity and how it is commonly traded. These unit weights combine metric and imperial measures as both co-exist within UK domestic drug markets. At wholesale, however, a kilogram is the common traded unit for all solid/powder commodities. Units of 1 000 are recognised with regard to wholesale prices tablets and other substances supplied by the item rather than weight.

SOCA monitors WDP throughout the year from evidential recoveries (such as documents and lists compiled by traffickers), insight and interpretation of covertly recorded conversations, the use and deployment of human intelligence sources such as informants and undercover officers, interviews with detained traffickers and market interpretation based upon wider intelligence monitoring. SOCA also maintains international liaison with regard to understanding WDP impacting upon importation activity into the UK.

Collection scope and methods

Until 2006, there was an emphasis to supply a single figure to best represent the price of a drug in an area or particular town or city. Although this figure was referred to as the 'average', there was no statistical foundation for the sum involved. This figure actually represented a more practical 'typical' price; that being most commonly encountered. The current collection methodology changed this process in 2006 to ensure a more informative perspective and to generate data that wholly reflected the reality of drug markets.

The current collection process requests contributors to provide the following:

- the common range of prices (not including extreme anomalies)
- the most commonly encountered (or typical) price within this range.

From the data collected SOCA is then able to demonstrate the UK range (excluding the extremes), the average, and the mode of the 'most commonly encountered prices'.

SOCA achieves a central contribution through internal liaison between various departments exposed to price data through intelligence, operational and evidential encounters, and this is complimented by the contributions from the 53 police services. As at 2009, price data was being reported from 123 towns and cities in addition to the information being collected by

SOCA regarding national and international activity impacting upon the UK. With particular regard to WDP, each police service was able to provide kilogram prices for at least four of the common commodities being supplied within their area.

Wholesale drug prices are currently available for the following commodities at kilogram or 1 000 units: cocaine, heroin, opium, ecstasy tablets, MDMA powder, Ketamine, amphetamine, cannabis resin, herbal cannabis and skunk cannabis. Prices for the cutting agents Benzocaine, Phenacetin, Lidocaine are also available. Insufficient data at kilogram/1 000 units is currently available for: crack cocaine (commonly sold in 'ounce' weights at wholesale), and LSD (very limited wholesale price insight),

Data verification

SOCA does not request verification from police service contributions regarding the number of incidents or sources of data. Data submitted are, however, assessed for credibility and if found not to reflect the wider picture, at that time, an enquiry would be conducted with the contributor to explain and justify the prices.

SOCA does not record the number of incidents leading to SOCA-based WDP collections.

Within the UK, many drug price revelations are not directly associated to drug seizures as the sources utilised provide insight from past, current and future criminality.

The expert evidence department is responsible for assessing evidential audio material and recovered documents that are linked to criminal conspiracies and drug seizures. Some of these incidents provide direct insight of drug prices that are relevant to specific drug seizures.

Wholesale drug seizures are subjected to forensic analysis including tests for purity and, on occasions, potency (THC for cannabis).

The SOCA WDP database establishes credible price ranges and identifies common prices within these ranges. This is agreed by a selected group of practitioners and managers conducting roles within departments who encounter drug prices. Anomalies outside of the credible range are monitored to assess whether new trends are emerging or whether either end of the range needs to be extended or shortened within the next formal reporting.

The final output is not wholly statistical as (explained above) the data set is not accurately quantifiable. The accuracy of the data produced, however, is confidently claimed to be practically representative of the prices being commanded and paid by drug traffickers within the UK.

'Price adjusted for purity' can be conducted for cocaine and heroin, in particular, although this is only done with regard to market assessments as it is accepted that within the criminal world, purity is often not known and prices tend to be negotiated in line with 'perceptions of quality' based upon influences such as reputation, association, trading dynamics, appearance of quality, crude testing methods and the trading environments/locations.

Conclusion

Within the UK, awareness of WDP is considered to be well informed and, as such, expert witnesses utilise this data to inform criminal court trials and proceeds of crime hearings. Questions regarding WDPs and markets from the EMCDDA, Members of Parliament, government departments, researchers and senior managers within law enforcement are responded to with confidence that the data is 'timely' and 'representative'.

