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Public expenditure on drugs in the European Union 2000–2004

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EMCDDA addendum – Public expenditure in the field of drugs¹

In recent years, the evaluation of drugs policies, and in particular, their impact on the society, has attracted new attention. The EU Action Plan on Drugs (2000-2004) affirms that evaluation must be a part of the European drug policy approach, and most government drug policy documents refer to evaluation as an essential tool to measure the progress achieved in the field of drugs.

A crucial share of policy evaluation concerns the calculation of the costs. The public expenditure in general constitutes an important indicator of budgetary follow-up and of the level of government commitment in the field of drugs.

It appears however that the tools required for the evaluation of the drug policies, which include the **researches on expenditure and costs**, remain largely insufficient in Europe.

Research on expenditures has been undertaken only in a few countries, and often limited to partial aspects of the overall problem (e.g. evaluation of treatment, or prevention or harm reduction programmes). Contrary to the United States, and to a lesser extent Canada, European countries in general cannot provide estimates of their expenditure in drug policy.

The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), since 2001, stresses the necessity to conduct research in the field of public expenditure throughout Member States of the European Union, as a tool to progress in the area of evaluation, having promoted several initiatives in the field². The EU Action Plan 2000-2004 also asked the Commission to bring light to this unknown area, demonstrating the interest, in principle, of European decision makers.

This document aims to draw an overall picture on the state of the research in this field in the 15 EU countries in light of the adoption of a new European Drugs Strategy.

What is the public expenditure on drugs?

In the field of drugs the government 'spends money' to finance, for example, the therapeutic treatment for drug addicts, the prevention programmes for school children, the police and magistrates engaged in the fight against drugs related crime. These categories of expenses, and many others, are included in the concept of public expenditure on drugs.

Public expenditure research tries therefore to answer the question of **how much the government spends to counter the drugs problem**, and gives indications on the financial commitment for

¹ Chapter drafted by Danilo Ballotta of the P4 strategies and Impact Programme

² Kopp P, Fenoglio P. Public spending on drugs in the European Union during the 1990s – retrospective research', EMCDDA 2003 <http://www.emcdda.eu.int/index.cfm?fuseaction=public.AttachmentDownload&nNodeID=1362>; EMCDDA Annual Report 2003 and National Reports 2002; EMCDDA, Reuter P, Ramstedt M, Rigter H. Developing a Framework for Estimating Government Drug Policy Expenditures, EMCDDA 2004 (unpublished report); Postma MJ, Wiessing LG, Jager JC. Pharmacoeconomics of Drug Addiction: estimating the costs of hepatitis C virus, hepatitis B virus and human immunodeficiency virus infection among drug users in member states of the European Union. Bull on Narcotics 2001;53:79-89

specific areas of intervention, or for its **engagement over time**. Public expenditure however doesn't say if a specific policy **is effective or not**, neither does it reveal the **social cost of drugs**.

Nevertheless, it provides an essential base for both: for cost-effectiveness analyses and for the calculation of the social cost.

Who knows the expenditure in drug policy?

In terms of quality, the research has found that: low quality data on drug expenditure are available for Ireland, Italy and Luxemburg, yet unsatisfactory quality data are available for Finland, Denmark, Germany, Greece and Portugal, almost satisfactory quality data are available for the Belgium, Netherlands and Sweden and good quality data exist for Austria, France, Spain and the UK. Therefore only in a few EU countries, the data available allow for rough estimation of the cost of drug policy. In Austria, France, United Kingdom, Spain, Belgium, Netherlands and Sweden research have shown, despite the use of different methodologies, different degrees of detail and different periods analysed, interesting information on the extent and the distribution of the expenditure in drug policy.

Previous available figures³ had suggested that 70 to 75% of the drug budget would be allocated yearly on law enforcement and around 25 to 30% on the health sector. This last research confirms this balance revealing that law enforcement accounts for over 50% of the total expenditure. If treatment and cost-of-illness are additionally included this percentage range rises to 87-98%. This underlines how few categories of expenditure (law enforcement, cost-of-illness, and treatment) amount for the totality of the state's expenditure. Prevention, being one of the top priorities of drug policy at EU and world level is reported to account only for small shares. This finding is all the most relevant if compared to the finding of US research which revealed a saving in direct and indirect costs of US\$15 for each US\$ spent in drug addiction prevention⁴.

What needs to be done

Research to estimate the cost of drug policy is complex and costly. Progress however has been made since 2000, when only France had knowledge of its expenditure in the field of drugs⁵. Since then

³ Kopp, P, Fenoglio, P. Public spending on drugs in the European Union during the 1990s – retrospective research', EMCDDA 2003 <http://www.emcdda.eu.int/index.cfm?fuseaction=public.AttachmentDownload&nNodeID=1362>)

⁴ Rice D, Kelman S, Miller L. Estimates of economic costs of alcohol and drug abuse and mental illness, 1985-88. Public Health Reports 1999; 106:280-92

⁵ OFDT, Le coût social des drogues licites (alcool et tabac) et illicites en France, Pierre KOPP, Philippe FENOGLIO, 1995 at www.drogues.gouv.fr

researches including expenditures have been undertaken in the UK⁶, in Spain⁷, in Belgium⁸, in Austria⁹, and with an EMCDDA study in Netherlands and Sweden¹⁰.

Results show the usefulness of such research, not only in knowing 'where the money goes', but also in the perspective of more elaborate evaluations and cost-effectiveness analyses, encouraging a more extensive follow-up. However progress, for example under the umbrella of a new European Drug Strategy, should follow a common methodological framework.

Authors warn about the weakness of the comparability of researches that have been undertaken using different methodologies (top-down or bottom-up is an example¹¹), and suggest prior agreements, possibly at EU level, both on the **conceptual issues**, how expenditures can be classified, and on how data should be collected and **used for estimation**. The European Union, in particular at the beginning of a *multinational drug strategy*, is the obvious institution for doing so. First, promoting researches in member states which not yet have knowledge on their expenditures, and secondly favouring a common European framework for research.

Thus the EMCDDA, together with the Reitox network, should be called, and supported, to develop a methodology that would allow for consistent and credible estimates within the European Union. It should provide a set of categories for program types, identify the kinds of agencies that are likely to be associated with each category, develop a set of guidelines for estimating the principal elements within each category and assess alternative methods for comparing expenditures across nations.

⁶ Godfrey C, Eaton G, McDougall C, Culyer A. The economic and social costs of Class A drug use in England and Wales, 2000. Home Office: 2002

⁷ Garcia-Altes A, Olle JM, Antonanzas F, Colom J. The social cost of illegal drug consumption in Spain. *Addiction* 2002;97:1145-53

⁸ De Ruyver, Pelc, Casselman, La politique des drogues en chiffres: étude des acteurs concernés des dépenses publiques et des populations atteintes, 2004

⁹ Bruckner J, Zederbauer S. Vergleich und Analyse des Problems illegaler Drogen in Österreich unter ökonomischen Gesichtspunkten; Überblick über die Aufwendungen und Leistungen der Drogeneinrichtungen im Jahr 1997. Linz: Fonds Gesundes Österreich 2000

¹⁰ EMCDDA, Reuter P, Ramstedt M, Rigter H. Developing a Framework for Estimating Government Drug Policy Expenditures, EMCDDA 2004 (unpublished report)

¹¹ Researches top-down starts by envisaging sources of expenditure and institutions responsible for spending such as ministries or regional and local authorities and institutions, 'following' the money downwards to the projects and then categorising the expenditures. Research bottom-up follow the inverse road, it envisages the projects and the interventions in the field and follows the money up until the source'. In France, UK and Spain there are bottom-up research, in Sweden and Netherlands top-down; in Belgium both approaches have been cross checked and applied to the expenditure research.

Public expenditure in the field of drugs in the EU

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Executive summary

This report summarises the available data and figures on expenditure in the field of drugs in the EU and Norway. Only few studies in the peer-reviewed literature were found (Finland, France, Spain and the UK).¹² Extensive reports exist for Austria, Belgium, France and the UK.¹³ Further, data had to be distracted from focal points' information to the EMCDDA¹⁴. Often exact definitions and data sources were missing and studies were incomplete regarding coverage of all relevant expenditure categories:

- Prevention & research
- Treatment & rehabilitation
- Law enforcement¹⁵
- Cost-of-illness¹⁶

From a methodological point of view, this report closely adheres to definitions that have been designed for drawing the social costs of drugs for those categories of social costs presenting expenditure (not all social costs translate into expenditure, for example, indirect costs of production losses do not).

Furthermore, two core methods were identified for performing an analysis of expenditure: (i) top down¹⁷ and (ii) bottom-up¹⁸. The recent EMCDDA report on a Framework for Estimating Government Drug Policy Expenditure (Reuter 2004)¹⁹ adhered to the former, whereas the extensive French and UK reports adhered to the latter.

Elaboration on the studies resulted in the selection of only four that are rather complete and more-or-less comparable. All these studies were designed bottom-up and were published in extensive reports for Austria, France and the UK and two publications (same research for France and one for Spain).

