PART B – SELECTED ISSUES

1 Public expenditures

1.1 Introduction

In German-speaking territory there have been very few studies which systematically examine health-economic aspects of addiction-related diseases. In a recently published overview based on a summary of results from two important recent surveys of literature Prieto (2007) concludes that there are considerable gaps in health-economic research on addiction therapies also at European level.

In view of the quantity of publications which have been devoted to the topic of addiction on the whole and the amount of funds expended in this area (not only by governments), this would appear astonishing. Moreover, the majority of studies on this issue primarily focus on the costs (to the macro economy and health care system as well as in terms of social costs) of alcohol abuse and dependence. There have only been sporadic studies examining the health-economic aspects of abuse or dependence on illegal substances. The affiliated research associations funded by the Federal German Ministry of Education and Research in the area of its targeted focus on addiction, within the framework of which health-economic research work is provided funding (even if in a highly circumscribed manner), are almost solely preoccupied with the costs of alcohol-induced disorders.

The vast majority of work which is available on this complex of issues is limited to the secondary analysis of data which is already available. One fundamental problem which all systematic analyses have in estimating costs in the German health system is the highly fragmented health-care landscape in the Federal Republic of Germany. The data which is available for secondary analysis is distributed across a large number of institutions and data-carriers and is in part subject to considerable data-protection requirements.

This fragmentation is furthermore associated with considerable limitations with respect to the comparability of the available information and problems this means for the interpretation of the results. An additional limitation in the analysis of secondary data which is published e.g. by institutions involved in health reporting (the Statistics Offices of the Federal government and Länder) is that these sources usually do not distinguish between licit and illicit substances, instead providing overall estimates of all psychological and behavioural disorders caused by psychotropic substances (F10 – F19, ICD10). Moreover, this global data is generally based on highly aggregated information from various data sources and for this reason there are considerable limitations in interpreting it (Salize et al. 2006). As a result of the dearth of alternative data, this secondary data nevertheless is often the only data available whatsoever and is provided in the following.

At the present time, a case-by-case compilation of information or data from various sources is only possible – if at all - within the framework of circumscribed research projects. But this does not solve the problem of comparability of data and non-existing conventions on what

data has to be taken into account from what sources in the first place when cost estimates are made. In a recently published article, Uhl (2006) came to the conclusion that the estimates of costs caused by substance abuse using the traditional "cost of illnesses approach" "*involve logically inconsistent and objectively unjustifiable, spurious quantifications".* Uhl also draws attention to the highly heterogeneous use of terms, definitions and methods which significantly restrict the comparability of the results produced[1].

Even from the narrow perspective of "direct costs" opted for in this select chapter, which avoids specific problems going beyond the aforementioned problems such as e.g. intangible and indirect costs (for example, the lack of a common scale with which to measure possibly foregone non-monetary benefits), one problem which arises is that the problems of interest (abuse and dependence on illegal substances) are not examined directly, but rather in terms of the amount of expenditures on these problems – for instance for prevention and to alleviate the impact of the problem. This begs the question as to whether it will be possible to develop relevant, useful foundations for the development of proactive strategies (Uhl 2003) solely on the basis of cost estimates in spite of the repeated efforts to standardise definitions and terms as well as survey methods (e.g. Single et al. 1996, 2001).

Funding and distribution of tasks in the Federal system

To understand the structure of funding, one needs to have a grasp of the Federal structure of Germany (see chapter 1.1.1) and the principle of subsidiarity, which has led to a complex system of responsibilities at the Federal, Länder and local levels along with social insurance schemes with respect to the funding and execution of tasks. Information on financial resources which the Länder and local governments allocate to drug or addiction problems is not aggregated or compiled at the national level at present as a result of limited comparability. The resources described in the following can for this reason by no means even come close to providing complete information on the overall funds devoted to dealing with the drug problem.

Figure 20 demonstrates the complexity of the German funding situation (even if it is overly simplified). In particular the system of help for addictions differs greatly from one area of work and actors to the other. Numerous areas of work are by the same token split up between Federal, Länder and local governments

[1] Uhl (2006) notes with respect to the problem of "criminality stemming from substance abuse", which in particular plays a role in cost estimates as a result of abuse of and dependence on illegal substances, that it is also highly problematic to mix data from different perspectives together to form an aggregate sum. The costs, for example, which are frequently cited in this connection (e.g. as a result of theft) do constitute a loss for individuals affected, but this is in principle compensated for by the respective profit from the sale of stolen items by the party causing these costs at a broader level (society).

