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for Drugs and Drug Addiction



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### **Workbook Drugs**

Tim Pfeiffer-Gerschel, Krystallia Karachaliou, Loretta Schulte & Esther Dammer,  
IFT Institute for Therapy Research

Axel Budde, Federal Centre for Health Education

Christina Rummel, German Centre for Addiction Issues

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## 0 Summary (T0)

### 0.1 Summary of the Drugs workbook (T0.1)

#### Drug use amongst adults and adolescents in the general public

More than a quarter (28.2%) of the adult population in Germany has experience with illicit drugs, 7.1% of adults have used drugs in the last 12 months and 3.4% in the last 30 days (Piontek et al. 2016a).

Cannabis remains by far the most commonly used illicit drug, amongst both adults and adolescents. In the Epidemiological Survey of Substance Abuse (ESA) 2015, considerably more than one in four adults (27.2%) stated that they had used cannabis at least once in their lives (lifetime prevalence); 6.1% had used cannabis within the past year (12-month prevalence) (Gomes de Matos et al. 2016).

7.3% of 12 to 17 year-olds have consumed cannabis at least once in the last year (Drug Affinity Study, Drogenaffinitätsstudie, DAS; Orth 2016). 1.2% of 12-17 year-olds and approximately 1 in 25 young adults between 18 and 25 (3.9%) reported regularly use (i.e. more than ten times in the previous twelve months).

The data from the regional monitoring systems of Frankfurt and Hamburg, the results of the ESA 2015 as well as the data from the Federal Centre for Health Education (Bundeszentrale für gesundheitliche Aufklärung, BZgA) point to an overall stagnation in the consumption of illegal substances (primarily: cannabis) among adolescents and young adults. The ESA 2015 reported an increasing prevalence of use, in particular for cannabis, among 18 to 24 year-olds. Although the current data from the BZgA (DAS) shows a slight decline, the trend has stagnated at this relatively high level of prevalence.

In the ESA 2015, noteworthy values in terms of the prevalence of use of illegal substances in the adult population of substances other than cannabis were only reached by, in descending order, amphetamines (for the first time ahead of cocaine), cocaine and ecstasy (12-month prevalence in each case). However, the importance of these individual stimulants varies considerably by region and scene as well as between age groups.

The use of heroin, LSD, psychoactive mushrooms and crack remains clearly limited to specific groups that are much smaller in terms of numbers. The lifetime prevalence for so called new psychoactive substances (NPS) is higher than in the past, but still relatively low, among the adult general population (2.8%) as well as among 18 to 25 year-olds (2.2%). The consumption of these substances among adolescents (in relation to the general population) clearly remains rare. The 12-month prevalence of use of NPS is below 1 percent for both adolescents and young adults.

In this workbook, the results of the current pupil surveys of the Frankfurt Monitoring System Drug Trends (MoSyD) will be presented as well as the current results of the SCHULBUS survey, which was carried out for the first time in other *Laender* in addition to Hamburg. Data

is also available from Bavaria which was collected in the scope of the "European School Survey Project on Alcohol and other Drugs" (ESPAD) study. In addition, results from various individual studies and on individual aspects (target group specific and substance specific) of drug use in the population will be reported.

### **High Risk Drug Use**

Calculations of the scope of high-risk use of heroin, based on figures regarding treatment, police contacts and drug-related deaths (so-called multiplier method) lead to an estimated figure of between 56,000 and 174,000 persons, who exhibit high risk patterns of use. This corresponds to a rate of 1 to 3.3 persons per 1,000 population in the age group of 15 to 64 year olds. The estimate, based on the "treatment request" multiplier, rose between 2007 and 2011 before falling once more in 2012 and 2013. The estimates for the multiplier "police contacts", calculated from the last 8-10 years' worth of data, continued to fall, whereas the estimates for the multiplier "drug-related deaths" increased for the first time last year and thus followed the development in the number of drug-related deaths.

The ESA survey 2015 revealed evidence of problem use<sup>1</sup> of cannabis for 1.2% of 18 to 64-year old respondents (the adult general population); for men (1.4%) slightly more frequently than for women (1%). 0.2% of interviewees exhibited problem cocaine use with the same percentage for problem amphetamine and/or methamphetamine use. The problem use of medicinal drugs was exhibited by more female (6.0%) than male (4.5%) respondents.

#### **0.1.1 The main illicit drugs and polydrug use (T0.1.1)**

##### **Overview of the use of various drugs**

A minimum estimate of the prevalence of use of illicit drugs in Germany, based on the findings in the most recent surveys in the scope of the ESA surveys (2015) and the DAS (2015), is presented in Table 1.

The most commonly used illicit drug among adults in the 12 months prior to the survey was cannabis (6.1%), which corresponds to 3.11 million people in the adult general population. Men consumed this substance more frequently than women. Amphetamines were consumed by a total of 1.0% of those surveyed; the consumption of methamphetamine was reported by 0.2% of people. The prevalence of consumption of other substances was below 1.0%. The most commonly consumed medicinal drugs in the 30 days prior to the survey were painkillers (47.1%), followed by sleep-inducing drugs and tranquilisers (5.2%) and anti-depressants (4.9%). Women reported using these medicines more frequently than men. Among consumers of the respective drug group, at 8.6% painkillers were the least likely to be taken

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<sup>1</sup> "Problem use" was defined in the ESA as follows: dependence of cannabis, cocaine and amphetamines and/or methamphetamines based on the last 12 months' use according to the criteria of the Severity of Dependence Scale (SDS, Gossop et al. 1995). From a substance specific threshold of two points for cannabis (Steiner et al. 2008), three points for cocaine (Kaye & Darke 2002) and four points for amphetamines and/or methamphetamines (Topp & Mattick 1997) problematic consumption is assumed.



daily. Daily use was the most widespread among users of neuroleptics (91.3%) and anti-depressants (87.5%) (Gomes de Matos et al. 2016).

As far as illicit drugs are concerned, problem use (measured by the Severity of Dependence Scale (SDS) based on the previous 12 months; (Glossop et al. 1995)) was most frequent recorded in relation to cannabis (1.4% for men, 1.0% for women). The prevalence of problem use of cocaine and amphetamine/methamphetamine was under 0.5% for both genders. The problem use of medicinal drugs was exhibited by more female (6.0%) than male (4.5%) respondents.

Table 1 Prevalence of illicit drugs use in Germany

	Study	Age	Prevalence <sup>1)</sup>	Absolute <sup>2)</sup>
Lifetime	ESA 2015	18-64	28.2 %	14,381,000
	DAS 2015	12-17	10.2%	479,000
	DAS 2015	18-25	34.8%	2,526,000
12-month	ESA 2015	18-64	7.1%	3,621,000
	DAS 2015	12-17	7.5%	352,000
	DAS 2015	18-25	15.8%	1,147,000
30-day	ESA 2015	18-64	3.4 %	1,734,000
	DAS 2015	12-17	2.5%	117,000
	DAS 2015	18-25	7.0%	508,000

1) ESA: The presented prevalence rates for illicit drug use are based on a cross-sectional analysis in 2015; the numbers cannot be directly compared to data from previous ESA surveys to ascertain trends over time as the data from the ESA 2015 - unlike earlier ESA surveys - was also weighted in respect of the educational structure of the population. The values include the substances: Cannabis, amphetamine/methamphetamine, ecstasy, LSD, heroin/other opiates, cocaine/crack, mushrooms, NPS.

DAS: The results presented are based on the dual-frame sample with education weighting. The values include the substances: Cannabis, ecstasy, LSD, amphetamine, methamphetamine (crystal meth), cocaine, crack, heroin, NPS, inhalants and psychoactive plants.

2) Figures are rounded. Population figures used as basis for 12-17 year-olds: 4,693,587; 18-25 year-olds: 7,258,510; 18-64 year-olds: 50,996,806 (German Federal Statistical Office, as at 31 December 2014).

Orth 2016; Piontek et al. 2016a.

## Comparison of the use of individual drugs

### Nationwide data

The currently most important results to come out of the two national representative surveys on the prevalence of consumption of individual drugs are presented together in Table 2.

Cannabis remains the dominant illicit drug in Germany. Stimulants (cocaine, amphetamine, crack, ecstasy) are the most commonly used illicit substances after cannabis. The prevalence of other illicit drugs studied is considered low, with 12-month prevalence rates below 0.5%. The only exceptions are mushrooms among 18-25 year-olds (1.4%) and NPS among 18-64 year-olds (0.9%).

Table 2 Prevalence of individual illicit drugs use in 2015

Substance <sup>1)</sup>	DAS 2015 (%)				ESA 2015 (%)		
	12-17 year olds		18-25 year olds		18-64 year olds		
	LT <sup>2)</sup>	12 M <sup>2)</sup>	LT	12 M	LT	12 M	30 D <sup>2)</sup>
Cannabis	9.7	7.3	34.5	15.3	27.2	6.1	3.1
Amphetamine	0.3	0.3	4.0	2.0	3.3	1.0	0.5
Methamph./crystal meth	0.0	0.0	0.6	0.4	0.6	0.2	0.1
Ecstasy	0.6	0.5	4.0	2.2	3.3	0.6	0.2
Cocaine	0.5	0.3	2.9	1.2	3.8 <sup>3)</sup>	0.6 <sup>3)</sup>	0.2 <sup>3)</sup>
Crack	0.0	0.0	0.2	0.0	see above	see above	see above
LSD	0.2	0.2	1.9	0.9	2.6	0.3	0.0
Heroin	0.1	0.0	0.5	0.0	1.4 <sup>4)</sup>	0.3 <sup>4)</sup>	0.2 <sup>4)</sup>
Mushrooms	0.2 <sup>5)</sup>	0.2 <sup>5)</sup>	3.6 <sup>5)</sup>	1.4 <sup>5)</sup>	3.1	0.4	0.0
Inhalants	0.3	0.0	1.3	0.5	1.3	0.1	0.1
NPS	0.1	0.0	2.2	0.3	2.8	0.9	0.0
<b>Any drug</b>	<b>10.2</b>	<b>7.5</b>	<b>34.8</b>	<b>15.8</b>	<b>28.2</b>	<b>7.1</b>	<b>3.4</b>

1) Due to insufficient cell range, no values are given for some cells. Values in the low percent range are to be interpreted with great caution, as there is a considerable uncertainty in the extrapolation of the measured values.

2) LT: lifetime, 12 M: 12 months, 30 D: 30 days.

3) Cocaine/Crack.

4) Heroin and other opiates.

5) Psychoactive Plants.

Orth 2016; Piontek et al. 2016a.

Data is also available from various studies for adolescents and young adults. Table 3 summarises the most important findings of more recent studies on drug use amongst adolescents and young adults. At this point it should be mentioned, in the interests of clarity, that only the latest results of these studies will be reported - parts of which have been repeated several times. For older results refer to REITOX reports up to 2014 or the Drug workbook in the 2015 report.

Table 3 Prevalence rates for the use of illicit drugs excluding cannabis amongst school pupils and adolescents in various German studies

Study <sup>1)</sup>	Year	Age group	Region	Prevalence (%)		
				30-day	12-month	Lifetime
DAS	2015	12-17	National	0.5	1.2	1.8
DAS	2015	18-25	National	1.7	3.5	7.7
ESPAD	2015	15-16	Bavaria			11.1
ESPAD	2011	15-16	5 <i>Laender</i>			8.9
MoSyD	2015	15-18	Frankfurt	4	8	11
SCHULBUS	2015	14-17	Hamburg	1.8		5.5
			Bavaria	1.8		5.7
			Saxony	1.5		4.3
			North Rhine-Westphalia	1.6		4.5

1) Only the most recent results are presented in the case of repeated surveys. Older data can be found in earlier REITOX reports (up to 2015).

BZgA: Either ecstasy, LSD, amphetamine, crystal meth, cocaine, crack, heroin, NPS, inhalants or psychoactive plants or a combination of these substances.

ESPAD: amphetamine, methamphetamine, ecstasy, LSD, cocaine, crack, heroin, GHB, magic mushrooms or NPS, for example in the form of herb mixtures. ESPAD interviews pupils from grades 9 and 10, the focus is therefore on the 15-16 years old age range, however also a few students aged 14 and 17 years were included.

MoSyD: psychoactive mushrooms, ecstasy, speed, cocaine, LSD, crack, heroin, crystal meth and GHB/GBL.

SCHULBUS: Ecstasy, mushrooms, LSD, amphetamine, Methamphetamine and cocaine.

The following must be taken into account when comparing the data from different studies<sup>2</sup> of drug use:

- The age groups surveyed by the individual studies are not identical.
- Some studies were only conducted in some *Laender* or regions.
- Some of the differences in the prevalence estimates may be attributable to different methods used (telephone vs. class based questionnaire survey) or different wording in the questionnaires.
- Regionally, there also exist some considerable differences in use behaviour and in the characteristics of the markets (e.g. availability, price and/or purity for different substances).

Moreover, individual substances or groups of substances (e.g. GHB/GBL, methamphetamine, biogenic drugs and tilidine) have time and again come to be the focus of attention, often in connection with intensive media reporting. One problem is that monitoring systems are not comprehensively available for all of these substances (exception: Frankfurt).

<sup>2</sup> Details on youth surveys are contained in Standard Table 30.

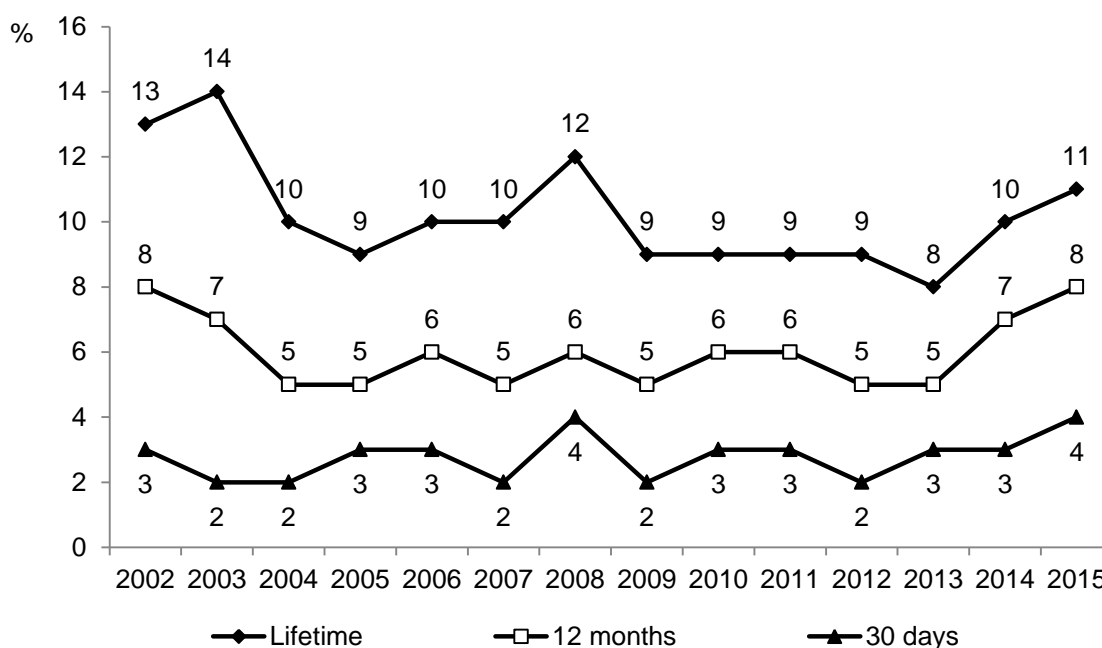
Moreover, some of the phenomena witnessed are transitional and cannot necessarily be taken as indicators of sustained changes in patterns of use.