¹² For France: Kopp P, Rumeau-Pichon C, Le Pen C. Les enjeux financiers des traitements de substitution. *Revue d'Epidémiologie et de Santé Publique* 2002; for Finland: Hein R, Salomaa J. What are the costs of substance abuse? *Alcohol and drugs. Alcologia* 1999;11:135-43 ; for Spain: Garcia-Altes A, Olle JM, Antonanzas F, Colom J. The social cost of illegal drug consumption in Spain. *Addiction* 2002;97:1145-53 ; for UK : Healey A, Knapp M, Astin J, Gossop M, Marsden J, Stewart D, Lehmann P, Godfrey C. Economic Burden of Drug Dependency. *British Journal of Psychiatry* 1998; 173:160-5

¹³ For France: Kopp P. Calculating the social cost of illicit drugs. Methods and tools for estimating the social cost of the use of psychotropic substances, Pompidou Group, Council of Europe Publishing, 2001; for UK: Godfrey C, Eaton G, McDougall C, Culyer A. The economic and social costs of Class A drug use in England and Wales, 2000. Home Office: 2002; for Belgium: De Ruyver, Pelc, Casselman, La politique des drogues en chiffres: étude des acteurs concernés des dépenses publiques et des populations atteintes, 2004 ; for Austria : Bruckner J, Zederbauer S. Vergleich und Analyse des Problems illegaler Drogen in Österreich unter ökonomischen Gesichtspunkten; Überblick über die Aufwendungen und Leistungen der Drogeneinrichtungen im Jahr 1997. Linz: Fonds Gesundes Österreich 2000

¹⁴ National Reports 2002 Reitox Focal points, selected issue, Public expenditure in the field of drugs demand reduction

¹⁵ In this categorisation law enforcement comprises services by the police, justice, customs and prisons.

¹⁶ Cost-of-illness refers to those costs/expenditures for drug-related diseases, such as HIV/Aids and hepatitis.

¹⁷ The top-down approach starts with overall (often ministerial) budgets and "allocates down" expenditures for the drug problem

¹⁸ The bottom-up approach typically builds on physical numbers of drug users, magistrates, police force etcetera involved in the drug field, and subsequently attaches unit costs to these physical estimates

¹⁹ EMCDDA, Reuter P, Ramstedt M, Rigter H. Developing a Framework for Estimating Government Drug Policy Expenditures, EMCDDA 2004 (unpublished report)

The results of these studies could be validated from other sources and extended (France) with some cost-of-illness information that was lacking.

In summary, high quality information on drug expenditure is urgently needed, and yet lacking for many countries, including major EU-countries such as Germany and Italy. The European Drugs strategy and action plan(s) could be a very useful engine to stimulate research into drug policy expenditure in the European Union Member States along the lines for instance of the 'bottom-up' approach as applied in the currently only reliable and comprehensive studies available in Austria (Bruckner & Zederbauer, 2000), France (Kopp 2000), Spain (Garcia-Altes et al, 2002) and the UK (Godfrey et al. 2002)²⁰. Furthermore, investigation of the potential of the top-down procedure should be carefully considered in validating the approach in the Reuter report especially the estimation of the Netherlands expenditure (Rigter in Reuter 2004). One possibility would be to do a bottom-up analysis for the Netherlands and compare the results with those available from the top-down study. Yet, the top-down study still has to be finalised and only preliminary results are available. Currently, these preliminary results yet lack face validity, if compared with other available studies.

²⁰ If work should be prioritised it would be advisable to undertake researches first in the largest countries with reported drug problems and where such a study is lacking (e.g. Germany, Italy). Afterward methodology could be extended also to smaller countries.

Introduction

The economic approach has been applied to drug addiction previously in only few studies, and even less of those have reached the peer-reviewed international literature. Two landmark studies during the early 1990's should be mentioned here. Firstly, Kim *et al* analysed costs and benefits of drug prevention programs for the USA over the period 1979-92²¹. They estimated a very favourable cost/benefit-ratio: there is a saving in direct and indirect costs of US\$15 for each US\$ spent in drug addiction prevention. Secondly, Rice *et al* estimated the costs of drug-addiction-related illnesses within a broader social costing framework²². This social costs framework comprised the indirect costs of production losses and the costs of crime as well (note the use of "indirect", that is reserved for production losses in (health) economics literature; this is also the definition that is preferred in this paper).

For drug addiction the economic concept of social costs provides a very suitable approach. Social costs reflect the total burden of costs for the society. This societal perspective is much wider than the public expenditure perspective. Table 1 shows a comparison over broad categories that have been published in the peer-reviewed literature. It illustrates that indirect costs provide the largest share in such cost studies and that within direct costing (often expenditure), health-care costs provide a relevant – not to be ignored – share. In particular, Table 1 compares Single's estimates for Canada²³ with those of one other extensive study done during the late 1990's for France, i.e. that of Kopp²⁴. Alongside his applied research for Canada, Single developed guidelines for adequately estimating social costs / expenditure of addictive substances.

Table 1 Distribution of estimated social costs of drug addiction in Canada and France over various cost categories

Cost category	Canada	France
Direct health care	6%	12%
Direct other	34%	36%
Indirect	60%	52%

The present paper, compiled at the demand of EMCDDA, focuses on drugs related public expenditure, which represent only a share of social costs.

In particular, it refers to the share of social costs covered by the expenditure on prevention, research, treatment, rehabilitation, law enforcement and cost-of-illness. These are normally labelled as **direct costs**, which is the main focus of this paper.²⁵ This implies that **indirect costs** of production losses – for example, due to drug use or drug-related illness – but also indirect effects on social assistance and security (see also transfer costs below) are excluded from the analysis, despite their huge impact in

²¹ Kim S et al. Benefit cost analysis of drug abuse prevention programs: a macroscopic approach. *Drug Addiction* 1995; 25:111-27

²² Rice D, Kelman S, Miller L. Estimates of economic costs of alcohol and drug abuse and mental illness, 1985-88. *Public Health Reports* 1999; 106:280-92

²³ Single E et al. The economic costs of alcohol, tobacco and illicit drugs in Canada, 1992. *Addiction* 1998; 93:991-1006

²⁴ Kopp P. Calculating the social cost of illicit drugs. *Methods and tools for estimating the social cost of the use of psychotropic substances*, Pompidou Group, Council of Europe Publishing, 2001

the overall social costs of drugs (table 1). Also **private costs** (such as: users expenses on illicit drugs) are excluded in this approach. Finally a last category of costs has to be mentioned, constituted by the so-called transfer payments of taxes and thefts (representing merely shifts from one person to another, without affecting total welfare). These payments do not represent costs in the pure economic definition of costs, thus are often not included in social costs and are therefore not included in our approach to public expenditure neither.

1. Methods

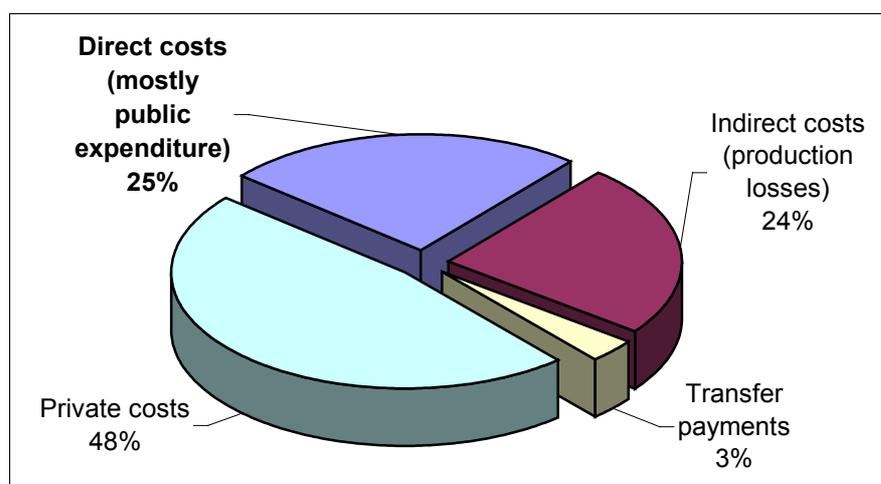
As mentioned above, social costs of drug addiction – as a broader category – includes public expenditure on the drug problem. In this paper a classification of public expenditure is used that broadly goes along with the categorization of that part of social costs covering public expenditure.

Social costs of drug addiction may be broadly divided in:

- 1) Private costs/expenditure for the drug user or others (*not considered in this report*);
- 2) Indirect costs production losses²⁶ (*not considered in this report*);
- 3) Direct costs (including public expenditure, comprising both drug-labelled and non-labelled money): Prevention; Research; Treatment of addiction; Rehabilitation,; Criminal justice; Law enforcement by police and customs; Prisons; Security services paid through public expenditure (for example, surveillance in public buildings); Health-care costs through accidents; Cost-of-illness for drug-related diseases²⁷ and overdoses;
- 4) Transfer payments, that are not costs or expenditure in the strict economic definition, for example thefts and taxes (*not considered in this report*).

If we picture in a chart all the components of the social costs (taking as example the study of Kopp 2001, (cfr.), we see that public expenditure, the focus of the present paper, are just a small part out of the total. Public expenditures are in fact included in the direct costs and represent less than 25% (Chart 1).

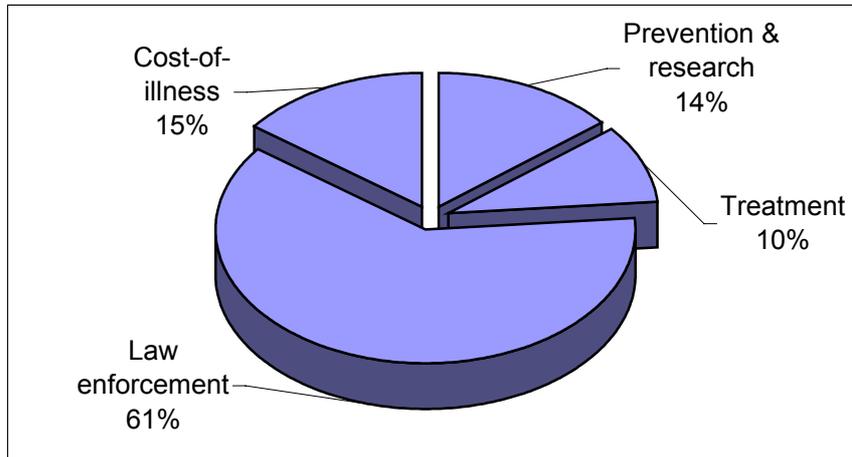
Chart 1: Distribution of social costs for France as an example (Kopp, 2001),



²⁶ Indirect costs are those costs related to unemployment due to drug use (unable to find job, getting fired), low performance on the job, absence due to drug use or related disease and mortality. Below, we will see that some of the country studies did include indirect costs, they do however not actually contribute to expenditures and will be excluded for further consideration.