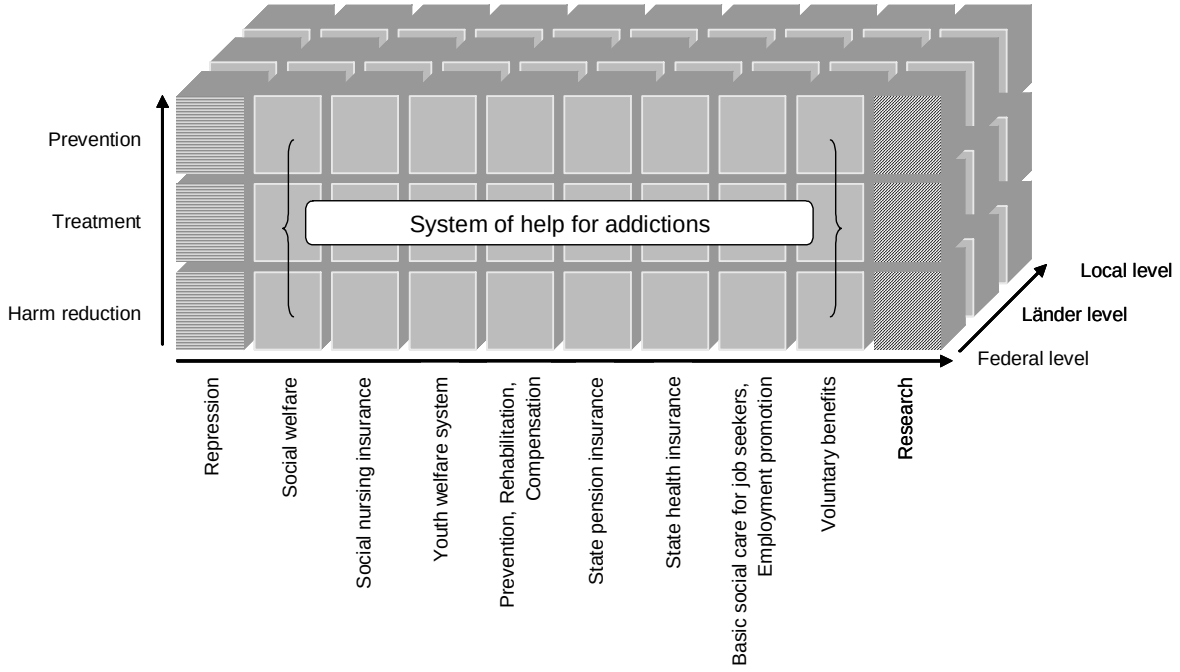

Figure 1. Matrix for identifying relevant cost areas

Responsibility for issues involving the health care of the population lies in the domain of the 16 different German Länder (or even at the local level). This means that information from at least 16 respectively involved German Länder has to be provided individually and if necessary supplemented with more detailed data. As a result of the fact that no distinction is normally made between individual substances in the health system, there is usually no detailed information contained in the respective budgets of the German Länder.

With respect to the area of repressive measures as well, for example, it is practically impossible to venture a precise estimate of the share of drug-related activities of the police compared to their other activities at the operative level. This means that it is practically impossible in individual cases to make a valid estimate of the time devoted by individual police officers who are not working in specialised units to crime-fighting in the area of narcotics.

Table 31 provides a view of the various funding channels for addiction and drug aid as well as prevention and repressive measures in Germany.

Table 1. Funding of addiction and drug aid in Germany by the Federal Government (examples)

Column	Actors				
	Federal Government	***Länder***	**Local governments**	**Pension insurance**	**Health insurance**
Prevention	BZgA BMG BMFSFJ BMELV	Ministries of Social Affairs (commissioners for prevention of addiction) Ministries of the Interior (police) Ministries of Education (addiction-prevention teachers; classes)		Participation benefits (§ 31 SGB VI)	Prevention and self-help (§ 20 SGB V)
Counselling, treatment, aftercare	Model projects	Ministries of Social Affairs (additional substitution)	Outpatient addiction counselling Assisted living Integration aid Assistance for vulnerable people Social-psychiatric services Medical rehabilitation	Medical rehabilitation Flat-sum aftercare benefits	Office-based physicians Hospitals Psychiatry Medical rehabilitation
Minimisation of harm, survival aid			Outpatient heroin clinics Drug consumption rooms Contact centres Emergency shelters		Physician's care
Repression	AA BMAS BMF Federal Ministry of the Interior Federal Ministry of Justice	Ministries of Justice Ministries of the Interior Ministries of Finance			
Research	BMBF BMG			Model projects	Demonstration projects
International exchange	AA BMG DB Federal Ministry of the Interior				
Other	DB	Länder Commissioners for the Prevention of Addictions			