In the context of the use of illegal substances by adolescents and young adults, it must be noted that there is a close link to the use of legal substances (especially alcohol and tobacco but also medical drugs) so that important developments may possibly be neglected if the use of illicit substances is looked at in isolation.

### Data from the *Laender* and the regional monitoring systems

#### Frankfurt (MoSyD)

Between 2009 and 2013 the prevalence rates for all illicit drugs except cannabis (so-called "hard drugs") together (lifetime prevalence, 12-month prevalence and 30-day prevalence) have remained very stable despite some fluctuations (see Figure 1). Since 2013, however, an ongoing slight increase can be observed; it remains to be seen in future surveys whether this is the beginning of a turnaround or merely a short term deviation. Detailed overviews of the lifetime prevalence and 12-month prevalence of use of individual substances are presented in Table 4.



Werse et al. 2016.

Figure 1 Prevalence of use of "hard drugs" (not incl. cannabis) among Frankfurt pupils, 2002-2015 (MoSyD)

Table 4 Prevalence of a range of substances in the 15 to 18 year old age group by year of survey (2002 and 2011-2015) (MoSyD)

	2002	2011	2012	2013	2014	2015	2002	2011	2012	2013	2014	2015
	Lifetime prevalence (%)						12-month prevalence (%)					
Inhalants	17	14	10	15	11	15	7	8	5	8	5	6
Speed	5	6	5	5	4	6	3	4	3	3	3	4
Laughing gas	5	5	5	8	6	7	2	2	2	2	2	3
Cocaine	4	3	4	4	3	4	3	2	2	3	2	3
Psych. mushrooms	8	4	4	3	3	4	4	3	2	2	1	3
Ecstasy	5	3	4	3	5	6	3	2	2	2	4	5
Hormonal drugs	<sup>a</sup>	3	1	2	2	1	<sup>a</sup>	1	1	2	2	<1
LSD	3	3	3	1	2	3	1	1	1	1	1	2
Crack	1	1	1	1	<1	1	1	<1	<1	<1	<1	<1
Crystal meth	<sup>a</sup>	1	1	1	<1	<1	<sup>a</sup>	1	<1	1	0	<1
GHB/GBL	<1	<1	2	1	1	1	<1	<1	<1	1	<1	1
Heroin	1	<1	<1	1	1	<1	<1	0	<1	<1	<1	<1

<sup>a</sup> Not collected.

Werse et al. 2016.

### Other current aspects of illicit drug use in Germany

Montag and colleagues (2015) have recently published a study on the prevalence of substance use among students in vocational education. 5,688 first-year students were surveyed in a cross-sectional survey. In addition to socio-demographic information, the frequency of consumption of tobacco, alcohol, cannabis, other illicit drugs and medicinal drugs was recorded. Additionally, screenings for problem consumption of alcohol and cannabis were undertaken. The questionnaire survey was carried out by trained data collectors between September and December 2012 in seven *Laender*.

The 30-day prevalence for cannabis and other illicit drugs stood at 7.5% and 2.6% respectively, with 20.7% of respondents confirming having taken medicinal drugs within the previous month. In comparison: Half of the apprentices (49.9%) had consumed tobacco in the previous 30 days; the 30-day prevalence for alcohol stood at 68.9%; problem alcohol consumption was found in 45.0% of the sample. The most significant correlate of substance use were the gender and the level of schooling qualification so far achieved. Differences in individual occupational clusters were also present, with overall higher rates of use in service professions that deal directly with people or in commercial and technical fields. However, these differences could be attributed largely to the different socio-demographic composition of individual occupational clusters. The results confirm that the use of psychotropic substances amongst apprentices/trainees is more widespread and frequent than the same

age group in the general population. The gender and level of education accounted for most variance.

Data is also available from the DAS carried out by the BZgA. At the first stage of secondary education, the type of school attended is not statistically significant for the lifetime and 12-month prevalence of use of illicit drugs. The proportion of students who have tried illicit drugs once or who have consumed one illicit drug in the previous twelve months stands at a comparable level between grammar schools, comprehensive schools, intermediate secondary schools and secondary general schools. In the case of older respondents outside of the first stage of secondary education, there are differences depending on their social characteristics. Among employed people the proportion of those who have used one illicit drug in the previous twelve months is comparatively low. According to the corresponding results of the DAS, apprentices/trainees used a relatively low quantity of illicit drugs in the previous twelve months. This last result is not initially in line with the data produced Montag and colleagues (2015) and reported above. The 12-month prevalence amongst apprentices/trainees is 14.4%, among grammar school students (second stage of secondary education) it stands at 21.9%. The lifetime and 12-month prevalence values are the highest among the unemployed - although they do not differ significantly from a statistical perspective from the reference group at grammar school.

In a recent paper, Henkel and Schröder (2016) investigated whether patients in medical care who receive second stage unemployment benefit (Hartz-IV, flat rate benefit payment for longer term unemployed) differ in their addiction diagnosis rates from the recipients of first stage unemployment benefit (ALG I, salary related benefit payment for approx. first year of unemployment) and employed patients subject to social insurance contributions. For this purpose, the benefits data of all AOK-insurees who were continuously insured with the AOK in the years 2007 - 2012 and in outpatient or inpatient treatment was analysed. All addiction related ICD-10-GM diagnoses were analysed. The results were divided into gender and into 3 age groups (18-29, 30-49 and 50-64 years old). To ensure maximum coincidence between the social and employment status and addiction-related diagnosis, quarterly periods were chosen as the evaluation unit. The data is based on 28 million quarterly cases for the Hartz-IV group and a total of 173 million cases in the years 2007 - 2012. In order to ascertain the rate of addiction-related diagnoses, the percentage of investigated quarters with medically coded ICD diagnoses was calculated separately for the 3 study groups. For 10.2% of all Hartz-IV quarterly cases at least one addiction-related diagnosis was found. For unemployed ALG-I recipients, the diagnosis rate was 6.3% whilst for employed patients it was 3.7%. A similarly striking disparity in diagnosis rates was found for F10 (alcohol), F11 (opioids), F12 (cannabinoids), F13 (sedatives/hypnotics), F17 (tobacco), F19 (multiple substance use) and F50 (eating disorders), both for men and women as well as in all three age classes. For the diagnoses F14 (cocaine), F15 (other stimulants), F16 (hallucinogens), F18 (volatile solvents) and F63.0 (pathological gambling), generally little or no coding was found. In the opinion of the authors, the results indicate firstly that persons receiving Hartz-IV would particularly benefit from early detection and intervention measures in primary medical care and secondly that addiction counselling in Job Centres, possible under Sec. 16a SGB II,

is not even close to being given where it is needed, as evidenced by the number of cases currently seen, and that it should therefore be extended accordingly.

Been and colleagues (2016) presented a study on the geographical differences in illicit drug use (Been et al. 2016). The results of the study are based on a combination of wastewater data, further epidemiological data and data from law enforcement authorities. Wastewater samples were taken in five towns/cities in Germany (Berlin, Dortmund, Dresden, Dülmen and Munich) and 14 towns/cities in Switzerland and Liechtenstein. While the overall results obtained seem to correspond closely to the other data sources on the use of cannabis and amphetamine, this was not the case for cocaine. For Germany, important differences between the cities of Berlin, Dortmund and Munich were highlighted, in which cocaine and in particular amphetamine use was particularly frequent and Dresden, where the use of methamphetamine clearly dominated. The authors come to the overall conclusion that the combination of different data sources can lead to a better understanding of the geographic differences in respect of the prevalence of use, as well as the type and quantity of substance used. This statement is particularly true for the substances cannabis and amphetamine, while for cocaine and heroin in part clear differences between the different data sources can be observed. The authors assess the approach of combining different data sources, with the inclusion of wastewater data, in order to analyse the drug situation as valuable, in order to better understand the complexity of the drug situation at a national level.

### **Summary and trends**

Based on the data of the current DAS of the BZgA, less than a quarter (23.5%) of 12-17 year-old adolescents in Germany have already been offered an illicit drug. The proportion of adolescents who have already tried an illicit drug is significantly less with a lifetime prevalence of 10.2%. That means that less than half of those who have been offered drugs accepted. Overall, 7.5% of adolescents aged between 12 and 17 had also used an illicit drug in the twelve months prior to the survey (12-month prevalence), of whom one third (2.5%) reported, that this use was not longer than 30 days ago (30-day prevalence). A regular use of illicit drugs (i.e. more than ten times in the previous year) was ascertained for roughly one in every hundred adolescents. Overall, 1.3% of 12-17 year-olds report that they have taken an illicit drug more than ten times in the previous twelve months.

In young adults aged 18-25 years old, the experience with and use of illicit drugs is more widespread than that of 12-17 year-old adolescents. In the young adults age group nearly two thirds of respondents (63.3%) have already been offered an illicit drug. Based on the information regarding 12-month and lifetime prevalence, one can conclude, however, that for over half of 18 to 25 year-olds with experience of use, the most recent drug use was more than one year ago.

The trends over time in the DAS among 12-25 year old adolescents and young adults show that the use of illicit drugs other than cannabis plays a substantially lesser role. This finding has remained stable over the years. On a lower level, the prevalence of use of illicit substances other than cannabis among young people has changed over the last two

decades. In young people of both genders and in all four use categories (lifetime, 12-month and 30-day prevalence as well as regular use) the DAS reported the highest values in 1997. Since then the use of illicit drugs other than cannabis has fallen. All current values from the 2015 survey are statistically significantly lower than those of 1997. For example, the 12-month prevalence of use of illicit drugs aside from cannabis among male adolescents fell from 4.8% (1997) to 0.9% (2015) and among female adolescents from 5.5% (1997) to 0.8% (2015).

This effect is due in large part to a decline in the use of ecstasy - it remains to be seen how this use will develop in the future, since current data points to a new growth in the use of this substance. Just like for adolescents, in the case of young men and women aged between 18 and 25 the consumption of illicit drugs other than cannabis was the most widespread in 1997. This is reflected across all four use categories for this age group also. All current values for young men for the year 2015 are statistically significantly lower than those of 1997. Their use has declined. The lifetime prevalence of use of illicit drugs other than cannabis among young women, however, has not significantly changed. In 1997 8.7% of young women reported having already tried such a substance, for 2015 the figure is 6.6%. The current values for 12-month and 30-day prevalence rates as well as for regular use of an illicit drug other than cannabis, are at a significantly lower level than 1997. However, since the last survey in 2011 slight and statistically significant increases have been observed in the 12-month and 30-day prevalence rates (Orth 2016).

The current results from the ESPAD Study carried out in Bavaria show that more than one in ten adolescents (11.1%) in the 15-16 year-old age group have already used an illicit drug other than cannabis (namely amphetamine, methamphetamine, ecstasy, LSD, cocaine, crack, heroin, GHB, magic mushrooms or NPS. NPS was the most frequently used group (7.8%). The lowest prevalence rates were 0.5% for methamphetamine (crystal meth) and 0.6% for heroin and crack. All substances other than heroin were used less by girls than boys. If a substance was tried at all (lifetime prevalence), it almost always remained between one and a maximum of five uses (experimental drug use). The percentage rates related to such experimental use amounted to between 0.2% for methamphetamine or crack and 2.2% for magic mushrooms. The development trend in the lifetime prevalence of use of illicit drugs other than cannabis showed a significant decline. In particular, the lifetime prevalence among males fell from 12.5% in 2011 to 8.1% in 2015. A significant decline was also found in all types of school (Kraus et al. 2016a).

Overall, and taking the various existing data into account, alcohol and nicotine remain the most widely consumed psychoactive substances in Germany; amongst illicit drugs, cannabis continues to occupy first place.

In particular, the available data from population surveys has for some years indicated a relative stability as far as drug use in Germany is concerned. Beyond this nationwide view, there are regional developments which exhibit in part distinct characteristics. For several years this has been particularly clearly illustrated by the significant burden of problems due to



the use of methamphetamine in the south eastern *Laender* in Germany - at the same time, this phenomenon has still not been observed in other regions.

For several years, the use of illicit drugs - apart from a few high-profile exceptions, for example when the annual numbers of drug induced deaths are presented or sensational reporting in connection with the use of methamphetamine - has not been a dominant subject of public discussion. In recent times, an increase in the use of NPS has been reported, however reliable nationwide epidemiological data on the use and popularity is still lacking. Where data on the use of NPS has been collected (e.g. MoSyD, ESA, since very recently: DAS), the information rather indicates a low popularity of this substance - however, this is in contrast to the in part considerable volumes of substances seized by law enforcement authorities meaning that overall, an inconsistent picture is created. In a recent article on the subject Werse (2016) emphasises the contradiction between the fact that NPS are a recurrent subject of drug policy and media discussions (c.f. on this point the Drug Policy workbook and activities such as the adoption of a specific law on dealing with NPS) and "*at the same time (...) the interest in how widespread these substances actually are, is clearly very low*". From a scientific point of view it should be noted that neither of the regularly conducted, nationwide, representative surveys (ESA and DAS) provide sufficient information about actual consumption - as well as methodological problems in collecting data about the specific phenomenon ("how does one ask about NPS?"), this is due to the fact that it is based on a statistically "rare" event, in the context of the population as a whole, the extent of which cannot adequately be detected using representative surveys.

Werse (ibid.) goes on to say that, "*other surveys on the subject (...), [suggest] that although a certain proportion of young people try such substances, their use soon ceases again. In any case, the proportion of those who have tried NPS only accounts for a small proportion of those with drug experience; in the Frankfurt survey, for example, it was less than one fifth.*"

Even though available data indicates that the overall NPS phenomenon is estimated to be quantitatively rather small and that over recent years there have been no rapidly increasing numbers of users in relevant studies, it still seems reasonable to continue to look at the phenomenon. One thing supporting this view is that NPS seem to have become established as a permanent fixture in certain drug scenes. There will continue to be not inconsiderable difficulties associated with collecting reliable epidemiological data due to the heterogeneity of the substances and the level of knowledge of users. To make matters worse, there are also systematic effects, in addition to "underreporting" caused by a lack of knowledge, due to the fact that users conceal their use because they fear changes in the legal status of the substances. The extent to which these substances play a role in the counselling and treatment facilities remains difficult to measure as much of the available data is organised according to the ICD-10 classification which does not allow a sufficient degree of differentiation of the substances involved case by case. Nevertheless the new "German core data set for documentation in the field of addiction support" which is expected to be introduced in 2017, allows for the coding of NPS use, so that from 2018 the first data from

the counselling and treatment facilities can be expected, to enhance the overall picture on use in this substance group.