9. Conclusions

The Pilot study on wholesale drug markets aims to contribute to the development of the European indicators on drug markets in Europe. In this framework it describes the 'State of the Art', concerning the information and data on wholesale drug prices in Europe. Furthermore, it also presents a set of templates designed to collect wholesale drug prices in European countries, as agreed by national law enforcement officials and Europol, for the purpose of the Pilot study, i.e. by the main entities in charge of implementing the regular day-to-day data collection exercise among international data users. These questionnaires are also designed to answer to the main requirements of the analysis of wholesale drug prices, from the perspective of policy makers or researchers. In order to test the designed questionnaires, two rounds of data collection took place, involving real data from 2008 and 2009.

This Pilot study is the result of work developed for more than two years, with the voluntary cooperation of the Reitox network, national experts of national law enforcement agencies — with special emphasis given to the Serious Organised Crime Agency (SOCA), Europol and the EMCDDA.

The main conclusions of this work are as follows:

1. It is feasible to collect wholesale drug prices in Europe, with a sufficient or even good degree of quality in a large number of countries; although in some other countries data collection and compiling procedures still show some room for improvement. Additionally, it is also possible in a large number of countries to collect underlying wholesale purity;
2. There is a consensual approach amongst the participants in the Pilot study towards the definition of wholesale drug prices and purity and of the main information required to compile to provide data. There was also consensus about the investigation methods used to collect this information attained in illegal transactions, as well as the methods that should be used to compile this information and to treat it statistically;
3. Out of the 24 European countries that replied, 23 collect wholesale drug prices. Furthermore, 18 countries did participate in the voluntary and testing data collection rounds, providing real data for 2008 and/or 2009. This study also provides a very detailed description of 12 national data collection systems and operational arrangements in place used to report WDP and purity;
4. The volume of available information on wholesale drugs varies considerably from drug to drug and from country to country. This study provides templates to collect wholesale drug prices aiming to accommodate the requirements of different countries in the field of WDP collection and data analysis; guaranteeing that the underlying procedures are clear when data are reported;
5. There is political momentum at European and national level that supports the implementation of this data collection system as a routine procedure, coordinated by the EMCDDA;
6. A significant numbers of countries have already started changing their national procedures in order to accommodate the results of this Pilot study. A large number of countries have reported changes in their procedures in order to comply with the EMCDDA requirements and templates. As a consequence of the work of the expert group on wholesale drug prices, 10 countries revised or have set plans to revise their

internal law enforcement practices, in order to comply with this price data collecting system. In Germany, the BKA arrived to an agreement with the 16 Federal States offices to adapt their price reporting and collecting procedures. In France, the Office Central pour la Repression du Trafique des Stupéfiants (OCRTIS) has linked wholesale drug prices to purity. In Austria, the Criminal Intelligence Service, MOI, has improved the Internet-based application (which links local police stations to the central police office) with the objective of relating purity to prices. In the Czech Republic, the national focal point has made an agreement with national law enforcement to relate wholesale drug prices to purity. In Belgium, prices have been related to the size of the underlying transactions or seizures, depending on the source of the information. In Italy, Lithuania and Turkey training is already planned for law enforcement agents. In Cyprus and Hungary, national law enforcement offices are waiting for the final wholesale drug prices questionnaire to adjust national procedures accordingly.

7. A preliminary analysis of the data reported seems to suggest that the wholesale drug prices data reported is consistent to that systematically reported to the EMCDDA through the retail drug prices data collection system, confirming that the methodologies used in both databases are complementary.
8. Finally, the discussion entailed in this study by European experts on wholesale drug markets and prices, and the results attained during this study suggest that the EMCDDA can soon implement a systematic collection of wholesale drug prices in Europe. Although the level of detail of the data collected might vary within European countries at an early stage, there is a core of countries that are ready and willing to implement this data collection mechanism in the short run. Taking also into account that this process has been fully sustained by Europol, the EMCDDA has a privileged position to provide a more complete picture of the European drug markets. The EMCDDA is now ready to build on the work developed in the last 15 years in the area of retail drug markets, and start providing information on wholesale drug markets.