If we look inside the 25% attributed in Chart 1 to direct costs (as said covering public expenditure) we can see that it is mainly composed of law enforcement expenditure (61%), treatment (10%), prevention and research (14%) and cost-of-illness (15%) (Chart 2).

Chart 2: Distribution of direct costs for France as an example (Kopp, 2001)



With the focus on public expenditure it is important to give these a closer look before considering the various countries in more detail. We have said that direct costs are 'mostly' composed of public expenditure figures, this because in the category of **direct costs** we may find types of costs that **are not public expenditure**, such as: 'costs for vehicles' damage through accidents' (may be insured through private insurance), 'privately paid security services' and 'private property damage'. Whether 'cost-of-illness' actually should be categorized as public expenditure formally depends on the type of health-care system in any country. For this report it is chosen to include these costs into the public expenditure for any EU-country, regardless of its health-care (financing) system and potential private expenditure shares in such costs.

We note that one potentially confusing concept relates to the 'transfer payments' (taxes, welfare payments, property transfer through thefts, fines, etc.). These categories are often included in the expenditure; do however not reflect actual changes in a country's welfare. These categories merely reflect transfers of one (group of) person(s) to another (group of) person(s), and are not conceived as real (opportunity) costs. In this paper, transfer payments are preferably not included in the analysis of expenditure, to adhere to sound economic definitions. In the different data sources / studies encountered, some did however include transfer payments into the expenditure, witnessing the scattered variety of sources and definitions available. Often these could be filtered out.

²⁷ Diseases related to drug use: Anaemia; Infections of bone, skin and joints; CNS-infections, such as meningitis; Chronic liver disease; Endocarditis; Heart disease; Hepatitis; HIV and other retroviruses (e.g., HTLV); Mental disorders; Bacteremia (e.g., pneumococcal); Respiratory disease; STDs; TBC

This paper reviews materials on expenditure on drugs that have been supplied to EMCDDA by the national focal points in the framework of the 2002 national reporting process, and in few peer-reviewed published materials available only for some countries (next section). Upon these sources, country profiles are attempted, and comparisons are made crudely for all figures. Overall, methodological differences must be acknowledged and only few selected studies allowed further investigation given their detailed level of reporting.

2. Country Profiles

This chapter covers country profiles of drug-related expenditure for 15 EU countries and Norway. As far as possible, use has been made of the national reports 2002 of the focal points in these countries, which have substantially contributed to the availability of figures in countries where research has not been conducted so far. Country profiles are compiled as far as possible along the classification of expenditure as specified above (chart 2). As will be shown, it was however not always possible to apply the classification at all, and sometimes only a very limited application could be elaborated, due to the scattered data available.

2.1 Austria

Data on drug expenditure in Austria were gathered by ÖBIG (Österreichisches Bundesinstitut für Gesundheitswesen (Austrian Health Institute))²⁸. Data referred to 1999 and 2001. According to the EMCDDA reporting guidelines, the concept of drug-related demand reduction – inclusive harm reduction – was taken as the core concept for specifying expenditure, defined as those interventions aimed at preventing the abuse of illicit drugs and/or reducing the adverse health and social consequences. Also expenditure on planning and coordinating harm reduction have been taken into account. Expenditures are at federal, provincial and local governmental levels. One specific feature of the Austrian system is mentioned with regard to the costs of alternatives to punishment, on which an uncertainty on its financing has existed for many years between federal and provincial governments. So far, it has been solved for several drug centers, but general agreement and coordination is reported to be lacking. Also, there is no nation-wide financing program for drug-related demand reduction, which additionally has given rise to debates between federal and provincial levels.

As only partial data could be obtained, additional estimates and projections – in particular, for substitution treatment and inpatient hospital care – have been made. Primary prevention aimed at illicit drug use is often directed at other aspects as well (alcohol, sexually transmitted diseases, etc.). Such expenditure were however fully allotted to drug expenditure. For federal expenditure, for example, this relates to EUR173,700 (2% of overall expenditure on harm reduction). For other kinds of interventions

²⁸ Survey by ÖBIG (Österreichisches Bundesinstitut für Gesundheitswesen (Austrian Health Institute)) 2002, in Reitox National Report 2002 to EMCDDA

– where possible – expenditure specifically focussing on illicit drugs were considered. Furthermore, data for 2001 were most reliable as all provinces provided data, whereas 4 did not for 1999 (Lower Austria, Salzburg, Upper Austria and Vorarlberg).

Estimations point to overall **expenditure on drug-related demand reduction** of at least EUR66.8 million in 2001 (see Table 2). The largest share of expenditure is related to counselling, care and treatment and is financed by provinces (40%). Note that this approach, just on drug-related demand reduction was requested by the EMCDDA in the 2002 national reporting process²⁹.

Table 2 Overall demand reduction expenditure on drugs in Austria by sector in 2001 (million EUR)

Primary prevention	4.0 (6%)
Outreach work	5.8 (9%)
Counselling, care & treatment	50.7 (76%)
Reintegration	4.7 (7%)
Other expenditure	2.3 (2%)
Overall	66.8 (100%)
<p>Outreach work includes low-threshold centres, temporary sleeping facilities and emergencies; Counselling, care & treatment includes inpatient and outpatient departments, substitution treatment, alternative punishment (therapy), treatment in prisons, hospital care and health-insurance funds expenditure (exclusive double counting); Other expenditure are expenditure that could not allotted to specific sectors as adequate registration at the local level lacks.</p> <p>The approach chosen in this survey has demand reduction as the core concept [see above comment]. This implies inclusion of expenditure on preventing adverse health consequences among drug users (such as HIV-prevention). However, those expenditure on inpatient and outpatient care for those drug users that became HIV-infected despite prevention activities were not included. As such, the concept of harm reduction limits the scope of the analysis significantly.</p>	

Previously, a report was drawn up for the public expenditures on drug addiction in Austria in 1997. This report investigated the expenditures beyond the harm reduction concept.³⁰ In particular, this study included a relevant share of the expenditures devoted to law enforcement (Table 3).

Table 3 Austrian expenditures on drug addiction in 1997 in million EUR

Law enforcement	96.7	65%
- arrests	47.3	
- judicial system	8.1	
- prison	41.3	
Treatment	34.7	23%
- inpatient treatment	19.1	
- outpatient treatment	13.4	
- low-threshold centres	2.2	
Cost-of-illness	15.5	10%
Prevention	2.9	2%
TOTAL	149.8	100%

Expenditures on low-threshold centres only refer to those projects in the framework of the “Verein Wiener Sozialprojekte”. For similar centres in Vorarlberg and Tirol expenditures could not be

²⁹ Reitox Guidelines for the year 2002 included three selected issues; one of each was on public expenditures on drugs demand reduction.

estimated; Cost-of-illness refers to those expenditures for hospitalisations that are directly drug-related (various subcodes of ICD 3-digit-codes 292, 304, 305, 779, 965, 969 and 970); note that this excludes costs for hospitalisations that are indirectly related, such as those for drug-related acquired HIV, HCV and HBV. Footnote table: Prevention refers to addiction prevention in general. Therefore the figure of 2.9 million EUR may include expenditures on prevention of addictions such as smoking, alcohol and soft drugs (that may obviously precede hard-drug addiction).

The study was performed on a bottom-up basis using local registrations and estimations on, for example, persons in treatment and law enforcement acts. So, based on budgets of various treatment centres, regional numbers of criminal acts related to drug use expenditures could be estimated. In the classification chosen all four categories are covered. Transfer costs were not included in the expenditure estimate. For example, benefits of fines were estimated, but not included in the aggregate presentation.

Given the full spectrum of the second analysis, below we prefer this one for further analysis in the section on "Cross national comparisons".

³⁰ Bruckner J, Zederbauer S. Vergleich und Analyse des Problems illegaler Drogen in Österreich unter ökonomischen Gesichtspunkten; Überblick über die Aufwendungen und Leistungen der Drogeneinrichtungen im Jahr 1997. Linz: Fonds Gesundes Österreich 2000

2.2 Belgium

Hampering a full overview for the situation on drug expenditure in Belgium is the great diversity of financing sources in Belgium. Despite this, two sources were available to estimate expenditure figures for the year 2000: the web site of the Belgian Federal Ministry of Social Affairs, Public Health & the Environment and a paper by Tecco *et al* (2000)³¹. Some problems with allocating expenditure were noticed. For example, many centers for care concerning heroin abuse have a broadened therapeutic framework including alcohol addiction.

Activities on treatment for drug addicts, rehabilitation and ambulatory consultations are financed at a federal level, by the Ministry of Health and Social Affairs. The Table 4 lists the available information on expenditure in Belgium.