The question remains as to what extent the use of methamphetamine (crystal meth) has increased based on the overall population. The national data from the ESA and DAS continues to reflect no significant increases. Other data sources (police data, data from counselling/treatment facilities from particular regions) do, however, clearly indicate a large and in part still growing burden with a distinct regional focus in the area around the border with the Czech Republic.

The data from the regional monitoring systems (Frankfurt and Hamburg) has for several years indicated that cannabis use in particular among adolescents has for some years no longer been declining. A study published by the BZgA in 2014 also arrived at the conclusion that "(...) *it could be wrong to assume a further decline in cannabis consumption amongst young adults in Germany*" (BZgA 2014). Although the most recent DAS data shows 12-month prevalence to be slightly lower (in the scope of the alcohol survey) compared to the 2014 survey, the prevalence rates in the representative studies conducted by the BZgA in the last five years have been above the comparable values for 2011, both for adolescents and young adults. Moreover, the current ESA also reveals an increase in the 12-month and 30-day prevalence rates for all age groups - in particular for the 18-24 year-old age group.

Clearly, it is still the case that in spite of the numerous prevention and intervention programmes, the target group of "regular" cannabis users (as differently as they are defined in the individual studies) are not being reached to a sufficient extent, whilst there are indications that the established prevention programmes and services can successfully increase the age of first use.

Some background information on drug use in specific groups (e.g. among migrants) was most recently reported in the REITOX Report 2014 and can also be found, in part, in the Treatment workbook.

In the scope of the German Federal Ministry of Health funded project, PharMon-NPS, (Piontek et al. 2016b) data has been collected since 2015 from various project partners (correctional institutions, party projects, poison information centres, counselling facilities) on the emergence of NPS in Germany. Party goers as well as inmates of detention facilities particularly frequently named herbal smoke blends (synthetic cannabinoids). In the party scene in particular, however, 2C compounds (phenethylamines) are also in circulation and the poison information centres report that there have been enquiries in connection with the use of designer benzodiazepine.

### **0.1.2 Use of illicit drugs with alcohol, tobacco and prescription drugs (T0.1.2)**

In the 2014 Frankfurt Scene Study (Werse & Egger 2015), it was reported that the increase in alcohol consumption in the open drug scene which had already been observed in recent years, had continued in 2014: in 2014, the 24-hour prevalence for alcohol was over 50% for the first time.

Overall, there is little information on the combination of prescription drugs and the use of illicit drugs; they will be reported, where applicable, in the Treatment workbook. The data from the representative studies allows evaluations to be made on the combined use of various substances within a defined timeframe (for example whether both alcohol and illicit drugs have been consumed within the last 12 months), whereas the parallel, i.e. simultaneous use, which could provide information about patterns of use, is not listed separately either in the ESA or the DAS.



## SECTION A. CANNABIS

### 1 National profile (T1)

#### 1.1 Prevalence and trends (T1.1)

##### 1.1.1 Cannabis use in the general population (T1.1.1)

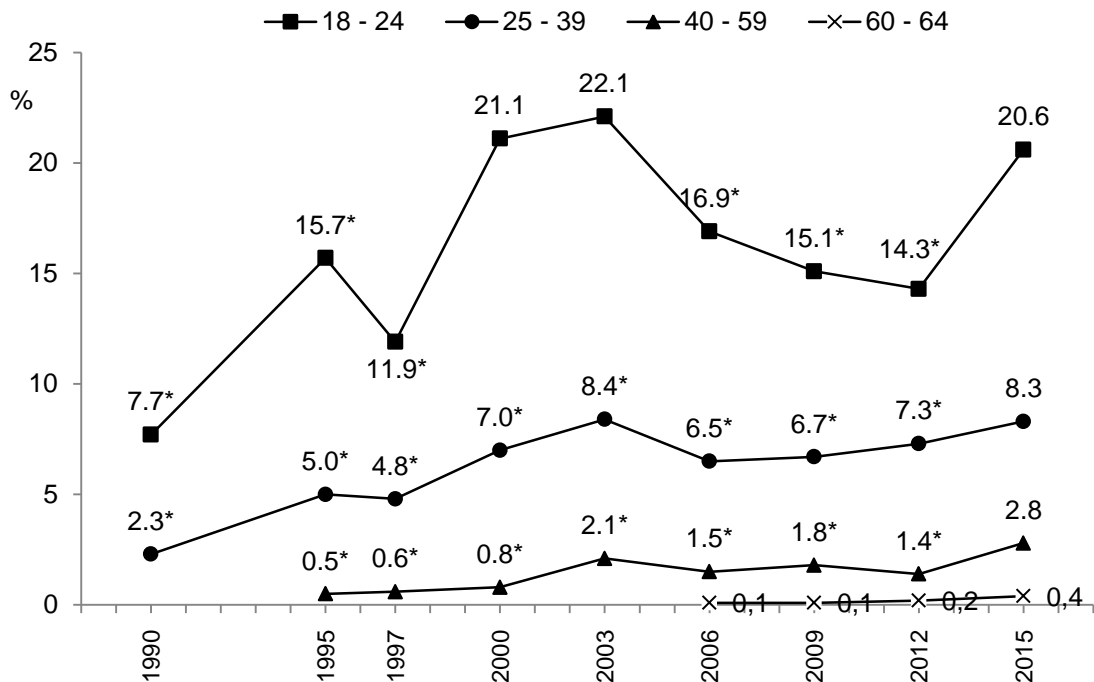
Table 5 Prevalence of use of cannabis by gender and age (ESA 2015)

Prevalence	Total	Gender		Age groups						
		Males	Females	18-20	21-24	25-29	30-39	40-49	50-59	60-64
Lifetime	27.2	31.8	22.6	28.9	36.9	42.3	39.5	26.0	15.9	11.6
12-month	6.1	7.4	4.9	20.5	18.9	11.1	6.2	4.0	1.7	0.4
30-day	3.1	4.0	2.3	10.4	8.7	5.5	3.4	1.8	1.3	0.4

Piontek et al. 2016a.

#### The Cannabis Consumption of Adults in Germany: Trends in the ESA 1990-2015

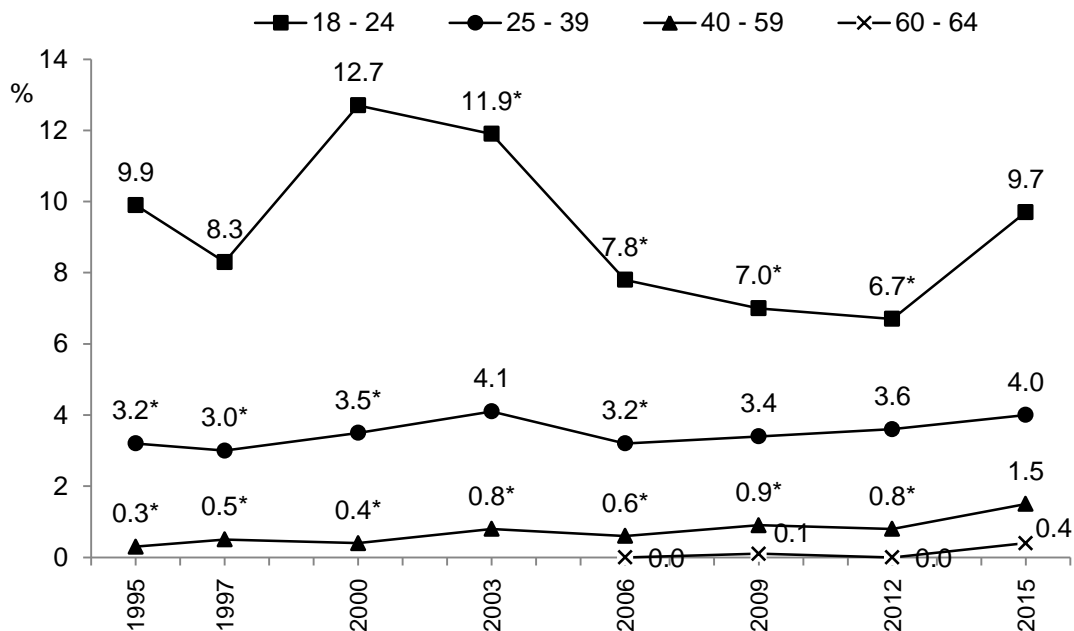
Cannabis has for many years been the most consumed illicit drug in Germany. The 12-month prevalence rate for cannabis consumption among young adults aged between 18 and 24 continued to fall markedly up to 2012, following an increase up to the start of the 2000s (Kraus et al. 2014), followed by a clear increase in the most recent survey, almost reaching the maximum value from 2003 (Kraus et al. 2016b), see Figure 2. The maximum value was almost four times higher than 1980 for both men and women. A similar development was also observed among 25 to 39 year-olds, although the prevalence was considerably lower than that for young adults and the reduction after the maximum was smaller. In this age group, the 12-month prevalence of cannabis use has been continually increasing since 2006 and has, for this group also, even almost reached the 2003 level. A markedly lower prevalence level and a flatter curve can be observed among 40 to 59 year-olds and among 60 to 64 year-olds. Similar trends can also be observed for the 30-day prevalence rates across age groups. Also based on this indicator, the increase in the age group of 18-24 year-olds in comparison to 2012 (Figure 3) is also of particular significance. Differences between men and women overall are first and foremost related to the lower proportion of cannabis users among women in all age groups.



\* p<.05 for a change compared to 2015. Logistic regression to predict the prevalence rates with year (reference: 2015), age, gender, mode of collection. For small cell frequencies (n ≤5) Fisher's exact test was used.

Kraus et al. 2016b.

Figure 2 12-month prevalence of use of cannabis by age, trends 1990-2015 (ESA)



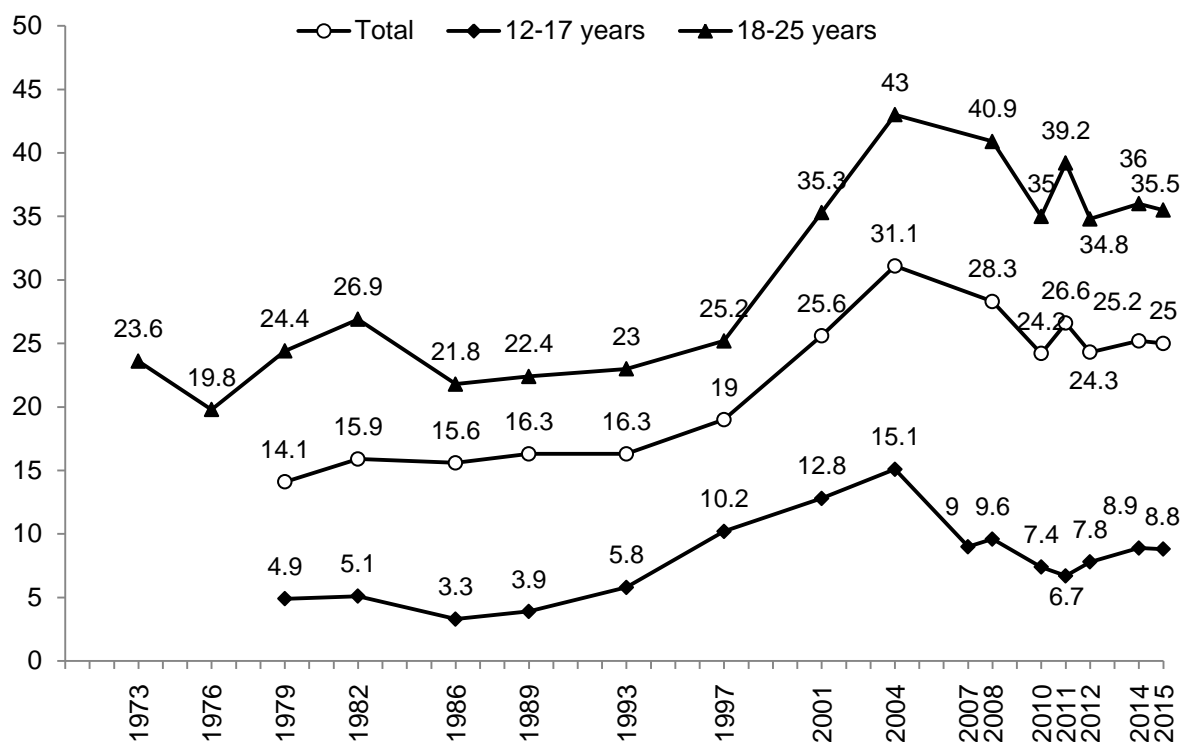
\* See Footnote Figure 2.

Kraus et al. 2016b.

Figure 3 30-day prevalence use of cannabis by age, trends 1995-2015 (ESA)

### The Cannabis Consumption of Adolescents and Young Adults in Germany in the DAS 2015<sup>3</sup>

The lifetime and 30-day prevalence of use of cannabis has been recorded ever since the first drug affinity study, carried out in 1973. The data included by the BZgA in their long-term analyses was based in detail on data from the drug affinity studies between 1973 and 2015 as well as the 2007 "smoke-free" youth study and the 2010, 2012 and 2014 alcohol surveys, in which cannabis use was also a survey topic.



\* Age of respondents in the different studies: 1973 and 1976 14 to 25 years old; 2007 12 to 19 years old; other studies 12 to 25 years old. Results for some age groups are therefore missing from the 1973, 1976 and 2007 studies.

2014 and 2015: Results of the landline sample with weighting by region, gender and age.

Orth 2016.

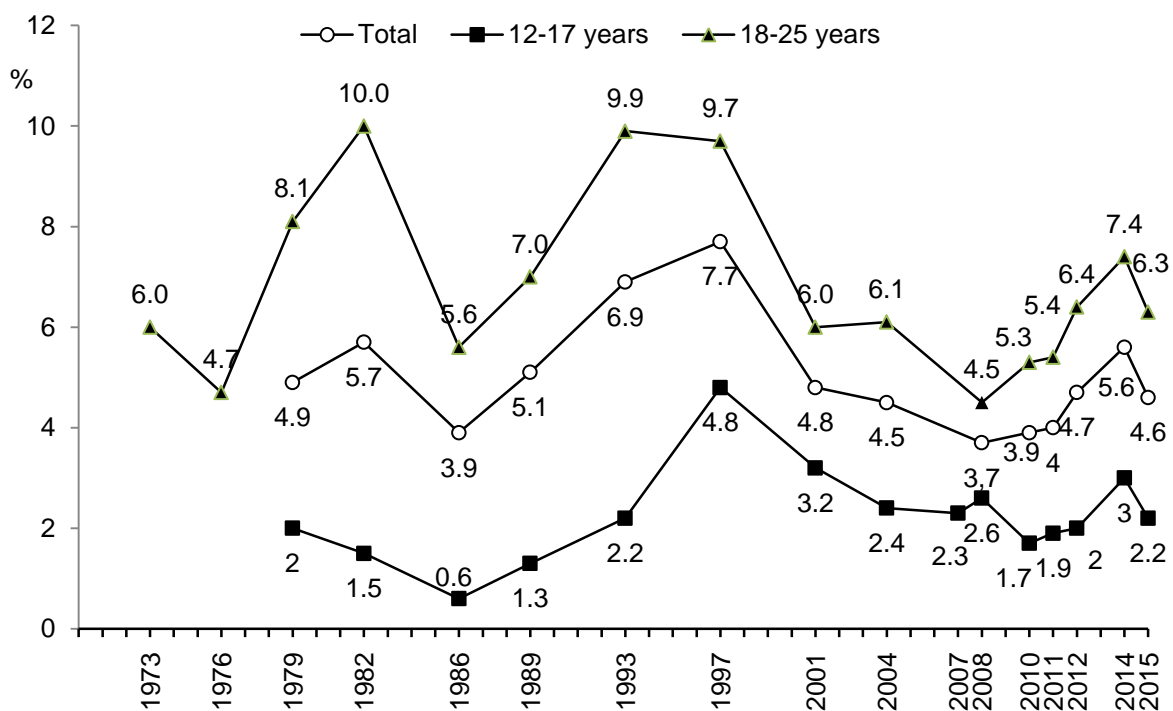
Figure 4 Lifetime prevalence use of cannabis among adolescents and young adults, trends 1973-2015 (DAS)

The experience of use among adolescents and young adults, measured by the proportion of those who have used cannabis at least once in their lives, is undergoing a long term change. After an initial stagnation and then a slight reduction in lifetime prevalence from 1979 to 1986, the proportion of 12-17 year olds who have tried cannabis at least once in their lives has risen continuously from a level of 3.3% (1986) to 15.1% in 2004 (Figure 4). In this period, an increase could also be seen amongst 18-25 year old young adults, which was particularly sharp between 1997 (25.2%) and 2004 (43.0%). In 2004, the lifetime prevalence of cannabis use in both age groups reached record levels.