AA: Foreign Office; BMAS: Federal Ministry of Labour and Social Affairs; BMBF: Federal Ministry of Education and Research; BMELV: Federal Ministry of Nutrition, Agriculture and Consumer Protection; BMF: Federal Ministry of Finance; BMFSFJ: Federal Ministry of Family Affairs, Senior Citizens, Women and Youth; BMG: Federal Ministry of Health; BMI: Federal Ministry of the Interior; BMJ: Federal Ministry of Justice; BZgA: Federal Office for Health Education; DB: Federal Government Commissioner on Narcotic Drugs: SGB: Social Code

It is apparent, then, that solely the identification of costs incurred (prior to the calculation of specific shares for licit or illicit substances) is associated with considerable effort. Some of these areas overlap (i.e. the persons affected receive parallel services which are funded by different actors), others are excluded. It is probably particularly difficult to identify costs specifically relating to addiction in the cross-sectional areas of the police and judiciary.

Even if these considerations already affect the area of “non-labelled” direct costs, which is not the primary area of enquiry, it should be noted at this point that in particular this type of “non-labelled” direct costs would account for a considerable portion of a comprehensive estimation of total costs. This thus raises the question as to the implications of listing exclusively “labelled” direct costs.

1.2 Information on labelled costs

1.2.1 Federal Budget

Merely the budget of the Federal Ministry of Health is examined in a discriminating manner in the following section, which is especially focused on the national external representation and general legislation. As a result of the highly differentiated areas of tasks, other Federal ministries can also be expected to have expenditures included in the budgets which are connected with addiction problems. These include for example the Ministry of Foreign Affairs (e.g. activities in countries producing drugs), the Federal Ministry of the Interior (e.g. Federal Office of Criminal Investigation), the Federal Ministry of Finance (e.g. customs and immigration), the Federal Ministry of Justice (e.g. Federal courts), the Federal Ministry of Education and Research (e.g. funding of groups conducting research on addiction) and the Federal Ministry of Family Affairs, Senior Citizens, Women and Youth (e.g. prevention program). There is no summarising overview available at present.

According to the Federal budget, expenditures by the Federal Ministry of Health on “measures in the area of drug and addictive substance abuse” in 2006 amounted to € 14.2 million (2005: € 14.1 million). In the distribution of funds, € 6.7 million were devoted to information (2005: € 6.7 million), for grants to central institutions € 1.0 million (2005: € 1.0 million) and for the promotion of the national information node € 662 thousand (2005: € 662 thousand). Model measures received € 4.5 million (2005: € 4.5 million) and expenditures on research and development € 1.0 million, the same amount as in the previous year. On top of this, there were expenditures for the technical department of the Federal Ministry of Health and the Business Office of the Federal Government Commissioner on Narcotic Drugs. The total costs of these institutions taking into account all staff and material costs are not listed separately in the budget.

1.2.2 Statutory pension insurance

Outpatient and inpatient rehabilitation with the aim of “restoring the capacity to work” are funded with payments from statutory pension insurance schemes. At € 494.0 million, expenditures by the statutory pension insurance schemes (statistics from Deutsche Rentenversicherung: Rehabilitation 2005) on rehabilitation and other payments in cases

involving dependence-related illnesses (total) continued to decline in 2005 (by approximately 6%), once again remaining below the amounts for the previous years (2004: € 524.6 million; 2003: € 527.0 million). Budgets for inpatient services are declining or stable (2005: € 390.6 million; 2004: € 409.6 million; 2003: € 415.2 million), transitional payments (2005: € 62.7 million; 2004: € 77.1 million; 2003: € 78.8 million) and other benefits (2005: € 10.6 million; 2004: € 11.0 million; 2003: € 10.8 million). In contrast, the funding of outpatient services rose again by about 12% (2005: € 30.0 million; 2004: € 26.9 million; 2003: € 22.2 million).

The share of persons dependent on drugs and medication among total patients who underwent rehabilitation measures as a result of problems with addictions (i.e. especially in connection with alcohol) was 28.2% in 2005 (2004: 26.6%). If one estimates the budget for this group of persons, one arrives at the identical amount as for the previous year – approximately € 139.4 million (2004: € 139.5 million).

In addition to these payments, which are made on a person-by-person basis to treat addiction-related illnesses, the National German Pension Insurance (Deutsche Rentenversicherung Bund) provided € 826 thousand for regional self-help for addictions. In addition, the member organisations of the German Head Office for Addiction Matters (Deutsche Hauptstelle für Suchtfragen, DHS) received grants to an amount of € 1.4 million, which was used for the technical and organisational support of aftercare and self-help (die Drogenbeauftragte der Bundesregierung, 2007).