Table 4. Belgian expenditure on demand reduction in 2000 at EU (EMCDDA), federal and regional levels (Flemish, French and German speaking communities and Brussels region) in million EUR

Treatment		109.2	(63%)
- Psychiatric depts.	93.1		
- Medicine & surgery	5.2		
- Sheltered housing	2.0		
- Ambulatory methadone	8.9		(6%)
Rehabilitation		22.5	(14%)
Prevention		17.9	(11%)
- Criminality	7.80		
- Ministry of Int. Affairs	1.67		
- SPP	2.60		
- Regions/communities	5.81		
Security services		6.13	(4%)
Research		3.18	(2%)
- Regionally organised research	2.64		
- EMCDDA	0.54		
Grand total		158.9	(100%)
<p>Ambulatory methadone costs are crudely estimated according to a very basic calculation that is poorly satisfactory according to the authors and needs to be sharpened; SSP = secretariat of prevention policies, the total budget is shown, the part for drug addiction is unknown; prevention expenditure of regions may comprise some expenditure on research</p> <p>The approach chosen in Belgium is extensive in the sense that also expenditure on research are specified, as well as costs for security preventing crime and criminality (almost 10%). Costs for detention and police arrests seem however to be missing, as well as health-care costs for drug-addiction related diseases, such as HIV and Hepatitis.</p>			

Very recently (in 2004) results came available on yet another study in Belgium (Ref: De Ruyver B, Pelc I, Casselman J, Geenens K, Nicaise P, From L, Vander Laenen F, Meuwissen K, Van Dijck A. Drugbeleid in cijfers. Gent: Academia Press 2004).³³ The report is discussed briefly here, as the report

³¹ Tecco JM, Le Bon O, Kopp P, Joris L, Verbanck P, Pelc I. The cost of addiction care in Belgium. *Acta Psychiatrica Belgica* 2000;100:105-17

³² http://www.belspo.be/belspo/home/publ/pub_ostc/SoCoh/rSO01008_fr.pdf

³³ http://www.belspo.be/belspo/home/publ/pub_ostc/SoCoh/rSO01008_fr.pdf

came in very shortly before finalising this report. Generally, they remark that the different set up of administrations for the various sections – such as law enforcement and treatment – have significantly hampered their research. Furthermore, it was sometimes difficult to differentiate between illegal and legal drugs. The approach was top-down on one hand - based on national, federal and regional governmental documents – and bottom-up on the other – for example, mayors were interviewed at the local level. Findings are summarised in Table 5.

Table 5 Belgian expenditures on drug addiction in 2002 in million EUR

Policy	5.2	3%
Research	2.7	1%
Prevention	8.2	4%
Treatment (assistance)	71.7	38%
Law enforcement	98.0	54%

Note that cost-of-illness – for example, for HCV, HBV and HIV - is missing in this Belgian approach. Generally however, the approach is comprehensive and extensive. Despite the fact that these data are not yet peer-reviewed published, they look like being the best available currently for Belgium. From a scientific point of view, such extensive work as this for Belgium is only available for few other countries (amongst which France and the UK). Below, when referring to Belgian data we mean those data set out in Table 5.

2.3 Denmark

Data for Denmark have been taken from the Reitox national report for 2002.³⁴ Treatment of drug addicts is typically financed through a public-private mix. Private initiatives concern voluntary organizations and privately owned organizations. The public authorities are responsible for, for example, medical treatment, prevention initiatives and may "buy" treatment slots in the private sector. Public authorities' expenditure are divided 40%-60% over counties and municipalities, respectively. No standardized information is available on the expenditure in the private sector. Also, no information could be gathered for methadone treatment. In the end, for Denmark only those expenditure listed in the Act on Social Services could be traced for 1995-2001. Here, we focus on the most recent year 2001, with only a gross total available on expenditure at DKK 568,4 million (EUR 77 million), spent on prevention and treatment (exclusive methadone treatment).

The report on the Danish situation notes that various activities are not included in the Act on Social Services, such as teaching about drug abuse in primary and secondary school, police's prevention interventions against drugs (and related crime) and welfare benefits. We note, though, that welfare benefits should – from a purely welfare economics' point of view – not be seen as costs/expenditure, but merely as transfers from one (group) to another (group) in society.

³⁴ Ministry of Interior and Health as specified in the Reitox National Report 2002

2.4 Finland

For the situation in Finland we have found data in Hein *et al.*³⁵ This study merely estimated costs, rather than expenditure.

Both direct as well as indirect costs were included in the estimation, arriving to a total amount of million EUR 413 (minimum) to 818 (maximum).

Direct costs in the definition of the Hein-papers include hospital expenditure due to drug use, sickness benefits, disability pensions, benefits paid out from insurance funds, living allowances, child welfare and costs of research, prevention and education. Again, as for some other countries, some of these items refer to mere transfer costs, without affecting total welfare of Finland (for example, pensions). Direct costs were estimated in a range from million EUR 127 minimum to 195 maximum

Indirect costs involve productivity and tax revenue lost by society and prematurely lost life. Indirect costs were estimated as the net result of revenues lost and expenses saved by society. Indirect costs were estimated in a range from million EUR 286 minimum to 622 maximum.

For a summary of all cost items see the table below.

One further study was found for Finland, that has been published in the peer-reviewed international literature (Hein *et al* in *Alcologia*).³⁶ This 1999-study gave a very comprehensive overview of the costs for the year 1995, however clear definitions of the cost categories is lacking.

Table 6. Costs of abuse of narcotics in 1999 in millions of EUROS

	Minimum	Maximum
Demand reduction	64.5 (16%)	87.9 (11%)
Health care	16.5	29.5
Pensions	2.2	6.5
Sickness benefits	0.5	0.5
Insurance	0.5	1.3
Abuse services	26.0	27.0
Allowances	2.7	7.0
Child welfare	10.9	10.9
Research & prevention	5.2	5.2
Other direct	62.9 (15%)	108.0 (13%)
Indirect costs of untimely deaths	235 (57%)	538 (66%)
Other indirect	51 (12%)	84 (10%)
Grand total	413.4 (100%)	817.9 (100%)

³⁵ Hein cited in the Reitox National Report 2002 to EMCDDA

2.5 France

One of the key studies on social costs and expenditure for drug use has been done for France by Kopp *et al*³⁷ In a broader framework comprising non-expenditure types of social costs – such as those related to premature death, income losses through incarceration, added value, taxes, pensions, fines and private costs for purchasing cannabis, heroin, cocaine – they distinguished various types of expenditure in an exhaustive framework. The framework generally comprises cost-of-illness, judicial services, penitentiary administration, law enforcement, prevention & research and treatment. Further analysis was limited to HIV/Aids for cost-of-illness and subutex[®] expenditure for treatment.

At a higher aggregation level, three types of expenditure related to illicit drug use are traditionally considered complementary: prevention, health and repression. Prevention in this concept is the whole of activities for averting potential users to become real users and real users to refrain from continued use. Those expenditure labeled as "health" include the costs of subutex[®] in a limited perspective of demand reduction and those of HIV/Aids in a broader general expenditure approach.

For France some updated figures are available, however a broad and complete picture of expenditure is available for an original study on 1995. For that reason we present initially estimated figures for 1995 (see Table). The French study is seen as a "golden standard" for the study of illicit drugs expenditure in Europe.

³⁶ Hein R, Salomaa J. What are the costs of substance abuse? Alcohol and drugs. *Alcologia* 1999;11: 135-43

³⁷ OFDT, Le coût social des drogues licites (alcool et tabac) et illicites en France, P Kopp, P Fenoglio, 1995 at www.drogues.gouv.fr and updates, see Kopp, Rumeau-Pichon, *Le Pen. Les enjeux financiers des traitements de substitution. Revue d'Épidémiologie et de Santé Publique* 2002

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Table 7. Expenditure on illicit drug use in France in 1995 (updated if available) in millions of EUR (%'s in brackets)

	1995	UPDATED
Treatment	93 (10%)	91
Cost-of-illness	141 (15%)	--
Judicial Services (of 210 judges etc. in 1995)	34 (4%)	41
Penitentiary admin.	220 (23%)	201
Law enforcement	340 (35%)	340
Government	136 (14%)	130
Total	964 (100%)	

Treatment includes subutex® only; Cost-of-illness is that of HIV/Aids only; Estimated expenditure for law enforcement were primarily for the police in the fight against drug trafficking and repression of drug related offences with EUR188 million. Next, customs contribute EUR81 million to law enforcement expenditure and gendarmerie contributes EUR70 million for criminal investigation and public security missions; Government spends on prevention (various ministries, including that for Youth & Sports), treatment, in particular treatment according to article 40 on over 200 treatment centres (Ministry of Social, Health and Urban Affairs with EUR83 million), education and research (Ministry of National Education, Higher Education and Research), international initiatives (Ministry of Foreign Affairs, financing co-operations and the United Nations Programme for International Drug Control) and on the EU drug budget (EUR28 million)

The authors of these estimates provide limitations to their data themselves:

Estimates date back to 1995, and an update taking actual budgetary adjustments into account could change the prospect of the expenses described here;

No data are available for the decentralised levels (communes, regions, departments), limiting the representation of the work (however, the central level is known to account for the main share of expenditure);

No attention is paid in this approach to the effectiveness of expenditure; i.e. some actions may have had major impacts, whereas others may have had none so ever.

A further limitation may be noticed in the limited approach to treatment (subutex® only) and cost-of-illness (HIV/Aids only, neglecting various other diseases as summed up in the General Introduction). Obviously, this (and potentially some other factors) causes an underestimate of expenditure in the field of drugs in France.