<sup>3</sup> The texts accompanying the data in the DAS are largely taken from the final report of the BZgA (Orth 2016).

In the case of adolescents, the lifetime prevalence fell significantly in subsequent years, and in 2011 it was just 6.7%. The proportion of adolescents who have already used cannabis then increased again and there was a statistically significant increase in the lifetime prevalence of this age group, to 8.8% in 2015.

The lifetime prevalence use of cannabis has also been decreasing among young adults since 2004. The current value from 2015 (35.5%) is statistically significantly lower than the values from 2004, 2008 and 2011. In spite of this decrease, the lifetime prevalence rate for young adults in 2015 is at a significantly higher level than that of the period from 1973 to 1997.



\* See Footnote Figure 4.

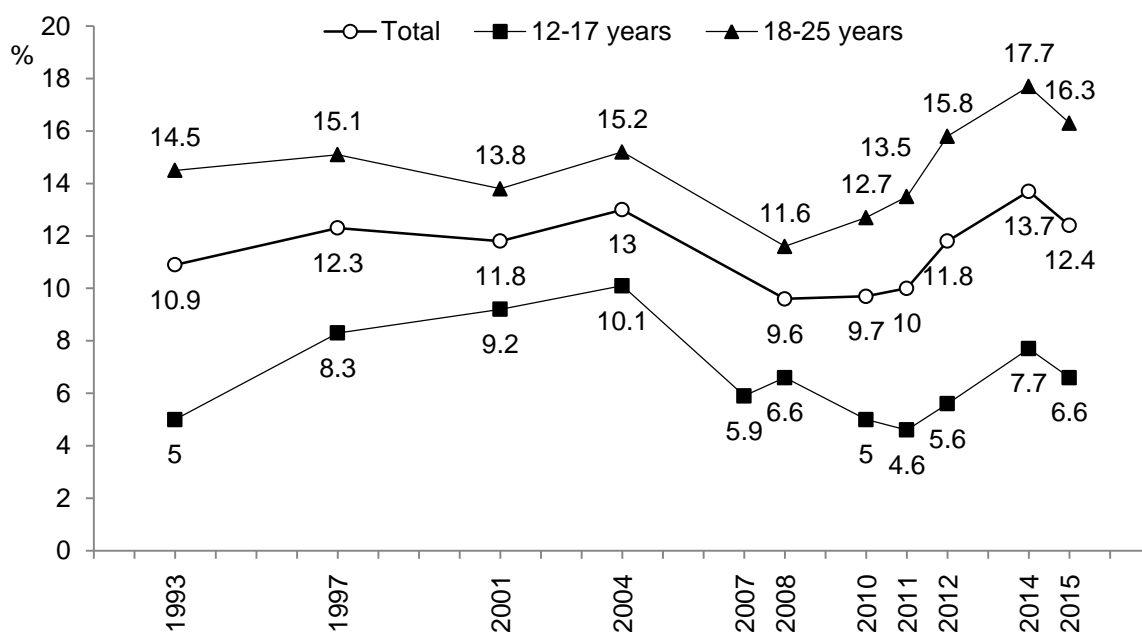
Orth 2016.

Figure 5 30-day prevalence of use of cannabis among adolescents and young adults, trends 1973-2015 (DAS)

The proportion of 12 to 17-year old adolescents who used cannabis in the 30 days prior to the survey initially decreased slightly between 1979 to 1986 (Figure 5). The proportion increased for the following thirteen years, hitting a high point in 1997 (4.8%). Thereafter, the 30-day prevalence began to decline once again. The current value from 2015 (2.2%) is statistically significantly lower than the value from 1997. The 30-day prevalence use of cannabis among 18-25-year old adults reached its first peak in 1982 (10.0%). Following a decline between 1982 and 1986 it began to increase once again, reaching a level of ten percent both in 1993 and 1997. A renewed period of decline followed, running until 2008 (4.5%). In recent years an increase has once again been seen. At 6.3%, the 30-day



prevalence of use of cannabis in 2015 is nearly two percentage points higher than 2008. This difference is statistically significant.



\* See Footnote Figure 4.

Orth 2016.

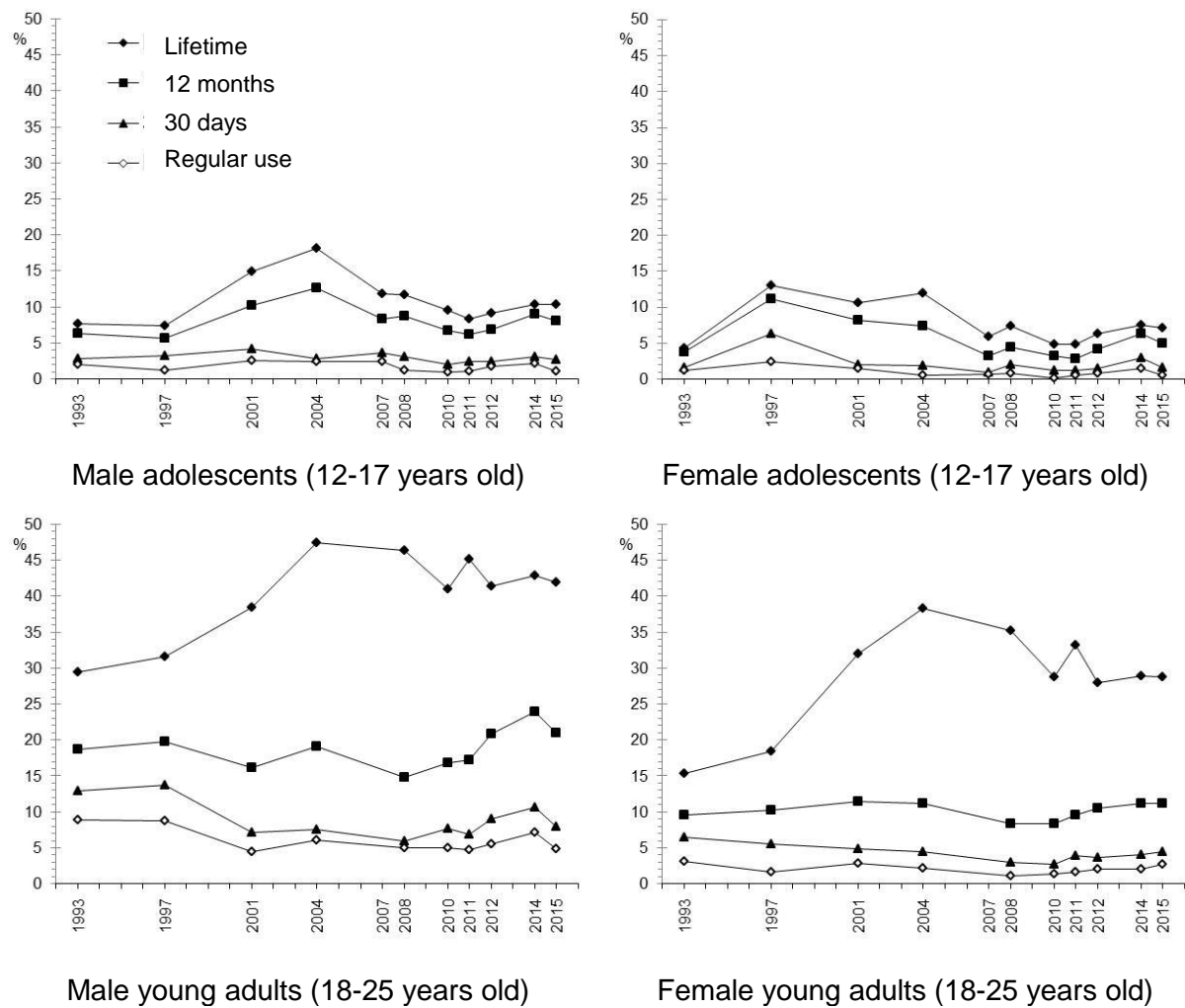
Figure 6 12-month prevalence use of cannabis among adolescents and young adults, trends 1993-2015 (DAS)

The 12-month prevalence and incidence of regular cannabis use have, in addition to the lifetime and 30-day prevalence rates, been measured in the DAS since 1993. In male adolescents the lifetime prevalence of use of cannabis increased from 7.4% in 1997 to 18.2% in 2004. At the same time the 12-month prevalence has also increased (Figure 6 & 7). As time went on, both lifetime and 12-month prevalence initially declined. The values have been increasing somewhat since 2011. The difference in the current values (2015) to those of 2011 is not statistically significant, however.

The 30-day prevalence for 12 to 17-year old males shows only very slight movement between 1993 and 2015. It fluctuates between two and four percent. The differences between the current value for 2015 and those for 1993 to 2014 are not statistically significant.

At around one percent, regular cannabis use among male adolescents (2015: 1.1%) remains as rare as in 2010 and 2011 and the decrease in comparison to the previous year (2014: 2.2%) is statistically significant. Among female 12 to 17-year old adolescents, the changes set in earlier than their male counterparts. In fact the level of cannabis use increased between 1993 and 1997. Lifetime prevalence increased from 4.3% in 1993 to 13.1% in 1997. 12-month prevalence increased in this period from 3.8% to 11.2%. The 30-day prevalence and regular use also increased. While lifetime prevalence initially remained at a high level until 2004, the other three categories of cannabis use began to decrease in 1997. In 2010 and 2012 there is a comparatively low use in all four categories. A renewed increase is

currently emerging. Lifetime and 12-month prevalence rates among female adolescents in 2015 are statistically significantly higher than in 2010 and 2011.



\* See Footnote Figure 4.

Orth 2016.

**Figure 7** Cannabis use 12 to 17-year old adolescents as well as 18 to 25-year old young adults from 1993 to 2015 by gender (DAS)

In the group of young men between 18 and 25 years old, lifetime prevalence initially increased from 29.4% (1993) to 47.4% (2004). In 2004 therefore almost half of 18 to 25-year old men reported having used cannabis at least once. In 2015 lifetime prevalence in young men amounted to 41.9% hence the decrease in comparison to 2004 is statistically significant. The 12-month prevalence has shown an increase over the last seven years. The current level of 21.0% (2015) is significantly higher than that of 2008 (14.8%). The decrease compared to 2014 (23.9%) is not significant. the 30-day prevalence of cannabis use has significantly fallen from the 10.6% level in the 2014 survey to 7.9% (2015), as such returning to the levels reported between 2001 and 2011. Regular use was not as widespread in 2015 as it was in 1993 and 1997 with the difference in values between 2001 and 2014 not statistically significant. The trend in cannabis use has been similar among 18 to 25-year old

women and among 18 to 25-year old men. The changes are at a lower level, however, because fewer women use cannabis than men. The lifetime prevalence of use of cannabis of young women increased from 15.4% in 1993 to 38.3% in 2004. Just as with the young men, the 2015 level is again statistically significantly lower than the 2004 level in that it has fallen by around ten percentage points to 28.7%. The 12-month prevalence significantly increased by approximately three percentage points among young women in the period 2010 (8.4%) to 2015 (11.2%). 30-day prevalence and regular use have also increased somewhat between 2010 and 2015 (2.7% to 4.5% and 1.4% to 2.7% respectively). A similar trend has also been observed in the ESA since 2011.

### **1.1.2 Cannabis use in school and other sub-populations (T1.1.2)**

#### **Nationwide data and international studies**

##### ***ESPAD***

In 2011, Germany took part in the ESPAD Study for the third time, having also taken part in 2003 and 2007 (for study description see Sources and methodology (T6)). The findings were presented in detail in the REITOX Report 2012. Overall, lifetime prevalence of use of cannabis among adolescents surveyed fell between 2003 and 2011; the proportion of girls with experience of cannabis declined to a greater extent than the proportion of male users. The development of problem cannabis use over time (recorded via the Cannabis Abuse Screening Test, CAST) can only be observed for the period of 2007-2011 as the respective indicators were not collected in 2003. According to the data, there was no significant change in the proportion of high risk use either for the group of 12-month users or for the entire sample group. No statistically significant effects can be seen in the gender specific analysis either.

Aside from the country as a whole, the *Land* Bavaria also took part in the 2015 ESPAD survey (Kraus et al. 2016a) (for information on the sample see Sources and methodology (T6)). Overall 25.2% of pupils in the 9th and 10th grades reported having already used cannabis at least once in their lives. The figure was 21.6% for the last 12 months and 10.4% for the 30 days before the survey. Cannabis use was clearly more widespread among boys than girls. 27.9% of male students reported use in the previous year, whilst this figure was only 15.4% for female students. Differences are also present between the different types of school. The prevalence rates were significantly higher at secondary general schools (Mittelschule, previously known as Hauptschule) than at intermediate secondary (Realschule) and grammar schools (Gymnasium), which were both at a comparable level. Most adolescents (75.1%) stated that they had never used cannabis in their lives. A further 13.1% reported trying between one and five times and 4.9% could be described as occasional users with a maximum frequency of use of 19 times. 6.9% of the sample reported a frequent use of at least 20 times in their lives. Gender differences are present in that a frequent use of cannabis among boys is more widespread than among girls. A much higher proportion of boys (11.0%) than girls (2.9%) reported having used cannabis at least 20 times in their lives. Differences can also be seen in terms of the types of school. At 13.8%,

secondary general schools showed the highest proportion of frequent users ( $\geq 20$  times), higher than grammar schools (4.7%) and intermediate secondary schools (5.2%).

If one only looks at the frequency of use only for those people who have already used cannabis, it is noticeable that it remains the case that a little over half (52.7%) of all adolescents, after experimental drug use, stopped at a maximum of five times in their lives. A further 19.7% used cannabis up to 19 times and 27.6% can be described as frequent users ( $\geq 20$  times). Girls made up a greater proportion of experimental drug users, as well as grammar school and intermediate secondary school students. The highest proportion of frequent users is found among boys (34.6%) and secondary general school pupils (47.3%).