1.2.3 German Statistical Report on Addiction Therapy

The German Statistical Report on Addiction Therapy (Deutsche Suchthilfestatistik - DSHS) provides an overview of funding for outpatient help for persons with addiction-related problems. Even if less than half (46.2%) of the institutions participating in DSHS supplied data on their individual budgets, it is possible to infer funding structures, which in turn provide an overview on the type and composition of the funds available. Work performed by outpatient addiction-counselling facilities continues to be largely funded by local governments and the Federal Länder (together accounting for almost three-fourths of total funding). In comparison to the previous year there were practically no changes. The budget for 2006 breaks down as follows: local governments 52.8% (2005: 54.2%), financial resources of the Länder 21.1% (2005: 21.6%), financial resources of the Federal government 0.2% (2005: 0.1%; only demonstration programs), social security administration 7.1% (2005: 7.2%), health insurance schemes 1.1% (2005: 1.2%), costs assumed by clients 1.1% (2005: 1.2%), labour administration 0.9% (2005: 0.7%), associations' own funds 5.9% (2005: 8.0%) and various other funding resources 9.7% (2005: 8.4%) (Sonntag, Bauer & Hellwich 2007a).

1.2.4 Health reporting by the Federal Government: costs of illness 2004

A comprehensive report on expenditures and costs of illnesses in Germany based on data from 2004 was published by the Federal Statistics Office (Statistisches Bundesamt - StBA)

within the framework of the Health Report of the Federal government for 2006[2]. Health expenditure statistics at the same time provide differentiated data on the agencies and institutions responsible for the expenditures and the facilities as well as the use of funds broken down by payments and the institutions transferring payments. The basis for the definition of illness in this context is the international statistical classification of illnesses by the World Health Organisation (WHO). It is possible to differentiate estimates using the main groups of ICD 10 and other selected variables such as e.g. age and gender, which means that statistics can be provided for the overall area (F10 – F19) of psychological and behavioural disorders resulting from psychotropic substances. It is not possible to further break down the statistics according to individual substances, however.

The direct costs of illnesses calculated in this connection describe the use of monetary resources in the health sector directly related to medical healing treatment, prevention, rehabilitation or nursing care measures. These also include the administrative costs of the funding organisations and all public and private institutions which fund health services in Germany. Non-medical costs (e.g. private travel to physicians or nursing care for family members free of charge) are not taken into account in the costs-of-illnesses statistics.

A whole host of data sources are used to estimate health costs: statistics provided by numerous health insurance schemes, the German National Penstion Insurance, some research groups and institutions, associations of physicians accredited by the statutory health insurance schemes and medical services, the Robert Koch Institute and additional specific statistics of the Federal Statistics Office.

In connection with the system used to make estimates, it should be taken into account that a top-down approach is employed, which means that calculations are based on secondary statistics (see 1.1 regarding the problems associated with this sort of procedure). Another negative aspect of this approach is that it is only possible to perform a clear and complete coding of diagnoses in the available data sources if a clean distinction is made between the costs caused by individual illnesses. Different modalities of accounting and payment, statutory requirements and pension-related factors mean, however, that the diagnostic intensity and quality of the available data sources are subject to certain variances.

Based on an estimate by Uhl (2004), it can be assumed, however, that only approximately 10% of estimated costs are due to illicit drugs. The costs of psychological and behavioural disorders due to psychotropic substances (F10 – F19) calculated by the Federal Statistics Office in millions of Euros within the framework of the Health Report of the Federal government for Germany in 2004 can be found in Table 2 and Table 3. According to these statistics, more than 70% of monetary resources applied in connection with addiction-related illnesses are for males. This pattern remains constant through all age cohorts. In terms of the total population, the average cost of illnesses is € 30 per inhabitant and year (males: € 50, females: € 20) for psychological behavioural disorders resulting from psychotropic substances.

[2] All the data is available online at www.gbe-bund.de and can be used for analytical purposes.

Table 2. Costs of illnesses in Germany (2004) for psychological and behavioural disorders as a result of psychotropic substances (F10 – F19) broken down by age and gender (millions of €)

Age group in years	male	female	total
<15	4	3	7
15<30	257	93	350
30<45	641	219	860
45<65	757	305	1,062
65<85	225	142	367
>=85	6	14	20
Total	1,890	776	2,666

Health reporting by the Federal government www.gbe-bund.de

Table 3. Costs of illnesses in Germany (2004) for psychological and behavioural disorders resulting from psychotropic substances (F10 – F19) broken down by facility and gender (millions of €)

Type of facility	Male	Female	Gesamt
Health care	6	4	10
Outpatient facilities	183	106	289
Doctor's practices	81	57	138
Practices of other medical professions	12	6	18
Pharmacies	57	28	85
Health trade / retail trade	13	5	18
Outpatient care	18	9	27
Other outpatient facilities	2	1	3
Inpatient / semi-inpatient facilities	1.443	561	2.004
Hospitals	688	301	989
Prevention / rehabilitation facilities	505	135	640
Inpatient / semi-inpatient care	250	125	375
Rescue services	51	26	77
Administration	172	62	234
Other facilities and private households	34	18	52
Foreign countries	1	1	2
Facilities total	1.890	778	2.668

Gesundheitsberichterstattung des Bundes, www.gbe-bund.de

Around 75% of the estimated costs in this calculation are accounted for solely by inpatient and semi-inpatient treatment facilities. The difficulties involved in obtaining reliable information on costs, in particular outpatient health care involving addictions, are also reflected in this data from the Federal Statistics Office.