2.6 Germany

The German section in the Reitox national report of 2002 tries to estimate at least part of the expenses in the framework of what is possible, given the absence of an exhaustive project, as, for example, in France.³⁸ Therefore, public expenditure for caring for drug users could be taken into consideration. In brief, private expenses of drug addicts, thefts and judicial expenditure and treatment of diseases are not taken into account. The German approach was based on two primary principles:

- Public budgets as far as known;
- In absence of specific budgets (in particular, for communities and "Länder") expenses were estimated as accurate as the registration allowed.

Furthermore, a bottom-up approach was used, based on estimated "natural units" (imprisonment days, employees, inpatient treatment days, psychiatric hospital days, etc.) and unit costs (EUR180 per imprisonment day, EUR 48,900 per employee per year, EUR 90 per inpatient treatment day, EUR202 per psychiatric hospital day, etc.).

Table 8. Estimated expenditure in the field of drugs in Germany in 1999 in millions of EUR

	Basis	Expenditure
Prevention	budget	6.6 (1%)
Harm reduction	expenses	3.0 (1%)
Treatment	mixed	294.8 (42%)
Training	budget	1.1
Psycho social	expenses	13.3
Counselling	expenses	57.9
Rehabilitation	mixed	210.4
Re-integration	expenses	4.3
Sheltered housing	expenses	8.0
Health care (psychiatric)	expenses	97.0 (14%)
Jurisdiction	expenses	270.2 (38%)
Various	budget	30.4 (4%)
Grand total		702.0 (100%)

Harm reduction comprises emergency aid and emergency accommodation; treatment comprises withdrawal, psychosocial supervision, counselling, sheltered housing and inpatient rehabilitation (expenditure on substitution could not be estimated); half of rehabilitation of the addicted are covered by legal pension insurances.

We notice that extensive information is available. However, there is a lack of clearly defined and peer-reviewed analysis of these data in one EU's major countries. We conclude that there is a priority for and exhaustive study in Germany, factoring in all the expenditure in the field of drugs using comparable definitions as, for example, in Belgium, France (and Spain, see below).

³⁸ Reitox National Report 2002

2.7 Greece

Also the Greek data have been retrieved from the Reitox national report 2002. In it, the research approach is strictly based on the work by Single *et al.*³⁹, implying that expenditure were defined as the external costs of resources spent for treatment, prevention and research. The broader concept of costs was defined as expenditure plus the financial aggravation of drug use on society's material and social welfare (for example, losses of production). Further categorisation involved:

- Direct expenditure, being all funds and resources devoted to prevention of use of addictive substances, treatment programmes within state psychiatric hospitals and rehabilitation programmes by the Ministry of Health;
- Indirect expenditure, being funds for general health promotion and medical care activities that may only partly relate to the drug-use itself, but also to further health damages caused by drug use.

Prior, it was expected that direct expenditure would form 80% of all, and therefore the study was limited to direct expenditure only.

Data were gathered by the Focal Point through questionnaires, directed at OKANA, KETHEA, Attica State Psychiatric Hospital, treatment programme "18 ANO", Thessaloniki State Psychiatric Hospital, Drug Dependence Units of the Ministries of Health and Justice (prisoners) and the Ministry of Labor and Social Affairs.⁴⁰ The results of the questionnaire are listed in the Table.

Table 9. Expenditure of drug demand reduction in Greece in 1999 in millions EUR

Prevention (primary)	2.4 (15%)
OKANA-subsidised	2.0
Combined OKANA/KETHEA	0.3
Operational expenses	0.1
Treatment (secondary prevention)	11.8 (73%)
Withdrawal	6.9
Substitution	3.4
Low-threshold centres	1.5
Social rehabilitation	0.3 (2%)
Research	0.3 (2%)
Education	0.8 (5%)
Central administration	0.5 (3%)
Grand total	16.2 (100%)

³⁹ Single E *et al.* The economic costs of alcohol, tobacco and illicit drugs in Canada, 1992. *Addiction* 1998; 93:991-1006

⁴⁰ OKANA and KETHEA, as cited in the Reitox National Report 2002

2.8 Ireland

Data on drug-related expenditure for Ireland are very scarce, as no comprehensive research has been carried out yet. The only data available, are the figures on on demand reduction expenditure presented in the Reitox national report 2002.⁴¹ Measures in the fields of prevention, treatment and rehabilitation, as well as research and evaluation of demand reduction activities were considered. Furthermore, the Irish data defined:

- Direct expenditure on operational activities, comprising financial resources for projects and specific authorities; and
- Direct expenditure on institutions, covering expenditure on ministries and (sections of) national public health institutions with responsibilities in the drugs field.

Expenditure on institutions that are not solely working in the demand reduction area, such as hospitals, emergency rooms and GPs, labelled indirect expenditure, are not included in the Irish estimates. Several departments may be distinguished in the Irish situation, that contribute at direct public expenditure at a national level:

- Dept. of Education & Science, with expenditure on prevention at primary- and secondary-level schools and joint-funded initiatives;
- Dept. of Health & Children, with expenditure on prevention too (within the multi-facet approach of drug awareness, education and prevention);
- Primarily, the dept. on Justice, Equality & Law Reform, with expenditure on supply reduction (inclusive customs); and
- Other departments.

Additionally, the Young People's Facilities and Services Fund and the Local Drug Task Forces are active in the area of prevention. Their activities are, however, not included in the national estimates (see Table). Neither are the expenditure on a wide range of activities in treatment and rehabilitation, inclusive those of Regional Health Boards, prison-based drug-treatment services and the Drug Court (in Dublin), the Voluntary Drug Treatment Network and the National Aids Strategy Committee.

Table 10. Estimated direct public expenditure in the field of drugs in 2000 (in million of EUR)

Dept. of Education & Science	8 (4%)
Dept. of Health & Children	32 (18%)
Supply reduction (dept. of Justice, Equality & Law Reform)	125 (68%)
Other departments	18 (10%)
Total	183 (100%)
All in all, the information available for Ireland is very partial and incomplete. Still, these are the only figures available.	

⁴¹ Irish Focal Point as cited in the Reitox National Report 2002

2.9 Italy

In Italy, the law 45/99 established national guidance for the re-established National Drugs Fund. For 1999, this fund provided the only amount of dedicated money for drug-related activity, with a focus on drug demand reduction. The matrix of activities, sources and providers in the demand reduction expenditure field comprises primary and secondary prevention. Primary prevention was considered to cover (i) prevention directed at schools, youth and parents; (ii) harm reduction through outreach, needle exchange and emergency rooms; (iii) semi-residential activities inclusive day care; and (iv) education and training. Secondary prevention comprised (i) street and outreach work directed at drug addicts; (ii) therapy inclusive substitute prescribing, detoxification and psychotherapy; (iii) residential therapy; (iv) and after care, with activities such as relapse prevention and self-help groups. Not all cells shown are covered by this classification of the National Drugs Fund. For example, organizations which primarily operate residential rehabilitation services, such as Mondo X will still receive income from multiple sources, despite the centralized approach of law 45/99. Private socio-rehabilitative organizations are not required under the Italian law to publish accounts; so expenditure in this area remain unclear. Also, the Catholic Church has made donations for the work of social organizations in Italy, which remain unknown in our framework.

So, all in all, the only dedicated drug demand reduction expenditure that can be quite clearly identified is the allocation of the National Drugs Fund. The amount made available in 1999 was for three years: 1997-1999. Law 45/99 additionally specified percentages to be allocated further downstream to the regions. Table 11 shows that a total of EUR100.3 million was available for 1999, of which 75% was allocated downstream to the regions and EUR23.0 million was to be divided over the relevant ministries.⁴² The financial means allocated to the ministries was allocated along national project promoted by these ministries. Ergo, such expenditure would typically not cover daily routine health care for drug-related diseases. The latter were previously estimated at EUR516 million for 1998 and inflated to 1999 at EUR530 million. It is unclear which parts of regional budgets are included in this estimate. For the current assessment, it was crudely assumed that EUR500 million was additional to the National Drugs Fund resources for regions.

⁴² Mollica R, Gatti RC. Dati sull'utenza dei Ser.T. e note sui costi nei Ser.T. della ASL città di Milano. Milan: Servizio Tossico-Alcoholdipendenze e Patologie Correlate 2002; D'Egidio P. I costi dei programmi di trattamento per l'abuso della sostanze, 2002; Reitox National Report 2002

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Table 11. Expenditure on drug demand activities in Italy in 1999 (millions of EUR).

Ministries		23 (38%)
Ministry Labour & Social Security	1.8	
Ministry of Interior	1.0	
Ministry of Defense	0.9	
Ministry of Education	8.1	
Ministry of Health	4.9	
Ministry of Justice	6.2	
Regions		77 (13%)
Health care (7.this must be better specified because you attribute this in the text to diseases).		500 (83%)
Grand total		600 (100%)
<p>Only limited data are available for Italy. Distributions of major groups such as prevention, treatment, research, etcetera remain unclear. So, even the figures reported have major limitations, on top of the lack of a comprehensive overview. For example, data on regions are incomplete and uncertain with respect to the costs of pharmaceutical treatments, with only 3 regions having such data available. What also remained unclear is how much was actually spent in 1999 and which projects were financed for more than one year (with costs to be divided over the years). Additional information could come in future publications of commissioned work by the Office of the Extraordinary Commissioner for Drug Dependence to estimate the social costs of drug dependence in Italy. Some preliminary findings have been published in Italian. Health care costs are based on an analysis of all costs of the local health services and was reported in the Annual Report to Parliament in 1999.</p>		

2.10 Luxemburg

The Luxemburg approach to the direct economic costs, adopted in the survey of Origer 2004⁴³, has a broad division into supply reduction versus demand reduction expenditure as is starting point. In this approach demand reduction covers 59% of expenditure and supply reduction 39% (the remainder divided over international contributions and research), table 12 lists the findings.