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Annex 1 — General questionnaire on wholesale drug prices collection mechanism



European Monitoring Centre
for Drugs and Drug Addiction

QUESTIONNAIRE ON WHOLESALE DRUG PRICES COLLECTION MECHANISM TO BE COMPLETED BEFORE 30 APRIL 2009

Country

Institution

- 1- Does your country collect wholesale drug prices ⁽¹⁹⁾ (WDP) for those drugs detailed below (Table 1). If yes:
 1. Please mark the first column.
 2. Since when does your country collect these prices (column 2)?
 3. With which periodicity (column 3)?
- 2- In case your country does not publish these data, do you think it will be possible to collect and publish these prices in the near future with a reasonable effort (column 4)?

Table 1 — Collection of wholesale drug prices

	(1) Collects WDP	(2) Starting Year	(3) Periodicity	(4) Possible to publish WDP in the near future?
Cannabis resin	<input type="checkbox"/>		Yearly	Possible
Herbal cannabis	<input type="checkbox"/>		Yearly	Possible
Cocaine	<input type="checkbox"/>		Yearly	Possible
Heroin brown	<input type="checkbox"/>		Yearly	Possible
Amphetamines	<input type="checkbox"/>		Yearly	Possible
Ecstasy	<input type="checkbox"/>		Yearly	Possible
LSD	<input type="checkbox"/>		Yearly	Possible

- 3- In case your country does not strictly comply with the suggested definition of wholesale drug prices, does your country use an alternative definition? If yes, describe it briefly, please.

Table 2 — Alternative definitions to wholesale drug prices

Cannabis resin	
Herbal cannabis	
Cocaine	
Heroin brown	
Amphetamines	

Ecstasy	
LSD	

4- Can the wholesale drug prices series existing in your country be disclosed to the EMCDDA and published? Yes

5- What are the methods used in your country to collect wholesale drug prices?

Table 3. Methods used to collect wholesale drug prices

	Frequently	Seldom	Never
Drug purchases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Informants	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Interrogation of arrestees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wire-tapper registers and other covertly obtained audio material	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Market price appreciation from experts (police and academic)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Documentation seized by law enforcement	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
International cooperation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Operational intelligence material	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Prosecution evidence papers/case files	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social surveys and drug user counselling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Academic surveys	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6- Can you report minimum and maximum WDP prices, means, modes and or medians?
In case you cannot, can you report typical WDP?

Table 4 — Collection of wholesale drug prices

	Minimum and Maximum	Mean	Mode	Median	Typical
Cannabis resin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Herbal cannabis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cocaine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Heroin brown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Amphetamines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ecstasy	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
LSD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

7- Do you have regional wholesale drug prices? Yes If yes, can you report them? Yes

8- Can you relate this data to purity/potency data? Yes

Comments

Annex 2 — Results of the general questionnaire on wholesale drug prices collection mechanism

Table 1 — Collection of wholesale drug prices

	Collects WDP						
	Cannabis resin	Herbal cannabis	Cocaine	Heroin brown	Amphetamines	Ecstasy	LSD
BE	✓	✓	✓	✓	✓	✓	
CZ	✓	✓	✓	✓	✗	✓	✓
DK	✓	✗	✓	✓	✓	✓	✗
DE	✓	✓	✓	✓	✓	✓	✓
EE	✓	✓	✓	✗	✓	✓	✗
IE	✗	✗	✗	✗	✗	✗	✗
ES	✓	✓	✓	✓	✓	✓	✓
FR	✓	✓	✓	✓	✗	✓	✗
IT	✓	✓	✓	✓	✓	✓	✓
CY	✓	✓	✓	✓	✗	✓	✗
LT	✓	✓	✓	✓	✓	✓	✗
HU	✗	✓	✓	✓	✓	✓	✗
NL	✓	✓	✓	✓	✓	✓	✓
AT	✓	✓	✓	✓	✓	✓	✓
PL	✓	✓	✓	✓	✓	✓	✓
PT	✓	✗	✓	✓	✗	✓	✗
RO	✓	✓	✓	✓	✓	✓	✓
SI	✓	✓	✓	✓	✓	✓	✓
SK	✓	✓	✓	✓	✓	✓	✓
FI	✓	✓	✓	✗	✓	✓	✗
SE	✓	✓	✓	✓	✓	✓	✗
UK	✓	✓	✓	✓	✓	✓	✓
HR	✓	✓	✓	✓	✓	✓	✓
TR	✓	✓	✓	✓	✓	✓	✓