The costs of outpatient care have apparently been grossly underestimated in these statistics. The following extrapolations illustrate this: based on information from the 54% of facilities which are said to take part in the German statistics on addiction therapy, Sonntag et al. (2006) have estimated the average annual budget per outpatient facility in 2005 at

approximately € 283,000. If one extrapolates these figures while ignoring possible distortions (e.g. as a result of overrepresentation of larger or smaller facilities in the statistics) to the estimated number of N=934 outpatient facilities for people with addictions (Simon 2005) in Germany, this would mean an overall budget of approximately € 264 million (2004: € 258 million, Sonntag et al. 2005). Even if one takes into account in this calculation that costs of third parties are included in the calculation, there appears to nevertheless be a quantitative difference in comparison to the costs stated by the Federal Statistics Office of only € 3 million for all "other outpatient services" in total. According to information from the Federal Statistics Office, all outpatient addiction support facilities are added together in this category which cannot be assigned to any of the other outpatient categories listed. Because the key which is applied here is used to calculate total health costs for the Federal Republic of Germany while most of the other (somatic) health-care areas constitute a "residual category", it can be assumed that the outpatient health-care system, which is highly specialised and differentiated in the area of addictions, is considerably underrepresented here. This question cannot be conclusively resolved on the basis of the available data, however.

1.2.5 Information from the German Länder

To date there is no complete or even roughly representative overview of the financial resources of the German Länder which are used for the area of drugs and addictions. Any such overview must run up against considerable difficulties for the aforementioned reasons. Some information is available on the budgets for addiction-related help in individual German Länder, however (budgets of the Länder). The Länder also fund projects on top of in some cases specific segments of addiction support such e.g. the Commissioner for the Prevention of Addictions already mentioned in the last REITOX report as well as local community commissioners in Baden-Württemberg or specialists in the prevention of addiction in other Länder.

North Rhine-Westphalia, the most populous of the German Länder, devoted € 15.8 million to fighting the dangers of addiction (labelled financial resources) in 2005. The total sum of budgets listed under the same budget item declined in 2006 (€ 12.1 million) and 2007 (€ 11.4 million). The budgets cannot be directly compared with one another, however, as the past form of funding by NRW was replaced by a flat specific-category-related sum and local financial resources beginning 1st January 2007. Thus the financial resources of counties and independent cities are provided as flat specific-category-related amounts for use by local governments under their own responsibility (and are allocated differently at the *Land* level). € 0.72 million are planned for prevention in the Land budget for 2007 (2006: € 2.42 million), € 76.0 thousand for studies and demonstration projects (2006: € 372.5 thousand) and € 0.62 million to fight addiction to gambling (2006: € 0.62 million) (NRW Ministry of Finance 2007).

The Land of Mecklenburg-Western Pomerania has quantified the items (direct costs) in the Land budget labelled for the area of addiction in 2007 at a total of € 1,977,300. The largest share is, as it were, devoted to addiction counselling and treatment facilities with € 1,637,300 (82.8%). The budget is rounded off by the prevention office (€ 227,500, 11.5%) and the Land

Centre for Addiction Issues with € 52,000 (2.6%) (Landesstelle für Suchtfragen Mecklenburg-Vorpommern acting on behalf of the Ministry of Social Affaires, personal memorandum).

The financial resources of the Land allocated to the area of aid for drug addictions in the Federal Land of Berlin were about € 7,900,000 in 2006. Of this amount, financial resources labelled for prevention amounted to almost € 1,000,000.

None of these figures distinguish between licit and illicit drugs. Nor are any costs associated with law enforcement (police, prisons and courts) taken into account in these budgets. The percentages used to fund addiction counselling and treatment offices, research budgets or Land facilities and staff such as prevention specialists or Land offices for Dependency matters differ considerably among the German Länder in some areas.