Table 12. Drug-related expenditure in the year 1999 in millions of EUR.

Supply reduction		9.1 (39%)
Demand reduction		3.8 (59%)
Outpatient specialised treatment centres	1.9	
Inpatient specialised treatment centres	4.7	
Specialised prevention centres	0.6	
Other	6.6	
Research		0.23 (1%)
International contributions		0.23 (1%)
Total		23.3 (100%)
It is noted that although most of the expenditure figures were calculated rigorously on the basis of reliable data sources, some calculations were based on estimation and extrapolation methodologies. Problems in this respect were encountered in unspecific budget lines and unclear limits between drug specific interventions and general health interventions/education.		

⁴³ Origer A. Le coût économique direct de la politique et des interventions publiques en matière d'usage illicite de drogues au Grand-Duché de Luxembourg. Séries de recherche no. 4. Point Focal OEDT Luxembourg – CRP-Santé Luxembourg (<http://www.relis.lu>)

2.11 Netherlands

Data for Netherlands have been retrieved mainly from three studies: Zoetermeer, RVZ 1999, Polder JJ et al. 2002, and Rigter, H., 2004.

The approach taken in the study by Polder *et al*⁴⁴ is firmly embedded in the definitions used for direct and indirect costs in health economics literature (as opposed to other definitions in this respect defining indirect costs as those that are not solely labelled drug-related). Within the broader concept of social costs:

- Direct costs are then defined as those of treatment, care and drug prevention;
- Indirect costs are those of losses of economic productivity caused by mental or physical absenteeism or mortality;
- Additionally, downstream health-care costs for drug-related diseases are considered separately or as a constituent part of direct costs; and
- Finally, societal costs relate to costs inflicted on others: criminality (damage, reduced value of real estate, traffic accidents, judicial and health-care costs for victims).

Dutch reported figures focus on direct expenditure or costs of treatment, addiction care and drug prevention.

Polder et al applied a top-down approach, breaking down direct health-care costs using diagnosis information. This study puts the total costs for drugs and alcohol at EUR 285 in 1999. Over 40% of this amount was spent on males aged 25-44.

The most important sources of funding for Dutch addiction care are the General Act on Special Disease Management (Algemene Wet Bijzondere Ziektekosten), the special fund for municipal addiction policy (gemeentelijke doeluitkering verslavingsbeleid) and the probation funds (reclasseringsgelden). However, addiction care is often considered as part of a broader system, for example, mental health care or psychiatric problems, and often expenditure and drugs are not separated. The Table below shows expenditure not discriminating between drugs and other substances though (such as alcohol).

⁴⁴ Polder JJ, Takken J, Meerding WJ, Kommer GJ, Stokx LJ. Kosten van Ziekten in Nederland; de zorgeuro ontrafeld. Bilthoven/Rotterdam: RIVM/EUR 2002

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Table 13. Annual expenditure on addiction care in 1997-98 in millions EUR

Independent clinics		59.1 (38%)
General psychiatric hospitals		15.0 (10%)
Consultation and methadone maintenance		2.3 (1%)
Regional organisations for addiction care		50.9 (33%)
Outpatient addiction care		25.9 (17%)
Ministry of Justice	8.4	
Municipalities	7.5	
General Traffic Act		2.3 (1%)
Total		155.5 (100%)
General Traffic Act is primarily directed at alcohol; research funds are not included in the table (for example, Trimbos Institute)		

All in all, the Dutch data are scattered and coming from various sources. This makes it difficult to judge whether double counting has occurred or structural omissions have taken place in the data gathering.

For further clarity on the Dutch situation a review of the Reuter report would be useful, presenting a third study on the Dutch situation.⁴⁵ In this report drug policy expenditure are clearly separated from those for alcohol. Still this report does come up with a much higher estimate than the study discussed above (Table below). As the Reuter report 'illicit drugs' only, we prefer to rely on this type of calculation as representing more the Dutch situation.

Table 14. Estimated drug policy expenditure in the Netherlands in 2003 (in millions of EUR)

Prevention	42 (2%)
Treatment	278 (13%)
Harm reduction	220 (10%)
Law enforcement	1646 (75%)
These figures exhibits a relatively high expenditure on enforcement in the Netherlands, which may be surprisingly. A closer look is provided in table 3. This table shows that in particular detention (inclusive public prosecution, courts and other sanctions) contributes to this figure. This figure results from 34% (27% for trespassing the Opium Act and 17% for other drug-related crime) of total expenditure of the Ministry of Justice on detention facilities and alternative sanctions at 1,283 million EUR. The drug-related share in courts expenditure is 13% for Opium Act offences and 17% on primarily property crime.	

Table 15. Expenditure on law enforcement by the Ministry of Justice in millions EUR in 2003

Research	3
Public prosecution	125
Courts	311
Detention	564
Total	1004

⁴⁵ EMCDDA, Reuter P, Ramstedt M, Rigter H. Developing a Framework for Estimating Government Drug Policy Expenditures, EMCDDA 2004 (unpublished report)

2.12 Norway

The Norwegian analysis from the REITOX national report 2002 distinguishes various expenditure categories:

- Direct and indirect expenditure for the medical treatment of drug-related injuries and diseases;
- Those on institutions treating drug users;
- Indirect expenditure on child welfare, education, school-based activities and health centers;
- Expenditure for social services;
- Those related to nursing and care activities;
- Social security impacts;
- Those related to the implementation of specific measures, for example, directed at prostitutes;
- Expenditure on organizations engaged in the field of drugs (and alcohol);
- Those on control: police, judicial system, prisons and customs);
- Damage due to traffic accidents, fire, vandalism and theft;
- Reduction in work capacity (production losses); and
- Loss of job or difficulty in getting employment.

Despite this level of detail in distinguishing various types of expenditure, for Norway only one crude estimate for expenditure is available for both the drugs and the alcohol sectors taken together. This amount was EUR 230.6 in 2000.⁴⁶

⁴⁶ Report by the Norwegian Focal Point, based on a database supplied by Statistics Norway to the Norwegian Directorate for Health and Social Affairs

2.13 Portugal

Figures on drugs related expenditure, produced by the Reitox focal point for the 2002 Reitox national report, were along the line of primary, secondary and tertiary prevention and treatment.

Primary prevention was defined as those strategies aimed at reducing the demand for drugs by the creation and maintenance of healthy lifestyles. This involves educational projects, media campaigns, training and street teams. Secondary prevention or harm reduction is directed at minimization of the harms and risks by drug addiction, with continued use. Needle exchange programs, low threshold methadone substitution and HIV-testing centers are examples in this field. Social reintegration can be considered as tertiary prevention, contributing to the prevention of relapses and minimizing the conditions favorable for drug addiction. Such rehabilitation policies are often in conjunction with treatment facilities. Free access to treatment for all drug addicts is top priority in Portugal.

The above classification lacks some expenditure areas for which some additional information is available. In particular, the Ministry of Internal Affairs spends 16.3 million on supply reduction. This refers to activities of the National Guard, the Public Security Police, the Security Information Service and the Emigration Services.

Table 16 shows the distribution of expenditure on drugs in Portugal along the lines outlined above.⁴⁷

Table 16. Expenditure on drugs in Portugal in million of EUR in 1999

Prevention	18.5	(21%)
Harm reduction	8.9	(10%)
Rehabilitation	10.4	(11%)
Treatment	36.3	(40%)
Supply reduction	16.3	(18%)
Total	90.4	(100%)

The Portuguese figures might not give the full picture. The presented estimation might therefore be underestimated.

⁴⁷ IPDT and SPTT, as cited in the Reitox National Report 2002

2.14 Spain

Spain is one of the few countries with a peer-reviewed and (potentially) internationally published study on expenditure and social costs of drugs being available⁴⁸ (the others being Finland, France and the UK). The time horizon of the study was 1 year (1997) and both the societal (social) and health-care (expenditure) point of views were analyzed. Health-care costs were estimated using Single's approach and by considering discharge diagnoses, both primary and secondary (the actual reason for admission and co-morbid situations, respectively). Additionally, epidemiological information was used, for example, to estimate the number of HIV/Aids-cases attributable to drugs. For pharmaceuticals both costs of drugs related to drug use – such as naltrexone and methadone – and the costs of antiretrovirals for HIV/Aids-patients were included. Additionally costs of sentences, imprisonment and indirect costs of production losses were included.

Table 17 shows the results, excluding the indirect of production losses that are not conceived as expenditure.

Table 17. Expenditure on drugs in Spain in 1997 in millions of EUR (using an exchange rate of EUR1 = US\$1)

Health-care	124.4 (35%)
Pharmaceuticals	107.1 (30%)
Prevention	11.8 (3%)
Education & Research	2.6 (1%)
Social programmes	10.4 (3%)
Administration	9.4 (2%)
Justice	16.3 (5%)
Prisons	69.2 (20%)
Various	2.0 (1%)
Total	353.5 (100%)
Various comprises expenditure of organisations Asociacion Proyecto Hombre and Fundacion de Ayuda contra la Drogoadiccion.	

Additionally, indirect costs of production losses were estimated at EUR 114,312 millions primarily related to mortality (95%). For this the human capital approach was used.

Some limitations of this rather extensive study still have to be mentioned, though. For example, for crime only drug possession and supply offences were considered. Crime related to drug-acquisitive behaviors were not taken into account, despite its importance, as shown in many economic evaluations on treatment facilities.