Table 2 — Starting year of wholesale drug prices data collection

	Starting year						
	Cannabis resin	Herbal cannabis	Cocaine	Heroin brown	Amphetamines	Ecstasy	LSD
BE	2005	2005	2005	2005	2005	2005	
CZ	2002	2002	2002	2002	2002	2002	2002
DK	1985	-	1985	1985	1985	1985	-
DE	1975	1975	1983	1975	1993	1996	1996
EE	-	-	-	-	-	-	-
IE	-	-	-	-	-	-	-
ES	1995	1995	1995	1995	1995	1995	1995
FR	2000	2000	2000	2000		2000	
IT	2002	2002	2002	2002	2002	2002	2002
CY	2004	2004	2004	2004	2004	2004	2004
LT	2004	2004	2004	2004	2004	2004	-
HU	-	-	-	-	-	-	-
NL	2005	2005	2005	2005	2005	2005	2005
AT	1999	1999	1999	1999	1999	1999	1999
PL	-	-	-	-	-	-	-
PT	2009	-	2009	2009	-	2009	-
RO	-	-	-	-	-	-	-
SI	2004	2004	2004	2004	2004	2004	2004
SK	1995	1995	2000	2000	2000	2000	2000
FI	2002	2002	2002	2002	2002	2002	2002
SE	2010	2010	2010	2010	2010	2010	-
UK	2000	2000	2000	2000	2000	2000	2000
TR	2007	2007	2007	2007	2007	2007	2007

Table 3 — Periodicity of wholesale drug prices data collection

	Periodicity						
	Cannabis resin	Herbal cannabis	Cocaine	Heroin brown	Amphetamines	Ecstasy	LSD
BE	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
CZ	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year
DK	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
DE	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
EE	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
IE	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
ES	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year
FR	yearly	yearly	yearly	yearly	yearly	yearly	yearly
IT	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year
CY	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
LT	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year	Other
HU	Other	Other	Other	Other	Other	Other	Other
NL	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly	Quarterly
AT	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
PL	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
PT	Yearly	Other	Yearly	Yearly	Other	Yearly	Other
RO	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
SI	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
SK	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
FI	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
SE	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year	Other
UK	Quarterly	Quarterly	Monthly	Monthly	Quarterly	Quarterly	twice/year
HR	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly	Yearly
TR	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year	twice/year

Table 4 — Possibility of publishing wholesale drug prices data in the near future

	Possible to publish WDP in the near future?						
	Cannabis resin	Herbal cannabis	Cocaine	Heroin brown	Amphetamines	Ecstasy	LSD
BE	Possible	Possible	Possible	Possible	Possible	Possible	Very difficult
CZ	Possible	Possible	Possible	Possible	Possible	Possible	Possible
DK	Possible	Possible	Possible	Possible	Possible	Possible	Possible
DE	Possible	Possible	Possible	Possible	Possible	Possible	Possible
EE	Difficult	Difficult	Difficult	Difficult	Difficult	Difficult	Difficult
IE	Difficult	Difficult	Difficult	Difficult	Difficult	Difficult	Difficult
ES	Possible	Possible	Possible	Possible	Possible	Possible	Possible
FR	Possible	Possible	Possible	Possible	Very difficult	Possible	Very difficult
IT	Possible	Possible	Possible	Possible	Possible	Possible	Possible
CY	Possible	Possible	Possible	Possible	Possible	Possible	Possible
LT	Possible	Possible	Possible	Possible	Possible	Possible	Very difficult
HU	Difficult	Difficult	Difficult	Difficult	Difficult	Difficult	Difficult
NL	Difficult	Possible	Possible	Possible	Possible	Possible	Difficult
AT	Possible	Possible	Possible	Possible	Possible	Possible	Possible
PL	Difficult	Difficult	Difficult	Difficult	Difficult	Difficult	Difficult
PT	Possible	Very difficult	Possible	Possible	Very difficult	Possible	Very difficult
RO	Possible	Possible	Possible	Possible	Possible	Possible	Possible
SI	Possible	Possible	Possible	Possible	Possible	Possible	Possible
SK	Possible	Possible	Possible	Possible	Possible	Possible	Possible
FI	Possible	Possible	Possible	Very difficult	Possible	Possible	Very difficult
SE	Possible	Possible	Possible	Possible	Possible	Possible	Very difficult
UK	Possible	Possible	Possible	Possible	Possible	Possible	Possible
HR	Possible	Possible	Possible	Possible	Possible	Possible	Possible
TR	Possible	Possible	Possible	Possible	Possible	Possible	Possible