This can be illustrated by a direct comparison between the German Länder of Berlin and Mecklenburg-Western Pomerania: with 3.4 million inhabitants, Berlin has a population approximately twice the size of Mecklenburg-Western Pomerania's, but the Land of Berlin's budget is about four times as high as the comparable budget for Mecklenburg-Western Pomerania. Requirements which are placed on individual Länder regarding the financial resources which are required and made available to help people with addictions should therefore not be viewed in relation to the population. It would be theoretically possible to use the budgets which have already been prepared in the German Länder to precisely analyse the Länder budgets. It must at the same time be taken into account, however, that the differentiated addiction support system means that it would be an exhaustive task adding up all of the various items of budgets in the different ministries of the individual Länder. On top of this, distinguishing between licit and illicit substances only makes sense if new estimation approaches are developed as a result of the almost complete lack of differentiation made between these areas.

Information was still sought on Länder resources devoted to helping people with addictions within the framework of the short Länder reports up until 2001. The last available aggregate statistics listed € 136.0 million in 2001 (Simon 2005), although no distinction was made here between licit and illicit substances, either.

1.3 Information on non-labelled costs - COFOG

The EMCDDA has proposed a classification similar to that specified in the UN's COFOG criteria (Classification of the Functions of Government) to carry out an initial estimation of the costs which are expended by the state in relevant sectors (http://unstats.un.org/unsd/cr/registry/regcst.asp?Cl=4&Lg=1). Under the provisions set out in regulation no. 113/2002 from 23rd January 2002 by the European Commission, the EU member states are obligated within the framework of the European System of National and Regional Accounts (ESA95) to supply information on costs in the 10 main categories of COFOG within a period of 12 months following the end of the respective year under report. Table 4 provides an overview of the respective total government costs from 2000 to 2006 as calculated by the Federal Statistical Office. The information contains the total costs of the individual contributions made by the Federal government, the Länder, local authorities, municipalities and social security administration.

Table 4. Public expenditures broken down by areas of tasks in billions of € (2001-2006)

	COFOG category	2001	2002	2003	2004	2005	2006
1	General public administration	131,29	132,92	135,56	133,89	137,15	140,11
2	Defence.	25,03	25,46	25,18	24,69	24,70	24,74
3	Public order and security	35,15	36,07	36,12	36,37	36,19	36,30
4	Economic affairs	88,66	85,20	83,77	80,03	77,80	75,22
5	Environmental protection	12,34	11,36	11,16	11,01	11,17	11,55
6	Housing and local government community services	21,89	22,99	23,56	23,31	22,47	21,42
7	Health-care system	132,79	136,75	139,85	135,38	139,40	143,21
8	Leisure time, sports, culture and religion	14,87	14,67	14,44	14,30	14,40	14,41
9	Education	89,09	92,36	93,33	93,35	92,99	93,63
10	Social security	453,95	473,06	485,24	487,27	492,21	492,95
	Total	1.005,06	1.030,84	1.048,21	1.039,60	1.048,48	1.053,54

In order to take an initial step in the direction of ascertaining drug-related expenditures, in particular categories 3 (public order and security) and 7 (health-care system) are of interest. The aforementioned 10 main categories (COFOG 1st level) are further broken down in line with the logic of the classification in order, for example, to be able to distinguish between the total expenditures on public order and security for the police (3.1), law courts (3.3) or prisons (3.4) (COFOG 2nd level). The total expenditures for category 7 (health-care system) can also be broken down in a similar manner within the framework of the COFOG classification e.g. for medical products, etc. (7.1), outpatient care (7.2), hospitals (7.3) and public health services (7.4).

The current European Agreement ESA95 requires that the member states only report at COFOG 1st level. No corresponding information is available for COFOG 2nd level for Germany to date. In response to an enquiry pursuant hereto, the Federal Statistics Office stated that it is currently being examined within the framework of a pilot project whether respective information can also be validly estimated for the Federal Republic of Germany (and to then report on this in the future). The results of the first model calculations are not available yet.

No additional information is available on non-labelled costs for the drug area at present.

1.4 National studies, methods and results

Some studies have already been carried out for Germany in the area of health-economic research on alcohol-related problems. Some of these studies have attempted in a very differentiated manner to estimate costs. At the same time concrete proposals have been made and experience gathered on how to deal with certain problems in collecting, compiling and interpreting data. By contrast, there has thus far not been any comprehensive study which has attempted to determine the respective costs for the area of illegal drugs in Germany or to adopt the methods used for alcohol in this area. There are some studies,

however, which have made valuable contributions to the design for a future analysis of costs by examining certain economic aspects of drug consumption.