The average age of first cannabis use was 14.8 years old. Gender differences or differences between types of school have not been observed. The cumulative incidence rates of age of first use of cannabis show that the proportion of adolescents who have had some experience with cannabis up to a certain age, increases continuously from 13 years old. The increase in incidence rates is significantly steeper in boys than girls.

In the current survey year the prevalence of use of cannabis (lifetime, 12 month and 30-day) has significantly increased in comparison to 2011. There was no significant change in the proportion of problem cannabis users either amongst the group of 12-month users or amongst the entire sample group.

### ***DAS of the BZgA***

Current data as well as developments in trends from the DAS of the BZgA was already reported under section A1.1.1 hence it will not be repeated here. Furthermore, the DAS is not a classic "pupil survey".

### ***"Health Behaviour in School-aged Children" (HBSC) Study***

The results from the current HBSC study for Germany show that 15.6% of 15 year-old girls and 17.8% of boys have used cannabis, hashish or marijuana at least once (lifetime prevalence). This also means that the majority of 15-year olds (82.6%) have never used cannabis.

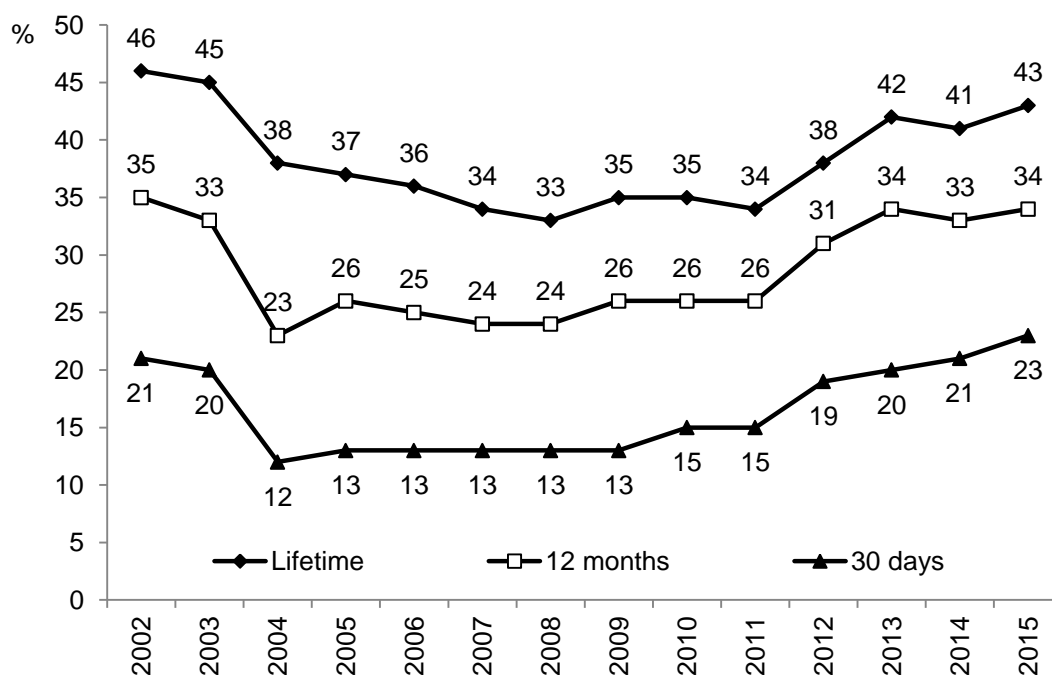
The first contact with cannabis occurs, according to the HBSC results, at 14 and 15 years old. As far as the use of this drug in the last 30 days is concerned, the difference between boys (9.6%) and girls (7.0%) remains virtually the same as the difference in lifetime prevalence. Only small differences can be seen in terms of family income and drug use (lifetime prevalence). Girls from low income families and boys from high income families are the groups with the highest proportion of individuals who have used cannabis, hashish or marijuana at least once in their lives (girls: 16.8%, boys: 21.9%). The prevalence rates of the last 30 days show only minor differences in relation to family income. The largest proportion of drug use is shown in girls from a high income family (8.6%) and in boys from a low income family (11.5%). No significant differences are observed in relation to experience with cannabis and migration background (HBSC-Studienverbund Deutschland 2015a; Moor et al. 2016).

## Data from the *Laender* and the regional monitoring systems

### Frankfurt (MoSyD)

Following the slight decrease in lifetime prevalence of cannabis use among Frankfurt pupils in the 2014 survey, the value increased again in 2015. The same is true for the 12-month prevalence. The 30-day prevalence however has been increasing constantly since 2011 (Figure 8).

The value for "frequent use" (at least 10 times in the previous month) has decreased from 9% (2014) to 8% (2015). The proportion of daily users has remained the same at 4%, as has the average age of first use of 15 years old (Werse et al. 2016).



Werse et al. 2016.

Figure 8 Prevalence of use of cannabis among Frankfurt pupils, 2002-2015 (MoSyD)

### *Schulbus (school bus) Study*

A survey called "Hamburg SCHOOL BUS" (Hamburger SCHULBUS) on the prevalence of contact with addictive substances was carried out for the sixth time in 2015 within the framework of the "Local Monitoring System" (LMS) among pupils aged 14 to 18 at schools providing general or vocational education. The survey was also carried out in parallel in the border regions of Bavaria and Saxony with the Czech Republic as well as in an area close to the border between North Rhine-Westphalia and the Netherlands (see on this point also Sources and methodology (T6)). The region-specific comparison of the data on juvenile cannabis use shows - as expected - that the highest incidence is in the metropolis of Hamburg. At approximately 13% of the proportion of current users this is significantly higher

than the corresponding values, which were observed for the adolescents in the other surveyed areas.

One noteworthy aspect seemed to be that for adolescents in North Rhine-Westphalia, on the border region with the Netherlands, the data showed no increased prevalence values in relation to cannabis use, meaning that the theory that the proximity to the border of a neighbouring country more liberal in its approach to hashish and marijuana would have the effect of encouraging use, is not supported.

Inspecting the data for Hamburg, collected and analysed longitudinally, on the 30-day prevalence of cannabis use shows that the proportion of current users is declining again following an "intermediate high" in 2012. The largest decline can be discerned among male adolescents as well as among the younger respondents. The prevalence numbers for current cannabis use among 14 to 17-year olds is roughly back at the same level it was in 2009 (male: 2009: 17%; 2012: 22%; 2015: 15%; female: 2009: 6%, 2012: 12%; 2015: 8%).

The trend in Hamburg of the age of first use of cannabis among adolescents rising in the years up to 2012 no longer continued in 2015 (male: 14.5; female: 14.8). This means that both genders come into contact with hashish and/or marijuana 0.2 years earlier than in 2012 (no statistical significance). The sharpest declines can be seen in the 14-15 year-old cohort. This means that the attractiveness of generally beginning to have contact with psychoactive substances has continued to decline (Baumgärtner & Hiller 2016).

Table 6 offers an overview of the data on cannabis use collected in various studies amongst adolescents and young adults in Germany.

Table 6 Prevalence of cannabis use among pupils, adolescents and young adults in various German studies

Study <sup>1)</sup>	Year	Age group	Region	Use in Period (%)		
				30-day <sup>2)</sup>	12-month	Lifetime
HBSC <sup>3)</sup>	2013/14	15	National		9.6/7.0	17.8/15.6
KiGGS <sup>3)</sup>	2003/06	11-17	National		9.2/6.2	
DAS	2015	12-17	National	2.2 (1.2)	7.3	9.7
DAS	2015	18-25	National	6.7 (3.9)	15.3	34.5
Alcoholsurvey <sup>4)</sup>	2014	12-17	National	3.7 (2.2)	8.3	10.0
Alcoholsurvey <sup>4)</sup>	2014	18-25	National	7.7 (5.1)	17.6	37.2
ESPAD <sup>5)</sup>	2015	15-16	Bavaria	10.4	21.6	25.2
ESPAD <sup>5)</sup>	2011	15-16	5 <i>Laender</i>	8.1	17.4	22.2
MoSyD	2015	15-18	Frankfurt	23	34	43
SCHULBUS	2015	14-17	Hamburg	11.8 (6.2)		23.3
	2015	14-17	Bavaria	8.5 (6.4)		15.8
	2015	14-17	Saxony	9.1 (5.3)		20.2
	2015	14-17	North Rhine-Westphalia	7.8 (6.1)		17.3

1) In the case of repeated surveys only the most recent results are presented.

2) In brackets: BZgA (DAS/Alcohol survey) regular use (>10 times in the last year); SCHULBUS problem use (≥2 points on the SDS).

3) HBSC and KiGGS: First value: Boys, second value: Girls.

4) The data on cannabis use from the 2014 BZgA alcohol survey (Alcoholsurvey) is not reported separately in the text, since it was included in the descriptions of the trends from the DAS.

5) ESPAD looks at pupils from grades 9 and 10, the focus is therefore on the 15-16 year old age range, but also a few students aged 14 and 17 years old were included.

### 1.1.3 Commentary on cannabis use (T1.1.3)

If one looks at the trend of cannabis use in the questionnaires of the last 10 to 15 years, there was, after the consistently reported increase in transient use in the 1990s, initially a decline since around 2005. This decline has seemed to stagnate since around 2010 amongst adolescents as well as (young) adults. There are even isolated study findings that point towards the prevalence data increasing again. The most recent results of the ESA 2015, which recorded a significant increase in both the 12-month and 30-day prevalence rates among 18 to 24-year olds arrives - if one observes long term trends - at relatively similar findings to the latest DAS for the 18-25 year-old group of young adults. A cautious description of the situation can perhaps best be that for several years no serious changes have been observed (the DAS 2015 even reports lower numbers than 2012) - use among young people nationwide has stagnated at a continuing, relatively high level. In contrast,

local results, for example from Frankfurt, have almost reached, after several years of constant increases, the high levels of prevalence of use seen in 2002.

A cause for concern is that the prevalence of regular use, in particular among young adults, has remained practically unchanged over the years. These observations support the assumption that changes in experimental use in the general population do not allow any conclusion to be drawn as to the consumption habits of experienced users and that such persons are still being inadequately reached by the many measures. The number of persons in treatment due to problems related to cannabis has continually increased in recent years, which on the one hand is evidence in favour of an acceptance of the interventions offered. On the other hand, this development also underlines the fact that intensive cannabis use can lead to serious consequences and can occur in combination with other factors which represent a considerable burden on the individual and require professional support.

Based on ESPAD data from three survey waves (2003, 2007, 2011) in the 9th and 10th grades in five German *Laender* (Bavaria, Berlin, Brandenburg, Mecklenburg-Western Pomerania and Thuringia), Gomes de Matos and colleagues (2014) investigated whether differences exist in the alcohol, tobacco and cannabis consumption of adolescents over time and on a national level. The data shows that, across the *Laender*, levels of use have been falling for all three substances over time. Cannabis use should therefore not be looked at as an isolated phenomenon. The downward trend for cannabis use was only observed up to 2007. The urbanisation effect - higher use in larger towns and cities - is attributed to increased availability (Tretter & Kraus 2004). Baumgärtner and Hiller come to a similar conclusion (2016) based on data from the SCHULBUS survey and note, that the increased availability of cannabis products in metropolitan milieus not only leads to increased prevalence of use of this narcotic, but is also probably the reason for the earlier entry of adolescents into drug use compared to their rural counterparts. Similar use profiles in the studied *Laender* suggest that substance use in Germany occurs within a common cultural context. As such, one can assume that persons in all German *Laender* share general standards and attitudes to substance use and are subject equally to nationwide regulations.

Schneider (2016) examined typical patterns of use and outcomes of cannabis users who visit outpatient counselling facilities, in order to better identify their specific treatment needs. With the help of a questionnaire, sociodemographic, addiction anamnestic and problem-specific information was collected from 194 people. The author emphasised, as one important finding, that cannabis users who visit outpatient addiction counselling facilities not only have a high strain on their psychosocial state of mind but have also drawn attention from a social and legal respect. There are differences within the sample, both between urban and rural districts and between those under high and low amounts of stress. Overall, in the opinion of the author, the psychosocial stress shown by the study to be suffered by the people surveyed requires the establishment and systematic design of specific services for cannabis users. In particular the various patterns of use and outcomes as well as requests for advice between those suffering high and low amounts of stress should be taken into account in the planning of the different intensive and individually tailored treatment services (on the



characteristics of persons treated in outpatient and inpatient facilities in Germany, see also the Treatment workbook).

A study by Legleye and colleagues (2014) analyses changes in the prevalence of experimental cannabis use in France, Germany and the USA on the basis of national population surveys from 2009 and 2010 (c.f. on this point also the Drugs workbook from 2015). The results for Germany show that the trend is approximately parallel for both genders. Although the prevalence levels for women remain low, the authors observed a slow convergence of the levels between the genders. Overall, the prevalence of experimental use increased considerably across the age groups.

Since 2004 the lifetime prevalence of alcohol, tobacco, cannabis and other illicit drugs has decreased appreciably among 14-17 year-old adolescents in Hamburg and thus generally follows the trend which can also be observed at the national level (Baumgärtner & Hiller).

## **1.2 Patterns, treatment and problem/high risk use (T1.2)**

### **1.2.1 Recent surveys/studies on cannabis use (T1.2.1)**

#### **Cannabis amongst party-goers**

The high acceptance of cannabis is also confirmed amongst party-goers. Current findings from the Phar-Mon project on new trends in substance abuse in the party scene show that for party-goers cannabis was the most commonly used drug in the last 12 months (men: 79.1%, women: 66.7%). Within that figure, cannabis was often used in combination with ecstasy (within the 12 months prior to the survey) (men: 39.8%; women: 31.8%), speed (men: 28.3%; women: 23.8%) or psychoactive mushrooms (men: 11.5%; women: 8.0%) (Piontek & Hannemann 2015)<sup>4</sup>.

### **1.2.2 Reducing the demand for cannabis (T1.2.2)**

Specialist counselling and treatment of the secondary harm from cannabis use in Germany is for the large part provided in outpatient facilities. Inpatient admittance and treatment is only provided for serious health disorders or in cases with a high risk of relapse (Hoch et al. 2015). In Germany, according to a study of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), around 10% of cannabis users needing treatment (daily or almost daily use) receive it. In a comparison with all other European countries, Germany is, together with Norway, amongst the countries with the highest coverage rate (Schettino et al. 2015).

Selected, special services for cannabis users are listed in the Treatment workbook from 2016, section T1.1.1. Further information on cannabis programmes can also be found in the 2016 Treatment workbook.

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<sup>4</sup> Available: [http://ift.de/fileadmin/user\\_upload/Literatur/Berichte/2015-08-27\\_Bericht\\_Partyprojekte.pdf](http://ift.de/fileadmin/user_upload/Literatur/Berichte/2015-08-27_Bericht_Partyprojekte.pdf) [accessed 19.10.2016].

The data of the documentation system for addiction prevention, Dot.sys, shows that the proportion of specific services for reducing cannabis use has continued to grow (see Prevention workbook).