Table 5 – Alternative definitions to wholesale drug prices

	Cannabis resin	Herbal cannabis	Cocaine	Heroin brown	Amphetamines	Ecstasy	LSD
BE	✓	✓	✓	✓	✓	✓	✓
CZ	✓	✓	✓	✓	✓	✓	✓
DK	✓	✓	✓	✓	✓	✓	✓
DE	✓	✓	✓	✓	✓	✓	1 trip; 1 000 trips
IE	✓	✓	✓	✓	✓	✓	✓
ES	✓	✓	✓	✓	✓	✓	✓
FR	✓	✓	✓	✓	✓	✓	✓
IT	✓	✓	✓	✓	✓	✓	✓
CY	✓	✓	✓	✓	✓	✓	✓
LT	✓	✓	✓	✓	✓	✓	✓
NL	✓	✓	✓	✓	✓	✓	✓
AT	✓	✓	✓	✓	✓	✓	✓
PL	✓	✓	✓	✓	✓	✓	✓
PT	✓	✓	✓	✓	✓	✓	✓
SI	✓	✓	✓	✓	✓	✓	✓
SK	More than 500 g	More than 1 kg	No definition	No definition	More than 100 pcs	More than 100 pcs	No definition
FI	✓	✓	✓	✓	✓	✓	✓
SE	✓	✓	✓	✓	✓	✓	✓
UK	✓	✓	✓	✓	✓	✓	✓
HR	✓	✓	✓	✓	✓	✓	✓
TR	✓	✓	✓	✓	✓	✓	✓

Table 6 — Methods used to collect wholesale drug prices

	Drug purchases	Informants	Interrogation of arrestees	Wire-tapper registers and other covertly obtained audio material	Market price appreciation from experts (police and academic)	Documentation seized by law enforcement	International cooperation	Operational intelligence material	Prosecution evidence papers/case files	Social surveys and drug user counselling	Academic surveys
BE	Seldom	Frequently	Frequently	Seldom	Seldom	Frequently	Seldom	Frequently	Never	Never	Seldom
CZ	Seldom	Frequently	Frequently	Frequently	Frequently	Seldom	Seldom	Seldom	Seldom	Seldom	Frequently
DK	Never	Frequently	Frequently	Frequently	Frequently	Frequently	-	Frequently	Frequently	Never	Never
DE	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Never	Never	Never
EE	Seldom	Frequently	Frequently	Seldom	Frequently	Frequently	Seldom	Seldom	Frequently	Seldom	Seldom
IE	Seldom	Seldom	Seldom	Never	Never	Seldom	Seldom	-	Seldom	Seldom	Seldom
ES	Never	Seldom	Frequently	Frequently	Never	Seldom	Seldom	Frequently	Frequently	Never	Seldom
FR	Never	Frequently	Frequently	Never	Seldom	Seldom	Seldom	Seldom	Never	Never	Never
IT	Seldom	Seldom	Frequently	Seldom	Never	Seldom	Never	Frequently	Seldom	Never	Never
CY	Frequently	Frequently	Frequently	Never	Seldom	Frequently	Never	Seldom	Never	Never	Never
LT	Frequently	Frequently	Seldom	Seldom	-	Never	Seldom	Seldom	Never	Never	Never
HU	Never	Seldom	Frequently	Seldom	Seldom	Seldom	Never	Seldom	Never	Never	Seldom
NL	Never	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	-	Seldom	Seldom	Seldom
AT	Frequently	Frequently	Frequently	Seldom	Frequently	Frequently	Frequently	Frequently	Frequently	Never	Never
PL	Never	Seldom	Seldom	Seldom	Never	Seldom	Frequently	Seldom	Seldom	Seldom	Never
PT	Never	Seldom	Seldom	Seldom	Never	Seldom	Seldom	Seldom	Seldom	Never	Never
RO	Frequently	Frequently	Frequently	Frequently	Seldom	Frequently	Frequently	Frequently	Frequently	Seldom	Seldom
SI	Frequently	Frequently	Frequently	Frequently	Seldom	Seldom	Frequently	Seldom	Seldom	Seldom	Seldom
FI	-	Frequently	Frequently	-	Frequently	Frequently	-	Frequently	-	-	-
SE	Never	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Never	Never	Never
UK	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently	Frequently
HR	Frequently	Frequently	Frequently	Frequently	Seldom	Frequently	Frequently	Frequently	Seldom	Seldom	Seldom
TR	Never	Seldom	Frequently	Frequently	Seldom	Seldom	Seldom	Frequently	-	Seldom	Never