1.4.1 Systematic search of the literature

In this context a systematic search of the literature has been conducted in the German-language database PSYNDEXplus® with eight different search-word combinations: “Drogen” + “Ausgaben”, “Drogen” + “Kosten”, “Sucht” + “Ausgaben”, “Sucht” + “Kosten”, and “drug” + “expenditures”, “drug” + “costs”, “addiction” + “expenditures” and “addiction” + “costs”, to which the search word “Germany” was respectively added. Out of the total 166 hits, 61 studies dealing with illicit drugs and containing a costs analysis remained after excluding works which were not focused on the relevant topic, studies which were conducted in other countries, studies which focused exclusively on alcohol or surveys without any empirical data. After triaging the abstracts and subtracting multiple citations, eight studies remained. (cf. section 1.6 following this chapter), whose estimates of certain economic aspects of drug consumption may make a contribution to the design of future, more complex costs models. In addition, there are numerous project results produced by local or regional surveys which are frequently not published in pertinent journals and for this reason could not be identified.

1.4.2 Special studies within the framework of the demonstration project on the controlled administration of heroin to severely addicted persons

Supplementary health-economic research within the framework of the Federal German demonstration project on the administration of heroin has devoted attention to the costs and effects of heroin-supported treatment in comparison to methadone treatment (v. d. Schulenburg & Claes 2006b). This analysis focused on the first twelve months of the study. The health-economic evaluation (into which the data of 1,015 participants in the study flowed) came to the conclusion that each of the two types of treatments in the study is cost-effective both from the perspective of the funding agencies as well as from a societal perspective.

An analysis solely focusing on the costs of treatment estimated average annual costs for treatment in the study of € 18,060[3] per participant in the study for the heroin-supported treatment and € 6,147 per participant in the study for the methadone treatment. This calculation took into account both heroin and methadone treatment as well as psychological help (with annual costs of € 1,928 per participant), respectively.

The assessment of the costs of the two treatment approaches concluded that there was only a cost-saving effect when all the costs and benefits are included in the calculation, i.e. when one includes costs from a societal standpoint. It would appear that for the heroin group there are in particular major benefits in connection with a decline in delinquency (measured in terms of money units). When the costs of illness, costs relating to delinquency, imprisonment and court costs are also taken into account, the participants in the study for the heroin group

[3] One model calculation concludes that administrating heroin in a regular care environment compared to the treatment in the study costs € 2,000 per patient and year less than the costs calculated for the study.

generate approximately € 6,000 per year in savings, while the methadone group produces *additional* costs of around € 2,100 per year.

The summary of the results performed within the framework of a cost-benefits analysis comes to the conclusion that less expenditures are necessary for the heroin-supported treatment to attain an increase of one quality-adjusted life year (QALY) than for methadone substitution. The results differ considerably among those participants in the study who have completed the respective treatment (for whom the methadone treatment proved to be superior) and premature drop-outs (for whom heroin proved to be superior), however.

The health-economic evaluation of the demonstration project for controlled administration of heroin does show some limitations, however, as a host of factors have only been included in the cost calculations as estimates or could not be taken into account at all. Looking at the results of comparable studies (the Netherlands, Switzerland) and applying some correction factors, the cost-benefit ratios shift towards costs savings for both therapies from a societal perspective.

This study was not purely focused on expenditures for a certain type of treatment. Complex cost-benefit analyses were also carried out in this case by comparing various parameters such as direct costs to societal benefits or improvements in the quality of the lives of clients (v. d. Schulenburg & Claes 2006b). Supplemental quantitative and qualitative criminological studies have shown that there is a significant decline in delinquency among participants in the studies (especially with the heroin-supported treatment) and have examined in a discriminating manner the need for treatment in relation to the prevalence of heroin consumption or the crimes committed by and charges filed against consumers (or prosecution of these). These studies also allow one to derive possible inferences relating to a future balance sheet on overall costs.

1.4.3 The Robert Koch Institute's (RKI) study on alcoholism

The study on alcoholism published by the Robert Koch Institute (RKI) in 2000 (Bergmann & Horch 2000, Bühringer et al. 2000) used procedures which, for example, estimate the problem of psychological or somatic co-morbidity, including the costs of prevention, research and training along with material damage and job-related accidents which stand in connection with the substance under examination. This mode of procedure, whose effectiveness is tried and proven in the study of alcohol-related problems, may possibly be used in future health-economic studies of illicit drugs as well. For the sake of completeness, it should be noted here that rough estimates which are based on the few international studies available attribute more than 50% of the calculated total costs of substance abuse to nicotine consumption alone and less than 10% to the consumption of illicit drugs (Uhl 2004).