### **1.2.3 High risk cannabis use (T1.2.3)**

#### **Estimates of high risk consumption in the general population**

According to the ESA 2015 results, as far as problem use of illicit drugs was concerned, the substance most frequently recorded was cannabis (overall: 1.2 [1.0;1.5]; 1.4 [1.1;1.9] and 1.0% [1.1;1.9] for men and women respectively). This corresponds to an approximate total number of 612,000 adult persons (see on this point also Standard Table 07/8).<sup>5</sup>

#### **Data on adolescents and young adults**

The high-risk phases for first substance use as well as the onset of regular use and substance use disorders (substance abuse and dependence) lie in the second decade of life. It is of note that a relatively large proportion of transitions from initial use to regular use and from initial use to substance use disorders occur in the first few years after initial consumption. In this context, the shortest transition period was found for cannabis and nicotine (in comparison to alcohol). After initial use, the age range from 15-18 years is the decisive period in which the transition to substance use disorders takes place (Wittchen et al. 2008). Behrendt and colleagues (2009) were able to show not only for cannabis but also for alcohol and nicotine that an earlier onset of substance use in adolescence is related to a higher risk of developing substance abuse and dependence compared to a later start of substance use in adolescence. However, cannabis use is not necessarily a temporary, youth phenomenon: in people with an increased frequency of use during adolescence, cannabis use often persists into the third or fourth decade of life. Alcohol dependence and stressful life experiences also form risk factors for the persistence of cannabis use into the third or fourth decade of life (Perkonig et al. 2008).

In the recent ESPAD Study in Bavaria (Kraus et al. 2016a) data was collected on six cannabis-related problems amongst 12-month users, on the basis of the CAST. Between 61.2% (have smoked in the mornings) and 89.1% (failed to reduce use) of adolescent users reported never having experienced the corresponding problems. The proportion of pupils who reported having experienced the symptoms either quite often or very often, varied between a total of 1.6% (problems) and 8.2% (advice from family/friends).

The authors of CAST assume an increased risk of problem cannabis use from a total value of four points and above out of the six items. In relation to the total sample, 1.6% of the pupils were categorised as having problem cannabis use. Boys (1.9%) were more often affected than girls (1.3%). The proportion of problem users was the highest at secondary school. If one looks at the sample of 12-month users, the prevalence values are much higher. 7.6% of adolescent users were recorded as having problem cannabis use. This

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<sup>5</sup> Based on the SDS (Gossop et al. 1995) and a substance specific threshold of two points for cannabis.

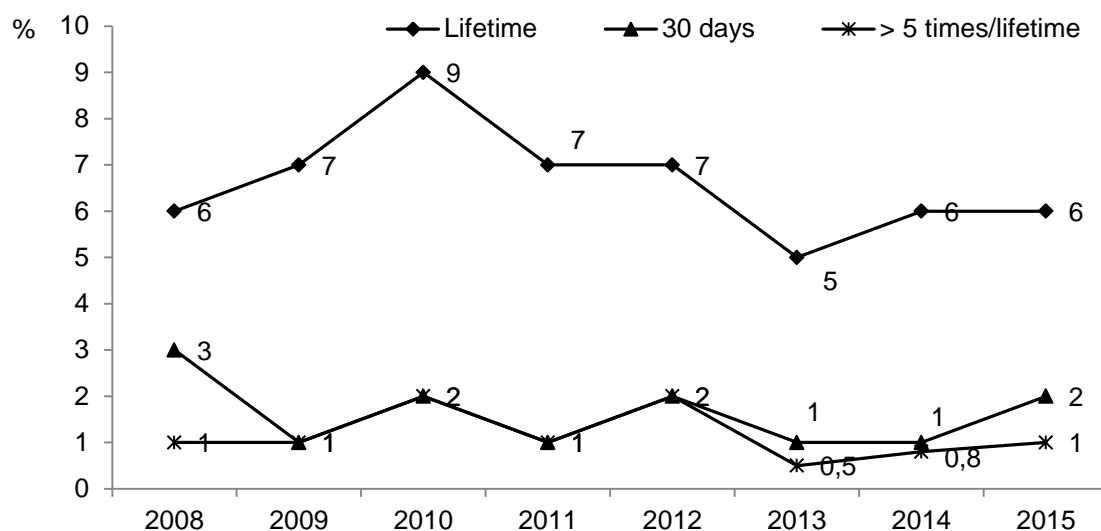
proportion was lower amongst male users (7.1%) than female users (8.5%). At 13.5%, the prevalence at secondary general schools was higher than at intermediate secondary schools and grammar schools. Regular use of cannabis (i.e. more than ten times in the year prior to the survey) among young men (18 to 25 years old) was not as widespread in 2015 as in 1993 and 1997 with the difference in values between 2001 and 2014 not statistically significant (2001: 4.4%; 2015: 4.8%). Regular use among young women has somewhat increased over the last four years (2010: 1.4%; 2015: 2.7%). Of the 12-17 year-olds, less than 1% (0.8%) used cannabis regularly, according to this definition, in the year before the survey. This value is statistically significantly below the reference value of 2014 (1.9%) and is identical to the 2011 results (2012: 1.3%). Among adolescents, regular use among boys was similarly more widespread than among girls in 2015 (boys: 1.1%; girls: 0.5%) (Orth 2016).

Since 2007, the SCHULBUS study has used the SDS in order to produce conclusions about problem cannabis use. In respect of adolescents surveyed in all regions in 2015, approximately 6% of them can be categorised as cannabis dependent, if one defines this as reaching or exceeding the threshold of 2 points on the SDS. Almost analogous to the use of cannabis in subgroups, problem use is found to a greater extent among male adolescents and older respondents. In the same respect, a look at the Hamburg data for 14 to 17 year-olds shows that the proportion of affected persons has slightly increased, irrespective of gender and age (2007: male 6%, female 3%; 2015: male 8%, female 5%) (Baumgärtner & Hiller 2016).

When looking at the overall high prevalence of cannabis use amongst adolescents, one must carefully distinguish between experimental use typical at that age and regular or problem cannabis use. The direct comparison of the very different indications on "problem or clinically relevant use" is difficult, because the age groups and evaluation tools of the individual studies are not directly equivalent in almost any aspect. Overall however, the conclusion seems justified, that there is a substantial proportion of users who develop problems at the latest as young adults to an extent requiring clinical or other professionally based intervention. Considering the fact that most studies - independent of the precise operationalisation of use in detail - have only observed small changes in results over recent years, it appears reasonable to conclude that there has, as yet, been no success in substantially reducing the proportion of users who develop clinically relevant problems, whereas the prevalence of transient use or experimental drug use, in particular among young people, is subject to long-term changes, which are currently indicating a stabilisation at a relatively high level.

#### **1.2.4 Synthetic cannabinoids (T1.2.4)**

Since 2008 the Frankfurt pupil survey has targeted the use of so-called herbal smoke blends. In the latest survey (see Figure 9) the lifetime prevalence of herbal smoke blends remains unchanged against the previous year, whereas a slight increase has been observed in both the 30-day prevalence rate and the "more than five times use" category (Werse et al. 2016).



"herbal smoke blends"; 2008: only "spice".

Werse et al. 2016.

Figure 9 Prevalence of use of "herbal smoke blends" among Frankfurt pupils, 2002-2015 (MoSyD)

11.0% of the adolescents surveyed in the Bavaria ESPAD Study reported having used an illicit drug other than cannabis (amphetamine, methamphetamine, ecstasy, LSD, cocaine, crack, heroin, GHB, magic mushrooms or NPS) at some point in their lives. The group of NPS was the most often mentioned, at 7.8% (lifetime prevalence). It should be mentioned again at this point that the collection of consumption prevalence data for of NPS is fraught with considerable difficulties and uncertainties from a methodological viewpoint. At 9.1%, the value is significantly higher among boys than among girls (6.5%). Within the NPS group, herbal smoke blends - which often contain primarily synthetic cannabinoids - are most frequently named (5.9%). Almost every tenth secondary general school pupil used herbal smoke blends in the last year, in comparison to 3.1% of grammar school pupils and 6.7% of intermediate secondary school pupils (Kraus et al. 2016a).

Special services for NPS users are described in section D3.

## 2 New developments (T3)

### 2.1 New developments in the use of cannabis (T3.1)

The current nationwide situation as well as current studies are reported above (see A1.1 and A1.2). No additional information is available on new developments in the use of cannabis.

### **3 Additional information (T4)**

#### **3.1 Additional sources of information (T4.1)**

The project "SPICE-Profiling", funded by the European Commission's DG JUST, which builds on the already completed projects "SPICE" and "SPICE II Plus", set itself the goal of developing integrated and innovative approaches for dealing with NPS. While preceding projects were more focussed on health risks and prevention aspects, SPICE-profiling is dedicated more to the analytical characterisation of substances, based on information from test purchases, controlled laboratory syntheses and information from police and customs seizures. The objectives of the project were first applied in the scope of comparative analyses of "Spice" products and were able to identify a common active element in these different products. Pütz and colleagues (2015) view this result as evidence of the need to apply modern and complex analysis methods to combat dealers' marketing strategies when introducing various end products. Scientists from the institutions involved in the project have produced a whole raft of current papers on substance analysis and technical methods, which have been presented in international journals and at specialist conferences and thus made available to the specialist public.

#### **3.2 Further aspects of cannabis use (T4.2)**

No information on further aspects of cannabis use is available.

### **4 Notes and queries (T5)**

There are currently no notes and queries.

### **5 Sources and methodology (T6)**

The most important surveys, studies and sources are listed in section E 1.1.



## **SECTION B. STIMULANTS**

### **1 National profile (T1)**

#### **1.1 Prevalence and trends (T1.1)**

##### **1.1.1 The relative importance of different stimulant drugs (T1.1.1)**

Throughout Germany a similarly high prevalence of consumption of amphetamine (12-month prevalence 1.0%) and of cocaine (0.6%) is reported among adults between 18 and 64 years (see Table 7). Ecstasy was consumed less frequently overall (0.6%). However, the importance of individual stimulants varies widely by region and scene as well as between age groups. The significance of amphetamine and methamphetamine appears to have increased in recent years; growth rates, some of which considerable, have been observed for amphetamine, especially in the indicators from law enforcement authorities (users who come to the attention of law enforcement for the first time, relevant offences, seizures) (NB: crimes of low reportability - the more frequently the police perform checks, the higher the number of crimes become known or detected). In the counselling/treatment realm, for example, considerably increased demand has been reported in recent years from outpatient counselling facilities and specialist walk-in clinics for support due to problems in connection with the use of amphetamine/methamphetamine. In the nationwide surveys on consumption prevalence rates in the general population, these clear increases are not comparably reflected - even though at 0.7% the comparable value of 12-month prevalence in the ESA 2012 for the adult population up to 64 years old is lower than that of the recent ESA.

A general problem, in particular with data relating to health, is that the coding according to ICD-10 often does not allow any differentiation between amphetamine and methamphetamine. Whilst negative effects in connection with methamphetamine can be seen in some regions of Germany similarly in both the counselling/treatment realm and from law enforcement authorities, in other regions this substance has so far not played a role at all or only a minor role. Variables such as availability and regional preferences are also clearly important in relation to the use of stimulants.

##### **1.1.2 Stimulant use in the general population (T1.1.2)**

The 2015 ESA survey revealed that in Germany cocaine continues to be the stimulant with the highest lifetime prevalence value (3.8%) among adults. The fact that amphetamine, with a 12-month prevalence of 1.0% has now overtaken cocaine (0.6%) is mainly due to the age group of 18-24 year-olds in which amphetamine use, with values ranging from 2.3% - 2.6%, occurs relatively frequently. Overall, these results underscore the impression of a growing importance of this substance, when also taken in conjunction with the data on 30-day prevalence (see Table 7). The lifetime prevalence for ecstasy use is on a par with that for amphetamine (3.3%); for 12-month prevalence the data is comparable with the values for cocaine/crack. In the case of cocaine, amphetamine and ecstasy, the lifetime prevalence

rates still differ very clearly from the 12-month and 30-day prevalence rates, which indicates mainly experimental use. For all substances, the prevalence values stated for men are much higher than those for women. The highest levels of consumption in the last 12 months (for all substances) are reported by 21-24 year-olds. Even as recently as the 2012 survey, the age group with the highest values for 12-month prevalence was the 25-29 year olds, for cocaine it was even the 30-39 year olds.

Table 7 Prevalence of use of stimulants by gender and age (ESA 2015)

Lifetime prevalence	Total	Gender		Age groups						
		Males	Females	18-20	21-24	25-29	30-39	40-49	50-59	60-64
Amph./Methamph.	3.4	4.3	2.5	3.1	5.4	6.9	6.4	2.6	0.9	0.8
Amphetamine	3.3	4.2	2.5	3.0	5.0	6.7	6.4	2.6	0.9	0.8
Methamphetamine	0.6	0.7	0.5	0.5	1.5	1.2	0.8	0.6	0.2	0.0
Ecstasy	3.3	3.7	2.9	3.4	3.8	4.7	8.4	2.4	0.7	0.3
Cocaine/Crack	3.8	5.0	2.5	1.6	3.9	5.9	6.9	4.0	1.9	0.8
<b>12-month prevalence</b>										
Amph./Methamph.	1.1	1.3	0.8	2.5	2.6	1.6	1.6	1.0	0.1	0.0
Amphetamine	1.0	1.3	0.8	2.3	2.6	1.6	1.6	1.0	0.1	0.0
Methamphetamine	0.2	0.2	0.2	0.5	0.7	0.1	0.1	0.4	0.0	0.0
Ecstasy	0.6	0.7	0.6	2.5	1.8	0.9	0.5	0.7	0.1	0.0
Cocaine/Crack	0.6	0.8	0.5	1.2	1.7	1.1	0.6	0.8	0.1	0.0
<b>30-day prevalence</b>										
Amph./Methamph.	0.6	0.6	0.5	1.0	1.0	0.7	1.0	0.7	0.1	0.0
Amphetamine	0.5	0.6	0.5	1.0	1.0	0.8	1.1	0.5	0.1	0.0
Methamphetamine	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.2	0.0	0.0
Ecstasy	0.2	0.2	0.2	1.0	0.8	0.3	0.1	0.3	0.0	0.0
Cocaine/Crack	0.2	0.2	0.2	0.6	0.8	0.1	0.2	0.1	0.0	0.0

Piontek et al. 2016a.

Results from the DAS survey 2015 in the 12 to 25 year-old age group can be found in Table 2. In this younger age group, the use of amphetamines is the most prevalent (12-month prevalence 0.3% amongst 12-17 year-olds; 2.0% amongst 18-25 year-olds). Thus, the comparative values for adolescents is slightly below the 2011 figure (0.4%), whereas the 12-month prevalence among 18-25 year-olds has increased from 1.6% to 2.0%. The significance of ecstasy has grown (2015: 0.5% and 2.2%; 2011: 0.2% and 1.0%) and there are also indications of an upward trend for cocaine (2015: 0.3% and 1.2%; 2011: 0.3% and 1.2%; 2011: The use of crack is practically not reported at all (0.0% for both age groups).



### 1.1.3 Stimulant use in school and other sub-populations (T1.1.3)

In the Frankfurt pupil survey, an increase in experience with speed use and ecstasy use was observed in both the lifetime and 12-month prevalence rates.