Table 7.a — Statistical measures used to report wholesale drug prices

	Cannabis resin					Herbal cannabis					Cocaine					Heroin brown				
	Min and Max	Mean	Mode	Median	Typical	Min and Max	Mean	Mode	Median	Typical	Min and Max	Mean	Mode	Median	Typical	Min and Max	Mean	Mode	Median	Typical
BE	✓	✓				✓	✓				✓	✓				✓	✓			
CZ	✓	✓	✓			✓	✓	✓			✓	✓	✓			✓	✓	✓		
DK	✓	✓			✓						✓	✓			✓	✓	✓			✓
DE	✓	✓			✓	✓	✓			✓	✓	✓			✓	✓	✓			✓
EE					✓					✓					✓					✓
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES		✓					✓					✓					✓			
FR	✓	✓		✓		✓	✓		✓		✓	✓		✓		✓	✓		✓	
IT	✓					✓					✓					✓				
CY					✓					✓					✓					✓
LT	✓	✓	✓			✓	✓	✓			✓	✓	✓			✓	✓	✓		
HU					-					✓					✓					✓
NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AT	✓					✓					✓					✓				
PL	✓	✓	✓			✓	✓	✓			✓	✓	✓			✓	✓	✓		
PT	✓	✓		✓							✓	✓				✓	✓			
RO	✓					✓					✓					✓				
SI	✓					✓					✓					✓				
SK	✓	✓			✓	✓	✓			✓	✓	✓			✓					
FI	✓				✓					✓	✓				✓					
SE	✓			✓		✓			✓		✓			✓		✓			✓	
UK	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓		✓
HR					✓					✓	✓				✓					✓
TR						✓	✓	✓	✓	✓						✓	✓	✓	✓	✓

Table 7.b — Statistical measures used to report wholesale drug prices

	Amphetamines					Ecstasy					LSD				
	Min and Max	Mean	Mode	Median	Typical	Min and Max	Mean	Mode	Median	Typical	Min and Max	Mean	Mode	Median	Typical
BE	✓	✓				✓	✓				✓	✓			
CZ	✓	✓	✓			✓	✓	✓			✓	✓	✓		
DK	✓	✓			✓	✓	✓			✓					
DE	✓	✓			✓	✓	✓			✓	✓	✓			✓
EE					✓					✓					✓
IE	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ES		✓					✓					✓			
FR						✓	✓		✓						
IT	✓					✓					✓				
CY										✓					-
LT	✓	✓	✓			✓	✓	✓			-	-	-	-	-
HU					✓					✓					
NL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
AT	✓					✓					✓				
PL	✓	✓	✓			✓	✓	✓			✓	✓	✓		
PT						✓	✓								
RO	✓					✓					✓				
SI					✓	✓									✓
SK	✓	✓			✓	✓	✓			✓					
FI	✓				✓	✓				✓					
SE	✓			✓		✓			✓						
UK	✓	✓	✓		✓	✓	✓	✓		✓	✓	✓	✓		✓
HR					✓					✓					✓
TR															