A core concept in funding the Spanish expenditure on drugs relates to the fund coming from goods confiscated by drug trafficking and other related crimes. At least 50% of this fund is allotted to drug addiction prevention programs, drug addicts assistance and social and work integration.

⁴⁸ Garcia-Altes A, Olle JM, Antonanzas F, Colom J. The social cost of illegal drug consumption in Spain. *Addiction* 2002;97:1145-53

2.15 Sweden

Data on expenditure for Sweden produced for the 2002 Reitox national report, are only available on a very rough basis and are combined with expenditure for alcohol. Data on expenditure for Sweden may also be approached by considering the budgets as specified in the annex to the Reuter Report produced by Mats Ramstedt. The preliminary categorization of expenditure used in the Reuter report is as listed in the Table below.

Table 18 Categorization used for drug-related expenditures for Sweden

	Targeted	broad
Prevention	Schools	schools
	Mass media	delinquency
	Policing	public housing
Treatment	Methadone maintenance	psychiatric services
	Counselling	
	Coerced abstinence	
Enforcement	Supply reduction Dealers	general criminal
	Demand reduction buyers	
Harm reduction	Prevention (e.g., NEP)	income support addicts
	Health care for infected addicts	general health care

The underlying motivation of the Reuter report was to investigate whether national drug policies are reflected in expenditure distributions. For example, the goal of Swedish drug policy is to attain a drug free society, with explicit rejection of harm reduction. This might be reflected in expenditure distribution in Sweden, with probably a large share reserved for law enforcement. The Swedish part in the Reuter report was drawn up by Ramstedt.⁴⁹ Ramstedt noted a marked difference in the availability of reliable and well-detailed data sources. For example, whereas expenditures on enforcement are well documented with a high level of detail, this was not the case for data on treatment. In particular, the Swedish police collects daily activity reports permitting the estimation of share of time and expenditures devoted to drug pro

blems through a systematic and transparent approach. Such a nation-wide system was not available for treatment data, where registrations do not allow the differentiation between treatments for illicit drugs or alcohol, neither for numbers in treatment nor costs per treatment. Expert judgement had to be used to estimate numbers of treatments and costs per treatment were crudely assumed to be equal for drugs and alcohol.

The two major enforcement items are police and prison/probation. The police, calculated upon to the police annual report for 2002, spend at least 138 million €⁵⁰, corresponding to 6% of their time for

⁴⁹ EMCDDA, Reuter P, Ramstedt M, Rieger H. Developing a Framework for Estimating Government Drug Policy Expenditures, EMCDDA 2004 (unpublished report)

⁵⁰ 1 EUR = 9.17842 SEK

enforcement of drug laws, not counting other drug related crimes (e.g. acquisitive). Additionally, expenditures on prison and probation ranged from 151 to 300 million EUR in the minimum and maximum, relatively. The latter figure represents up to 50% of the total budget for prison/probation. In total, enforcement has a big share on the overall expenditure (Table 19; showing baseline figures inbetween estimated minima and maxima).

Table 19. Estimated Drug Policy Expenditures, Sweden, 2002 (million Euros)

Category	Baseline
Prevention	8 (1%)
Treatment	175 (18%)
Harm Reduction	28.5 (3%)
Enforcement	738.5 (78%)
Total	950 (100%)

Where enforcement expenditures dominate, prevention expenditure is quite modest. The Reuter-report mentions: "Prevention expenditure were so low as to not merit discussion here". This does however not explain this feature. In the background annex of the report it is mentioned that within the police expenditure on drugs, part may be distinguished for preventive work (mainly search) at 18 million. Thus, this could be shifted from enforcement to prevention. Also, no costs for addiction-related diseases are included, such as HCV, HBV and HIV.

2.16 United Kingdom

For the UK an extensive study on the economic and social costs of class A drugs in England and Wales is available⁵¹. Class A drugs are: LSD, cocaine, ecstasy, heroin, crack, methadone and magic mushrooms. The estimates relate to the year 2000, and are preferred over the very rough estimates of the focal point for the financial years 2000/2001 and 2001/2002. The approach is bottom-up in reasoning from the prevalence of drug use and its consequences. To these prevalence unit costs are linked.

The approach is based on the positive economic framework with a typology of six different groups of consequences:

- for users;
- for families and carers;
- for others affected;
- for the wider society;
- for industries; and
- for the public sector.

Further specification of this framework gives various subcategories. Consequences for users comprise premature death, loss of quality of life, impact on education and training/job opportunities and excess unemployment and loss of lifetime earnings. For families it may be considered that impacts occur on children of drug users, transmission of infections, financial problems, concern/worry and in caring for drug users. Other affected are victims of drug driving, drug-related violence and crime and those infected by drug users. Wider societal effects are partly intangible: fear of crime and environmental aspects (needles in parks, dealing at schools). The industrial sector faces sickness absence, theft in the workplace, expenditure on security, productivity losses and impacts of illicit markets on legitimate ones. Finally, the public sector covers health-care expenditure, criminal justice expenditure, social care services and social security benefits.

For the study, the number of problem users was estimated at 281,125 minimum to 506,025 maximum in 2000 in England and Wales. Of these 80% are potentially injecting drug users (59% currently and 41% are past injectors). The Table shows the distribution of the expenditure from the UK-research. The UK-report presents low, medium and high estimates; for the purpose of this report medium values were taken. Specific distinction is made in the UK-work on health-care expenditure (primarily treatment) and costs of drug-related infectious diseases. Employment benefits – although transfer payments – are shown here for completeness, however not considered below for further analysis, to stick with economic definitions.

⁵¹ Godfrey C, Eaton G, McDougall C, Culyer A. The economic and social costs of Class A drug use in England and Wales, 2000. Home Office: 2002

Table 20. Drugs-related government expenditure in million of EUR (1UKP=1.41 EUR)

Treatment	492 (12%)
Law enforcement	3347 (83%)
Cost-of-illness	113 (3%)
Other social	89 (2%)
Total	4040 (100%)
Health care refers to overdose, poisoning with LSD and cocaine, primary care for problem users, emergency departments, inpatient care and mental health care; crime refers to arrests, courts and prison stays; other social primarily refers to caring for children from drug addicted parents.	

In another study – published and peer reviewed - by Healey *et al* a rather similar distribution was found for expenditure on a subgroup of 1075 drug users⁵². In particular, also in this study criminal behaviour was estimated to account for the large majority with 78% of total costs of 17.2 millions EUR. This study is not discussed further as data referred to are far less recent than those discussed above.

⁵² Healey A, Knapp M, Astin J, Gossop M, Marsden J, Stewart D, Lehmann P, Godfrey C. Economic Burden of Drug Dependency. *British Journal of Psychiatry* 1998; 173:160-5

3. Cross national comparisons

3.1 Availability

In this report data on drug expenditures for 16 countries are reviewed. Those studies refer to the years 1995 (one), 1997 (one), 1999 (six), 2000 (three), 2001 (two), 2002 (two) and 2003 (one).

Out of the 16 countries analysed scientific studies have been carried out only in eight countries (Austria, Belgium, Finland, France, Netherlands, Spain, Sweden and the UK). Information that could be classified according to our chosen categorisation (public expenditures on prevention, treatment, law enforcement and cost-of-illness), was further available for an additional three countries (Germany, Greece and Portugal). Despite the French study referring to the year most far in the past (1995), this study is generally conceived as a model study. In many countries with full studies or categorisation along the lines of ours, the general pattern is that still comprehensive data on law enforcement and any on cost-of-illness are missing (this is, for example, the case in Luxemburg). For yet another five countries only data at ministerial levels (Denmark, Greece, Ireland and Italy) or no disaggregated data at all (Norway) were available.

3.2 Aggregate level

Country profiles were compared on an aggregate level for all countries with data available. This comparison comprises percentages distributions over the various categories of expenditure and total expenditure on drugs per GDP or capita. Most recent data from OECD Health Data 2000 were used for denominators, often corresponding to the year of analysis for drug expenditure (1997-99). This comparison is shown in table below.

Table 21. Drugs related expenditure per capita in EUR and as percentage of GDP.

	Per capita	% of GDP
Austria	18	0.08
Belgium	18	0.09
Denmark	14	0.05
Finland	31	0.15
France	16	0.08
Germany	9	0.04
Greece	2	0.02
Ireland	49	0.27
Italy	11	0.06
Luxemburg	54	0.15
Netherlands	139	0.66
Norway	N/A	N/A
Portugal	9	0.10
Spain	9	0.07
Sweden	107	0.47
UK	68	0.35
N/A = not available		
Austria: 8,114,000 population and GDP of €181,937 million; Belgium: 10,214,000 population and GDP of €214,961 million; Denmark: 5,319,000 population and GDP of €148,975 million; Finland: 5,171,000 population and GDP of €107,900 million; France: 59,099,000 population and GDP of €1,244,312 million; Germany: 82,087,000 population and GDP of €1,870,714 million; Greece: 10,553,000 population and GDP of €106,742 million; Ireland: 3,745,000 population and GDP of €67,861 million; Italy: 56,952,000 population and GDP of €1,011,082 million; Luxemburg: 431,000 population and GDP of €15,410 million; Netherlands: 15,754,000 population and GDP of €332,513 million; Norway: 4,445,000 population and GDP of €135,790 million; Portugal: 9,983,000 population and GDP of €92,031 million; Spain: 39,418,000 population and GDP of €492,989 million; Sweden: 8,868,000 population and GDP of €201,024 million; UK: 59,333,000 population and GDP of €1,165,057 million		

In three cases (Netherlands, Sweden and UK), detailed studies⁵³ available result in relatively high per capita and percentages of Gross Domestic Product (GDP) estimates. In fact, the Dutch and Swedish estimates are strikingly high, suggesting the need of assessing validity and warranting further research into the international comparability of the approach chosen for Netherlands and Sweden. Correcting for the fact that both estimates are very recent compared to those for some other studies, would lower both estimates, but still leaving them very high. The UK estimates even rise to EUR 86 per capita and

⁵³ Godfrey C, Eaton G, McDougall C, Culyer A. The economic and social costs of Class A drug use in England and Wales, 2000. Home Office: 2002; EMCDDA, Reuter P, Ramstedt M, Rigter H. Developing a Framework for Estimating Government Drug Policy Expenditures, EMCDDA 2004 (unpublished report)

0.44% in terms of GDP, if unemployment benefits (primarily transfer payments however) are taken into account. The French study⁵⁴ - also a very detailed one – indicates expenditure per capita at EUR 16 and 0.08% of GDP for drug-related expenditure, very in line with findings in Austria and Belgium, two other countries with scientific studies being available.