The results of the ESPAD Study which was carried out in Bavaria (one of the *Laender* which reported considerable regional burdens due to methamphetamine use) have revealed a 12-month prevalence of use of amphetamine of 2.1%; the value for methamphetamine in this age group is well under one percent (Table 8). The highest prevalence of use of all stimulants is reported by secondary general school pupils.

Table 8 12-month prevalence of use of stimulants among 15 and 16 year-olds in schools in Bavaria (ESPAD 2015)

	Gender			Type of school		
	Total	Boys	Girls	Secondary General School	Intermediate Second. School	Grammar School
Amphetamine	2.1	2.7	1.6	4.2	1.6	1.5
Methamphetamine	0.4	0.5	0.3	0.8	0.3	0.3
Ecstasy	1.9	2.7	1.1	3.2	1.6	1.5
Cocaine	1.4	1.4	1.4	2.7	1.5	0.5
Crack	0.4	0.7	0.1	0.8	0.3	0.3

Kraus et al. 2016a.

No reliable data has, as yet, been produced by the SCHULBUS study regarding actual popularity of use of methamphetamine (crystal meth) in the (adolescent) general population in the German-Czech border regions of Bavaria and Saxony. Contrary to widespread fears, an analysis of the survey on the popularity of use of methamphetamine among adolescents in the regions shows that this addictive substance does not (as yet) play any great role in the 14-17 year-old cohort epidemiologically. It is only in the Bavarian region which borders the Czech Republic where a little more than one percent of respondents report having tried crystal meth. When looking in greater detail at the gender specific and age-group specific aspects of those few adolescents with experience of use, no systematic differences or abnormalities can be made determined. However, according to self-reports more than one third (37 %) of those from Hamburg and a good two fifths (41 %) of Bavarian and Saxon pupils could get hold of this drug within 24 hours. The lifetime prevalence of methamphetamine use is estimated by teachers to be far higher than has actually been shown by the results measured by the survey. This clearly shows that even teachers' subjective perceptions of the relatively new phenomenon of crystal meth are not unaffected by media reporting (Baumgärtner & Hiller 2016).

### 1.1.4 Commentary on stimulant use (T1.1.4)

Increases in the use of stimulants have been recorded for several years in various data sources, whilst this has not been seen in other sources to the same extent. Overall, it is

beyond dispute that the use of methamphetamine in particular causes considerable burdens on some regions of Germany, for example in the health care sector, as suggested by, for example, the data from counselling facilities (see on this point the Treatment workbook). The significance of the use of stimulants varies from region to region, in part considerably. While reliable regional epidemiological data is still largely lacking, a growing relevance of this substance can be seen in the counselling/treatment segment as well as in the data sources, which are based on the indicators of the law enforcement authorities (see B1.1.1 for a comprehensive description of use data).

### **1.1.5 Interactions in the use of different stimulants (T1.1.5)**

There is currently no data available on this topic.

## **1.2 Patterns, treatment and problem/high risk use (T1.2)**

### **1.2.1 Injecting and other routes of administration (T1.2.1)**

Information regarding routes of administration can be found in the Harms and Harm Reduction workbook.

### **1.2.2 Infectious diseases (T1.2.2)**

Information regarding infectious diseases can be found in the Harms and Harm Reduction workbook.

### **1.2.3 Patterns of use (T1.2.3)**

Information on high risk patterns of use can be found in B1.2.5.

### **1.2.4 Treatment for stimulants (T1.2.4)**

Amongst stimulants, crystalline methamphetamine (crystal meth) has gained in significance for addiction prevention in recent years due to its prevalence primarily in border regions (with the Czech Republic). For example, the *Land Saxony-Anhalt* has, since 2010, reported a considerable increase in requests for counselling in relation to crystal meth (SLS 2015). A similar tendency has been observed in Bavaria: in some specialised inpatient facilities for addiction support, crystal meth patients occupy up to 90% of the places. In correctional institutions, the number of inmates who use crystal meth has risen considerably (Freie Wohlfahrtspflege Bayern 2015, personal communication).

The investigation of the motives of users of (meth) amphetamine (145 inpatients and outpatients, 247 persons via the internet who use either amphetamine and/or methamphetamine) showed that both recreational and pleasure related motives played a major role among all respondents. Methamphetamine users reported other reasons much more frequently, such as day structuring (39.0%), self-treatment of disorders (36.9%) and to make sexual activity possible at all (18.7%) (Milin et al. 2016). In the scope of the same research project, an online-based addiction self-help pilot project was initiated, using funds

from the German Federal Ministry of Health, for people with methamphetamine related disorders.<sup>6</sup> Further information can be found in the Treatment and Prevention workbooks.

### 1.2.5 High risk stimulant use (T1.2.5)

With the use of the refined estimation method on the basis of the 2014 treatment data (for an outline of the estimation method see section E1.2), estimates were calculated exclusively for the target group of clients with cocaine and stimulant problems (F14 and F15 codes according to ICD-10).<sup>7</sup> This resulted in an estimated number of 82,000-97,000 (2013: 71,000-84,000). This corresponds to 1.5-1.8 people (per 1,000 population) among 15 to 64 year-olds<sup>8</sup>. Between 2005 and 2014 this value saw a significant increase, with exceptions to this in 2007 and 2009, when a slight decrease was recorded compared to the previous year. Estimates based on police data and numbers of deaths are not produced for this target group due to the difficulties mentioned in section E1.2.

For the Berlin region, there is an estimate (based on the so-called capture-recapture method) from five different data sources<sup>9</sup> from 2010 and 2011 of substance related disorders amongst 15 to 64 year-old Berliners. A distinction was drawn between opioid, cocaine and stimulant related disorders. In Berlin, the estimate was that there were 5,300-9,500 persons with a cocaine related disorder or a rate of 2-4 disorders per 1,000 population. The existence of stimulant related disorders was estimated at 6,500–9,400 persons or 3-4 disorders per 1,000 population (Kraus et al. 2015).

### Estimates in the general population

The latest ESA survey (2015) revealed evidence of a clinically relevant use of amphetamine and/or methamphetamine for 0.2% [0.1;0.5] of respondents (approx. 102,000 persons; men: 0.2% [0.1;0.6]; women: 0.3% [0.1;0.6]). The estimates of clinically relevant use of cocaine are of a comparable level (approx. 102,000 persons; total: 0.2% [0.1;0.4]; men: 0.2% [0.1;0.6]; women: 0.1% [0.1;0.05]) (see on this point also Standard Table 07/8).

### Forms of use falling outside of the EMCDDA definition of "high risk drug use" (HRDU)

The Frankfurt scene study from 2015 Figure 5 shows, for various substances, the percentage of those respondents in the open drug scene in Frankfurt am Main that had used that substance "intensively" - i.e. daily or almost daily - in the last 30 days. The highest proportion of intensive users in the Frankfurt scene study was for the first time seen in connection with crack, at 75%, and not as in previous studies in connection with heroin, as

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<sup>6</sup> <https://breaking-meth.de/> [accessed 19.10.2016].

<sup>7</sup> In previous years (up to 2012) clients with opioid, cocaine and amphetamine-related disorders were taken into account.

<sup>8</sup> It should be noted that there is no possibility of verifying the figures for injecting or high frequency use in the available data sources. In this way, an unknown number of persons whose problems with drug use might be less severe would be taken into account, possibly leading to an overestimation of prevalence.

<sup>9</sup> (1) Hospital statistics, (2) Criminality statistics, (3) Outpatient addiction support, (4) Inpatient addiction support and (5) Drug death statistics.

further illustrated by the current dominance of crack in the street scene. For cocaine, in contrast, the opposite trend in intensive use was observed; between 1995 and 2002, the figures for intensive use fell massively before increasing slightly to 2003. Since 2003, the intensive use of cocaine has stayed roughly constant with some fluctuations (Werse & Egger 2015). For further information on the study see the Drugs workbook 2015.

### **1.2.6 Synthetic cathinones (T1.2.6)**

According to the findings of an online survey on the use of "legal highs" (see on this point the 2015 Drugs workbook, section D1.1.1), use has switched from NPS products without precise declaration of ingredients to "research chemicals" where the active substance is identified (Werse & Morgenstern 2015).

## **2 New developments (T3)**

### **2.1 New developments in the use of stimulants (T3.1)**

Current data for the use of stimulants as well as the development in recent years is explained in B1.1.1.

## **3 Additional information (T4)**

### **3.1 Additional sources of information (T4.1)**

The Early Intervention with Drug Users Coming to the Attention of Law Enforcement for the First Time (Frühintervention bei erstaußälligen Drogenkonsument/innen, FreD) programme from the Coordination Office for Drug Related Issues of the LWL has received an extension of the approach to include (meth)amphetamine stimulants in the current "FreD-ATS" project, funded by the German Federal Ministry of Health. The project began in May 2015 with a running time of 20 months. As the *Laender* of Bavaria, Saxony and Thuringia are particularly affected in this respect, the project was carried out in these regions in particular (in addition to North Rhine-Westphalia). The project has the aim of developing an ATS supplement to the FreD manual, then to test and evaluate it in practice. Due to the approach used by FreD, which has shown positive outcomes in several studies, the core of the original intervention has not been changed, rather certain elements have been modified and added. The project is currently in the application and development phase. New locations will be established, initial FreD-ATS courses will be carried out and evaluated. Alongside the newly established locations, existing and already certified FreD locations are asked to take part in testing the supplement to the manual ([www.lwl-fred.de](http://www.lwl-fred.de)).

Based on the increasing numbers of methamphetamine-dependent users reported in recent years as well as the on-going deficiency in data available, especially with regard to children affected, Klein (2015) performed an analysis of the case reports in four priority counselling centres in Saxony. The aim was firstly to systematically collect experiences of counselling facilities in dealing with the new clientele, as well as to analyse in detail the family situation of the dependent persons, with specific focus on the living environment of children affected

and the relevant aspects of child protection. Based on an analysis form specially developed for the project, a systematic analysis of case records from 2013 and 2014 was carried out in four Saxon addiction counselling facilities (Zwickau, Chemnitz, Leipzig, Vogtland). In the quantifying analysis, as well as the the collection of data on counselling courses and substance and use related data, a specific emphasis was placed on the family situation of methamphetamine dependent users. The main emphasis of the study was to look at parenting and the living situation of their biological children and the resulting needs for action. Based on an analysis of the files in a total of nearly 300 cases, the instability of the family situation of methamphetamine dependent users was particularly revealed. More than half of the children concerned were or are living in out-of-home care. In the opinion of the authors, the results underline the central role of preventive child protection and youth support for the families affected.

The 2015 Drugs workbook already reported on the findings of wastewater analyses which were carried out in 2012 and 2013 as part of a European study and which confirmed the large regional differences between large European cities (Ort et al. 2014). Additional comprehensive information on this topic and data from wastewater analyses can be found on the EMCDDA website<sup>10</sup>.

### **3.2 Further aspects of stimulant use (T4.2)**

There is currently no further information available on stimulant use.

## **4 Notes and queries (T5)**

There are currently no notes and queries.

## **5 Sources and methodology (T6)**

The most important surveys, studies and sources are listed in section E 1.1.

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<sup>10</sup> <http://www.emcdda.europa.eu/topics/pods/waste-water-analysis> [accessed 19.10.2016].



## SECTION C. HEROIN AND OTHER OPIOIDS

### 1 National profile (T1)

#### 1.1 Prevalence and trends (T1.1)

##### 1.1.1 The relative importance of different opioid drugs (T1.1.1)

In the context of illicit drugs, the use of opioids in Germany is largely identical to the use of heroin or possibly substances which are employed in the scope of substitution based treatment (Polamidon, methadone, buprenorphine). One regional peculiarity seems to be in the use of the synthetic opioid, "fentanyl", which is clearly mainly (or almost exclusively) used by drug dependent persons in Southern Germany, especially Bavaria. In this context, significant figures for drug-induced deaths have even been reported in connection with fentanyl.

The counselling and treatment system in Germany - in the context of illicit drugs - offers a comprehensive range of counselling, treatment, harm reduction (needle exchange, consumption rooms in some German *Laender*) and social services (sanitary services and accommodation). Overall, the available indicators suggest an aging population of opioid users. The number of first-time requests for counselling/treatment, the number of users coming to the attention of law enforcement for the first time and the number of violations of the German Narcotic Drugs Act (BtMG) due to the use of heroin and other opioids have been declining for years. In contrast to that, there have been repeated local reports of scenes which have been growing once more, and even in 2015 there was still no reduction in the number of drug-induced deaths (see on this point the Harms and Harm Reduction workbook). A considerable problem associated with the use of opioids is in the prevalence of communicable diseases amongst affected persons (on this point, see also the Harms and Harm Reduction workbook). Only a small amount of data is available regarding the abuse of medicines containing opioids.

##### 1.1.2 Estimates of opioid use (T1.1.2)

###### Results of prevalence estimates

Calculations based on three multipliers (drug-related deaths, number of outpatient treatments according to the Deutsche Suchthilfestatistik (Statistical Report on Substance Abuse Treatment in Germany, DSHS) excluding the estimate of hidden participants (treatment, police contacts) lead to an estimated figure of high risk heroin users ranging from between 56,000 and 174,000 persons (with the estimates of the year 2014 serving as the basis for the calculation). This corresponds to a rate of 1 to 3.3 persons per 1,000 population in the age group of 15 to 64 year olds (see Table 9). A detailed description of the estimation method based on the multipliers can be found in section E1.2.

Table 9 Estimate of the prevalence of high risk opioid use from 2007 to 2015 (figures in 1000s, age group 15-64 year olds)

Data Source	Reference Year									Prevalence
	2007	2008	2009	2010	2011	2012	2013	2014	2015	per 1,000
Treatment <sup>1)</sup>	110- 130	164- 195	163- 194	167- 198	171- 203	153- 182	143- 169	147- 174	<sup>2)</sup>	2.7-3.3
Police contacts	108- 149	99- 137	89- 127	81- 117	79- 106	74- 95	68- 90	61- 84	56- 77	1-1.4
Drug-related deaths	99- 113	117- 178	91- 119	82- 137	63- 91	62- 65	57- 59	56- 75	64- 108	1.2-2

1) Number of outpatient facilities according to the DSHS + estimate of 20% hidden participants.

2) See section E1.2 "EMCDDA estimation methods" on the missing calculation of estimate for 2015 based on treatment data. DBDD 2016, special calculation.

The estimate based on the "treatment request" multiplier, rose between 2007 and 2011 before falling once more in 2012 and 2013. The slight increase from 2013 to 2014 is mainly due to the increase in clients with a primary opioid problem treated as inpatients in hospitals - without there being a systematic explanation of this increase.

The number of heroin users coming to the attention of law enforcement for the first time decreased up to 2014. An increase was observed again for the first time in 2015 (2000: 7,914; 2014: 1,648; 2015: 1,888). The proportion of drug-related deaths of users that had previously been recorded as users who had come to the attention of law enforcement for the first time also increased in 2014 for the first time since 2003 (from 33 to 43) - however it fell again in 2015 (n=35) (in spite of an overall increasing number of drug-induced deaths). However, the estimates for the multiplier "police contacts", calculated from the last 8-10 years' worth of data, continued to fall.