Table 8 — Reporting

	Regional wholesale drug prices	Can you report them?	Relate data to purity/potency data
BE	No	Yes	No
CZ	Yes	No	No
DK	Yes	Yes	No
DE	Yes	No	No
EE	No	No	Yes
IE	No	No	No
ES	No	No	Yes
FR	Yes	Yes	No
IT	Yes	Yes	No
CY	No	No	No
LT	No	No	No
HU	No	No	No
NL	Yes	Yes	No
AT	Yes	No	No
PL	No	No	Yes
PT	No	No	Yes
RO	No	No	Yes
SI	Yes	Yes	No
SK	Yes	Yes	Yes
FI	No	No	No
SE	No	No	No
UK	Yes	Yes	Yes
TR	Yes	Yes	Yes



Table 4. Data collection method	frequent	seldom	never
Drug purchases			
Informants			
Interrogation of arrestees			
Debriefing convicted prisoners			
Wire-tapper registers			
Other covertly collected audio material			
Documentation seized by law enforcement			
International cooperation			
Operational intelligence material			
Open source information (internet & public forums)			
Academic and social surveys			
Market price appreciation from experts (police & academic)			

Table 5. Please explain any changes in price collection methodology impacting upon the data submitted for this period.

Table 6. If you have applied a different methodology (to that requested by the questionnaire) please explain.

Table 7. Provide detail of a particular trend or emerging market influence that has become apparent within the reporting period.

Annex 4 — The Sample questionnaire on wholesale drug prices

 emcdda.europa.eu		European Drug Wholesale Price Sample Submission			
1. Submission details					
submission date				reporting person	
country / region				service	
agency / service				email address	
reporting period				contact number	
2. Background information					
data collection methods		drop down		drop down	
type of drug involved 1		drop down		supporting evidence of price	
quantity (Kgs)					
if examined - purity (%)					
type of drug involved 2		drop down		supporting evidence of price	
quantity (Kgs)					
if examined - purity (%)					
type of drug involved 3		drop down		supporting evidence of price	
quantity (Kgs)					
if examined - purity (%)					
General circumstances: (please provide a brief summary of the incident or investigation, including countries concerned, trafficking locations, methods of transporting the drugs and where (if) seizures of drugs were made)(also include the nationalities of those concerned and the level of drug trafficking they were conducting as well as a description of the drugs).					
Drug price information: (please provide a brief summary of the drug price insight achieved during this incident or investigation, including how (if) this information can be linked to drug seizures, prices being charged or paid, the currency being negotiated and where the drugs were being purchased or sold)(included a brief description the actual source of this information).					
This information can be published on the EMCDDA web site				y	
3. Price Information					
commodity 1 (drop down)					Collection methods
		minimum price	maximum price	single price	
price (per kilo)					
currency					
weight (total)					
specific weight (dose)					
commodity 2 (drop down)					
price (per kilo)					
currency					
weight (total)					
specific weight (dose)					
commodity 3 (drop down)					
price (per kilo)					
currency					
weight (total)					
specific weight (dose)					
Price calculation methodology: (please explain your methodology for calculating the above drug prices)					
This data can be published on the EMCDDA web site				y	

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About the EMCDDA

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is one of the European Union's decentralised agencies. Established in 1993 and based in Lisbon, it is the central source of comprehensive information on drugs and drug addiction in Europe.

The EMCDDA collects, analyses and disseminates factual, objective, reliable and comparable information on drugs and drug addiction. In doing so, it provides its audiences with an evidence-based picture of the drug phenomenon at European level.

The Centre's publications are a prime source of information for a wide range of audiences including policymakers and their advisors; professionals and researchers working in the drugs field; and, more broadly, the media and general public.

The EMCDDA Thematic papers are scientific reports on selected, theme-based aspects of the drugs phenomenon. The series makes available the results of research carried out by the agency and its partners to a target audience of specialists and practitioners in the drugs field, including scientists, academics and policymakers.



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