Illustrated by the French and the Dutch study, two major approaches to the problem may be distinguished: **bottom-up** and **top-down**. With the French study being an exponent of that, a bottom-up procedure typically bases its estimates on units, such as numbers of magistrates, police workers, prevalence, etc. to be combined with "unit cost estimates". The top-down approach – though – starts from ministerial expenditure or budgets and reasons from this, which parts may be attributed to the drug problem. The Dutch study (in the Reuter report), is an exponent of this approach.

What was clear at forehand for this analysis, is that already in the use of terminology and definitions, data seems not comparable. The use of the same term, for example, does not guarantee that exactly the same category of expenditure is referred to. Also, the inclusion of all relevant categories of expenditure is not guaranteed for all countries included in this report. In particular law enforcement is often not known. This is also because this paper has greatly profited of the findings of Reitox national focal points presented in the 2002 national reports. These have concentrated only on **demand reduction expenditures**, putting a clear light on this kind of figures compared to those of law enforcement, that have not received the same attention at EU level.

⁵⁴ Kopp P. Calculating the social cost of illicit drugs. Methods and tools for estimating the social cost of the use of psychotropic substances, Pompidou Group, Council of Europe Publishing, 2001

3.3 Detailed

Additionally, more detailed comparison was performed for those countries with transparent and fully (preferable internationally) published scientific research methodologies being available. These countries are: Austria, Belgium, **Finland, France, Netherlands, Spain, Sweden and UK**. As mentioned previously, however, the Finnish data are difficult to compare with the other countries and are left out of the comparison here. Also for those studies with detailed information available, cost-of-illness estimates are often missing (Belgium, Netherlands and Sweden). However all remaining countries (Austria, France, Spain and UK) have in common that law enforcement and cost-of-illness taken together account for 60-86% of all estimated expenditure. Inclusive treatment this percentage range rises to 88-98%. Ergo, studies should minimally be directed to this limited number of categories (treatment and law enforcement) to be relevant.

Estimated expenditure on illicit drug use in France were EUR 1000 million exactly, based on the Kopp-report (1999) and added expenditure on health-care for HCV and HBV infections through drug use (0.08% of GDP).⁵⁵ A similar estimate for Spain amounts to EUR 354 million in 1997 (0.07% of GDP), whereas it would be EUR 4040 million in 2000 (0.35% of GDP) for the UK. The latter estimate explicitly excludes unemployment benefits at 20% that would be considered merely transfer payments from a social economic point of view.

Previously, a study has been conducted in charge of the EMCDDA, considering specifically the expenditure on health and law enforcement⁵⁶ So, this study exactly comprises those categories where the percentage share ranges in the previous paragraphs from 87-98%, inclusive treatment expenditure in the health expenditure definition. Data were gathered using questionnaires and interviews with key persons in the field of drug expenditure. The major categories that are lacking in this approach refer to prevention, research and treatment.

⁵⁵ Postma MJ, Wiessing LG, Jager JC. Pharmaco-economics of Drug Addiction: estimating the costs of hepatitis C virus, hepatitis B virus and human immunodeficiency virus infection among drug users in member states of the European Union. *Bull on Narcotics* 2001;53:79-89

⁵⁶ EMCDDA, Kopp P, Fenoglio P. Public spending on drugs in the European Union during the 1990s - A Retrospective research, EMCDDA 2003

3.4 Gaps and Limitations

The crude comparison of data from two similar studies reveals all the constraints and limitations existent in economic research. In general, methodologies for the available studies for the EU-countries and Norway are difficult to compare. Only some crude comparison is possible given different sources, definitions and inclusion criteria. Almost all countries have some information available, either in the form of scientific studies (preferred, obviously), scattered data from ad-hoc studies or gathered ministerial data.

However, no information at all is available for Norway. For those countries with available data, lowest level of detail with respect to our categorisation was available for Ireland, Italy and Luxemburg. Denmark, Germany, Greece and Portugal have more extensive information, allowing careful comparison. For those countries expenditure per capita and percentage of Gross Domestic Product estimates are relatively low, suggesting that relevant expenditure categories may be missing. In particular, often law enforcement and cost-of-illness is indeed missing. Indeed for those countries with estimates for law enforcement expenditures missing (Denmark, Finland, Greece, Ireland, Italy, Luxemburg and Norway) usefulness is limited, as these costs often present the major share of expenditure. Additionally, a low share estimated for law enforcement in Portugal may reflect an underestimate. It is noteworthy that scientifically detailed studies are missing for major EU-countries Germany and Italy.

Despite availability of a peer-reviewed study for Finland, the methodology applied is unclear and the results cannot be compared to other countries as many transfer-costs-like expenditure were included in the analysis.

For those studies with scientifically detailed information available (Austria, Belgium, France, Netherlands, Spain, Sweden and UK) cost-of-illness estimates are sometimes missing (Belgium, Netherlands and Sweden). However most of these countries have in common that law enforcement accounts for more than 50% of expenditures (except Spain). If treatment and cost-of-illness is additionally included this percentage range rises to 87-98%.

In terms of quality, the previous paragraph would translate into the following: low quality data on drug expenditure are available for Ireland, Italy and Luxemburg, yet unsatisfactory quality data are available for Finland, Denmark, Germany, Greece and Portugal, almost satisfactory quality data are available for Belgium, the Netherlands and Sweden and good quality data exist for Austria, France, Spain and the UK. We note that, availability of adequate/good quality data on expenditure is crucial to elicit cost-benefit of decisions in drug prevention and treatment from the public (expenditure) perspective. For example, for those instances where adequate data were available and cost-benefit could be estimated in scarce cases, findings always indicated benefits exceeding the costs of treatment. Such findings,

based on sound data gathering, are highly important to motivate such treatment programmes and in the achievement of societal cost savings with implementation⁵⁷.

Conclusions & Recommendations

High quality information on drug expenditure is urgently needed, and yet lacking for many countries including major EU-countries such as Germany and Italy. Currently, the French bottom-up approach could be "gold standard" in doing such studies. Other studies – such as, those for Austria, Spain and the UK, also used this bottom-up approach and are considered of high quality.

The mentioned Reuter report presents an interesting alternative to estimate drug related expenditure having used a top-down approach. Best illustrated by the relatively high estimate that is provided for the Netherlands (per capita, as well as percentage of GDP, compared to France), the approach needs validation before its value may definitely be assessed, in particular in relation with the bottom-up approach. Currently, comparability between both approaches seems limited.

In summary, EU research in the field of costs analysis related to drugs should be further promoted and supported. A new framework European Plan represents a very important occasion to stimulate such research into expenditure starting for example in a few countries with yet missing data (Germany and Italy, would be the most representative as these countries represent major population/drug user shares within the EU). Having high quality information on all the major EU-countries would enable the preliminary assessment of expenditure for the EU as a whole using extrapolation methods for the smaller countries⁵⁸. Such analysis could be along the lines of the bottom-up approach as applied in the currently only reliable studies available in Austria, France, Spain and the UK. Furthermore, investigation of the potential of the top-down procedure should be carefully considered in validating the approach in the Reuter-report for – for example – the Netherlands. One possibility would be to do a bottom-up analysis for the Netherlands and compare the results with those available from the top-down study.

Future Reitox reports on the expenditure should work towards generic presentation of the data, using similar classifications and clear definitions for all countries involved. Furthermore, such inventories should preferably be done according to a sound scientific approach with appropriate (peer-reviewed) designs and results instead of non-optimally structured interviews. Obviously, this requires financial means. However, in the current situation comparability between country data is very limited. Only data for Austria, France, Spain and the UK could be satisfactorily compared.

Development of such a generic classification and set of definitions should adhere to those choices already made in the three comparable studies that are now available and the guidelines as developed

⁵⁷ Cartwright WS: Cost-benefit Analysis of Drug Treatment Services: Review of the Literature. *The Journal of Mental Health Policy and Economics* 2000;3:11-26

⁵⁸ Postma MJ, Wiessing LG, Jager JC. Pharmaco-economics of Drug Addiction: estimating the costs of hepatitis C virus, hepatitis B virus and human immunodeficiency virus infection among drug users in member states of the European Union. *Bull on Narcotics* 2001;53:79-89

in Canada by Single. This approach should subsequently be tested on Germany, Italy and the Netherlands (two major countries, and validation of the Reuter-approach).

We conclude that further studies into drug expenditure to further complete the EU information on this is crucial. Such studies enable the assessments of national and EU-wide cost-benefit analyses of interventions to lower such expenditure. In the absence of good quality expenditure information the basis for sound cost-benefit evaluations is however yet lacking for many countries and the EU as a whole.