1.4.4 Cost-benefits analysis on savings effects in prisons

The Land Centre for Addiction Issues in Baden-Württemberg of the Liga der Freien Wohlfahrtspflege e.V. (2004) published a cost-benefit analysis of the savings effect in prisons of placing imprisoned drug addicts in medical rehabilitation. Within the framework of this study, the authors came to the conclusion that the placement of inmates addicted to drugs in

medical rehabilitation allowed approximately 120,000 days of incarceration to be saved in the German Land of Baden-Württemberg alone, which corresponds to about 330 inmates. It was concluded from this that this approach would help avoid the construction of a new prison. This example clearly shows the often narrow focus in this area. It is interesting in this context, however, that individual studies like this one can provide useful ideas on the foundations for calculations (in this case, for example, the concrete costs of days of incarceration) which can later be integrated in complex models..

1.4.5 Review of the expenditures on illicit addictive substances

In a recently published review, Erbas et al (2004) furnished estimations of annual expenditures on addictive substances in Euros based on the money value spent by consumers per year to acquire or consume these substances. These authors do note that one limiting factor is that it must of course be assumed in the case of illicit drugs that the figures constitute particularly rough estimates which use the results of different epidemiological studies as the basis with which to calculate actual populations of consumers and expand this information to include numerous additional assumptions. The following costs were estimated in connection with illicit drugs in the article:

- Approximately € 4.2 billion for heroin
- Approximately € 1.5 billion for cannabis
- Approximately € 0.6 billion for ecstasy
- Altogether: around € 6.3 billion

These expenditures should of course not be viewed as directly labelled costs in the sense of public expenditures for illicit drugs. With respect to the therapy of persons dependant on opiates, the authors come to the conclusion that, based on these estimated values (which in part come from very old sources), the savings to be achieved by withdrawal treatment, approximately € 240 million, are roughly of the same magnitude as expenditures for these therapies (approximately € 250 million).

1.4.6 Costs of dealing with hard drugs, an estimate from 1995

The foundations for numerous estimates of costs in the area of illegal drugs in Germany continue to be provided by a study carried out more than ten years ago by Hartwig & Pies (1995), which was for its part based on an expertise commissioned by the German Land of Hesse. A very detailed estimate was made of the costs which accrue in connection with hard drugs in Germany within the framework of this work. The authors took into account data from the Federal Statistics Office, the Federal Office of Criminal Investigation and additional sources such as, for example, documentation of treatment. This data was juxtaposed in a complex procedure which included numerous supplementary assumptions in order to be able to estimate the costs of drug-related crime, morbidity and mortality, drug help, prevention and research. As a result of the detailed presentation of the calculation methods upon which this is based and taking into account information from different areas (prosecution of crimes, treatment and incarceration), the study is cited – for want of any similarly comprehensive alternatives – as the basis with which to answer questions relating to cost estimates even

though the data is now more than 15 years old (e.g. the data on the costs of treatment in hospitals, which comes from 1991).

Based on the information available at the time, Hartwig & Pies estimated the costs of drug-related crime in the narrower sense caused by heroin at about € 620 million (of this amount: police: € 246 million, law courts: € 75 million, costs of incarceration: € 300 million), for crime related to the procurement of heroin at around € 970 million (of this amount: police: € 659 million, law courts: € 189 million, costs of incarceration: € 122 million, value of stolen goods: € 1,649 million). Taking into account the information available at the time on costs stemming from the area of outpatient counselling and therapy, inpatient therapy, hospital treatment, prevention and research and funds used for substitute crops, total costs were estimated at around € 7.0 billion[4].

To receive insight on the heroin-related costs for police and law courts, the authors made use of the percentage of resolved drug-related crimes and overall registered crime at the time. In a similar manner, the costs for the law courts were estimated based on the percentages of pertinent crimes (offences subject to the Narcotics Act (BtmG)).

As far back as the time of publication, the authors attached a lot of qualifications to their data and drew attention to the considerable problems involved in calculating individual items. This was reflected in part by the dearth of useful calculation keys or up-to-date data (thus, for instance, hospital data which was already obsolete back at the time was used, or estimates were made for individual German Länder). In addition, direct, indirect, labelled and non-labelled costs from different sources were aggregated and then placed in relation to each other. In sum, a fundamental problem proved to be that

a.) the treatment system in Germany has changed considerably since the middle of the nineties (e.g. through the expansion of substitution treatment) and

b.) the study by Hartwig & Pies especially aimed at forwarding a cost estimate based on the consumption of hard drugs (above all by heroin and opiate consumers), who in comparison to the overall population of consumers of illegal drugs no doubt constitute a much more analysed group. Hence numerous assumptions which have been made in the text in connection with heroin consumers cannot automatically be applied to drug consumers.

[4] The costs of morbidity and mortality (in the sense of macro-economic losses in value-creation) were estimated at € 3,447 back at that time. The total costs of drug aid were estimated by Hartwig & Pies at € 308 million (of this amount: € 282 million for inpatient therapy and hospital treatment). Prevention and research accounted for approximately € 13 million of these estimated costs at that time.

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