The estimates of the multiplier "drug-related deaths" are based on the mortality rate amongst clients in outpatient treatment and on the number of drug-related deaths. The former has increased slightly over the past two years - with a simultaneous increase in the estimation interval (2012: 1.4–1.5%; 2014: 1.4–1.8%; 2015: 1.1–1.9%). The upward trend in drug-related deaths since 2010 continued (2010: 1,237; 2015: 1,226). The estimates for the multiplier "drug-related deaths" increased for the first time last year and thus followed the development in the number of drug-related deaths.

An estimate for substance related disorders was reported in Berlin back in 2015, according to which the number of persons with opioid-related disorders was between 11,300-16,700 corresponding to a rate of 5-7 per 1,000 people. As such, Berlin was in the middle to lower range compared to Europe as a whole (Kraus et al. 2015).

### 1.1.3 Commentary on opioid use (T1.1.3)

Overall, the significance of the use of heroin and other opioids has, according to various data sources which provide information on drug use in Germany, decreased in recent years. In



particular for younger persons, the use of opioids seems no longer to be attractive (in contrast, for example, to the use of stimulants) so that clients appearing at counselling and treatment facilities represent an aging cohort. This is also in line with indicators such as the fact that the average age of victims of drug-induced deaths has been rising for years (c.f. on this point, the Harms and Harm Reduction workbook). Furthermore, the data from law enforcement statistics suggest a falling significance of the use of and trafficking in heroin. The total number of affected persons does seem, however, not to have changed dramatically in recent years as such persons can survive for longer than was previously possible due to the good situation in terms of treatment options available to them. One cause for concern is the stagnating or falling number of doctors who offer outpatient substitution based treatment. In this respect, problems of care provision already exist in some rural regions of Germany. The stagnating and increasing numbers of drug-induced deaths must also be closely monitored. This can certainly be explained in part by the increasing age of the cohorts and their specific care needs, which possibly cannot be met everywhere - even if today a first pilot facility now exists in Unna for "old" heroin addicts.

## **1.2 Patterns, treatment and problem/high risk use (T1.2)**

### **1.2.1 Injecting and other routes of administration (T1.2.1)**

Information on patterns of use in the open drug scene in Frankfurt am Main can be found in the Scene Study 2014 by the Frankfurt MoSyD (Werse & Egger 2015). The clear decline in exclusively injecting use of heroin from 74% in 2012 to 58% in 2014 is of particular note. Injecting use at home has also fallen; the proportion of those who inject heroin primarily on the street (in the area around stations) has tripled in recent years and is now at 18%. Information on the routes of administration which predominate in the drug consumption rooms is reported in the Harms and Harm Reduction workbook in section 1.5.3 "Harm reduction services".

According to the data from outpatient counselling/treatment facilities almost half (44.5%) of people who started therapy due to primary problems caused by the use of opiates in 2015 reported "never" having used intravenously. Just over one third (35.9%) reported "ever [having used] intravenously" "but not in the last 30 days" and approximately one in every five clients reported recent (within the last 30 days) injecting use. Based on the information provided by all those who started a new therapy in 2015 in outpatient addiction counselling facilities or specialist walk-in clinics, from whom corresponding information is available and who used heroin (for example as an additional substance alongside another primary problem), these persons injected that drug in over half of the cases (54.3%), smoked or inhaled it in just under one third of cases (31.7%) with roughly every tenth person reported having snorted heroin (12.2%) (for the complete set of results on the counselling-treatment sector TDI Table 19.1.x and 22.1.x; in addition see the Harms and Harm Reduction workbook, section 1.3.4).

### **1.2.2 Infectious diseases (T1.2.2)**

Information regarding infectious diseases amongst drug users can be found in the Harms and Harm Reduction workbook.

### **1.2.3 Patterns of use (T1.2.3)**

In the current scene study of the Frankfurt MoSyD already reported on in the 2015 workbook, it is evident that heroin (together with crack) remains by far the most commonly used drug in the street drug scene - even though heroin use in the Frankfurt scene has currently slightly declined. On average, the respondents had taken 4.4 different drugs in the previous 30 days and 2.7 different drugs in the previous 24 hours. According to the results of the MoSyD it is not only the number of drugs consumed which is trending upwards but also the intensity of use (Werse & Egger 2015).

Data is available from the DSHS on further addiction related diagnoses among clients who began therapy in 2015 in relation to a primary problem on the basis of the use of opiates. According to that data, in outpatient counselling and treatment facilities as well as specialist walk-in clinics, roughly every fifth person (20.5%) with a primary opiate diagnosis was also diagnosed with a clinically relevant alcohol related or cocaine related (17.6%) disorder, in around one third (31.6%) a disorder on the basis of cannabis use and approximately every tenth person (9.1%) based on benzodiazepines. Although these results relate to persons who are already in contact with specialist outpatient facilities, this data provides indications about consumption habits of the clientele beyond the use of opiates. In a recent article, Soyka (2015) notes once more that approximately one third of substituting opiate dependent persons are also alcohol dependent. This has serious consequences, since the alcohol use worsens both the compliance and outlook. In the view of the author, the adequate dosage of the substitution drug as well as psychosocial intervention are particularly important in delivery of treatment, while anti-craving medicinal drugs are contraindicated or not evidence based.

### **1.2.4 Treatment for heroin and other opioids (T1.2.4)**

Substitution based treatment is - after detoxification - the most commonly used form of intervention amongst heroin/opioid addicts. In addition to that, there are, in particular in an inpatient context, direct, abstinence based rehabilitation services. Information on the treatment of opioid users can be found in the Treatment workbook.

In a recent article Deimel and Stöver (2015a) noted that the psychosocial treatment remains a defined and integral part of the substitution treatment of opiate dependent users. Pin (2015) emphasises in this context that this is also the case, for example, during inpatient withdrawal treatment.

In this context, Deimel (2015) recently submitted the results of a quasi-experimental study, during which 100 opiate dependent users in substitution treatment were interviewed about their psychological and psychosocial situation as well as their chronic stress and inconsistency levels, their perceived social support as well as their satisfaction with psychosocial therapy. Additionally, anamnestic addiction and biographical data of clients was

collected. The clinical sample differentiated itself in terms of the two treatment settings "integrated psychosocial and medical care" and "separate psychosocial and medical treatment". The results clearly show that the clients were in highly complex psychological, social and physically stressful situations. The psychosocial treatment was, in the view of the persons receiving therapy, predominantly evaluated as good to very good. Nevertheless, the author emphasises that further conceptual development and greater flexibility of existing treatment services, on the basis of the living situation and needs of specific client groups (older clients, women, etc.), is urgently needed. Deimel and Stöver (2015a) further suggest that in practice it is possible to identify several lines of conflict in the triad of social and health policy, addiction research and addiction treatment which hinders the psychosocial care and treatment of patients. In the opinion of the authors, the structural and conceptual further development of psychosocial therapy measures would lead to an optimisation of treatment practice. They stress that to date no binding standards exist for this treatment segment and psychosocial therapy is not well evaluated (Deimel & Stöver 2015b).

In order to answer the fundamental question of what the goals for psychosocial therapy are and the benefit they have for those affected and the care system, the authors carried out an analysis on the theoretical positioning of psychosocial therapy through means of several international Cochrane reviews as well as several national studies. It emerged, that the analysed psychosocial international interventions are not widespread in Germany and the corresponding outcome criteria employed in these studies mainly reflect the somatic, psychological and care specific factors. From this result, the authors derive the need for a comprehensive discussion about the targets of the psychosocial measures as well as the development of corresponding outcome criteria (Deimel & Stöver 2015a).

## **2 New developments (T3)**

### **2.1 New developments in the use of heroin and other opioids (T3.1)**

Aside from the situation described above, there are no known notable current developments.

## **3 Additional information (T4)**

### **3.1 Additional sources of information (T4.1)**

Important sources are described above. Further sources on topics such as injecting behaviour, infectious diseases and harm reduction amongst opioid users can be found in the Harms and Harm Reduction workbook.

### **3.2 Further aspects of stimulant use (T4.2)**

No further information on further aspects of the use of heroin and opioids is currently available.

#### **4 Notes and queries (T5)**

There are currently no notes and queries.

#### **5 Sources and methodology (T6)**

The most important surveys, studies and sources are listed in section E1.1.

## **SECTION D: NEW PSYCHOACTIVE SUBSTANCES (NPS) AND OTHER DRUGS NOT COVERED ABOVE**

### **1 National profile (T1)**

#### **1.1 New psychoactive substances (NPS), other new or novel drugs, and less common drugs (T1.1)**

##### **1.1.1 Prevalence and trends in NPS use (T1.1.1)**

A current phenomenon in connection with the use of psychoactive substances is seen in NPS which include, amongst other things, "research chemicals" (RC) and "legal highs" (see the Drug Policy and Legal Framework workbooks for current developments in statutory regulations regarding NPS). "Research chemicals" are used in drug user circles open to experimental use to describe synthetic psychoactive substances of various substance categories (e.g. piperazine, cathinone or even cannabinomimetic substances) - often in pure substance form - that have not (yet) been legally regulated and that have some similar effects to better known drugs which are outlawed under the BtMG (e.g. amphetamine, ecstasy or cannabis). These substances are, on the one hand, (at least nominally) sold as a pure substance under their actual chemical name via online shops. On the other hand, such substances are disguised and presented as "bath salts", "fertiliser tablets", "air fresheners" or the like (without the specific substances contained being indicated) and sold through online traders or even by some brick-and-mortar head shops.

The situation regarding the data on the prevalence of use of so-called "legal highs" and related products remains unsatisfactory. Overall, the (small amount of) data available suggests that the use in the general population seems to be remaining relatively low. Nevertheless, they seem to have established themselves as a permanent fixture in certain drug scenes. Gathering reliable epidemiological data on this segment is beset with not inconsiderably methodological difficulties.

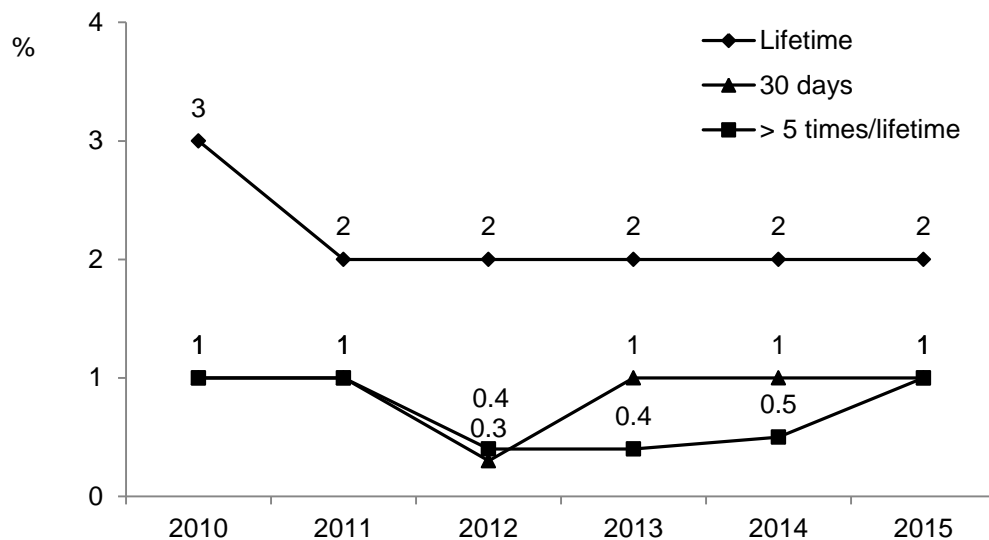
In 2015 based on the recent survey by the expert panel of the Frankfurt MoSyd, Werse and colleagues came to the conclusion that NPS continued to play a more minor role in terms of drug use. One reason for this was likely that the use is associated with high risk due to the unclear health effects (Werse et al. 2015).

Since 2008, school pupils have also been asked in the Frankfurt pupil survey about their use of so-called herbal smoke blends; since 2010 use of other so-called "legal highs"<sup>11</sup> has also been surveyed. The results on herbal smoke blends have already been reported in section A1.2.4. The use of so-called "legal highs" other than herbal smoke blends has been

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<sup>11</sup> The values for "other legal highs or RCs" (research chemicals) should still be seen as maximum values as not just a small number of pupils answer this question in the affirmative although they have actually used different substances than those meant here.

reported consistently by just 2% of Frankfurt pupils since 2011. The 30-day prevalence is also stable, with a slight increase - if at all - only ascertainable, with great reservation due to the low values, in the number of pupils who report a use of more than five times (Werse et al. 2016).



"Legal highs"/"research chemicals"

Werse et al. 2016.

Figure 10 Prevalence of use of "legal highs" among Frankfurt pupils, 2010-2015 (MoSyD)

In 2013-2014 the Centre for Drug Research at the Frankfurt Goethe University conducted an online survey amongst users of NPS in the scope of the EU project "Spice II Plus". This was already the second time it had conducted such a survey, the results of which were reported in the Drugs workbook 2015. According to that study, a drop in the use of NPS had already been reported in 2014 versus 2011. In light of the low values for current use, the authors assumed that the NPS phenomenon had exceeded its peak at the time of the survey. In the view of the authors the use is concentrated more strongly on a small, presumably mostly well-informed, group as well as on regions with a more repressive approach to drug policy (Werse & Morgenstern 2015).

In the scope of the German Federal Ministry of Health funded project PharMon-NPS, data has been collected since 2015 from various project partners (correctional institutions, party projects, poison information centres, counselling facilities) on the emergence of NPS in Germany. Based on data collected from the party projects, so far data from 342 partygoers from nine events could be analysed. The participants were 55% male and on average 23 years old. On the question as to which NPS were taken on the last occasion, 37 people named at least one such substance. Herbal smoke blends (synthetic cannabinoids) and 2C compounds (phenethylamines) were most frequently named. Curiosity was by some distance the most commonly stated reason recorded across all NPS (27 times). Other reasons given were the lack of detectability (9 times), the legality and the high (6 times each), the price (5

times) and the availability (4 times). The project has data on 51 people in correctional institutions (Justizvollzugsanstalten, JVA). These are almost exclusively men (96%) with an average age of 28 years old. Overall, 25 people mentioned NPS that they had used. Spice and other herbal smoke blends were named by far the most frequently. The predominant reasons for using were curiosity (cited 13 times) and the high (10 times). In addition, availability (7 times), price (6 times), legality and lack of detectability (5 times each) were stated. Peer pressure and accidental ingestion were named twice each. Data on 21 people is currently available from the poison information centres (Giftinformationszentrale, GIZ). Of those, the vast majority were male (86%) and on average 28 years old. The substances named in this setting can be divided into two groups: synthetic cannabinoids and designer benzodiazepine. The project has so far recorded 64 incidences of medical drug abuse from outpatient addiction support facilities. These incidences originate from 28 clients, who were on average 44 years old; 66% were men. The majority of reports were accounted for by clients with alcohol related disorders (23), followed by clients with a problem in relation to stimulants (18). The medical drug groups with the highest number of reports were sedatives/hypnotics, analgetics and anti-depressants. Of those diazepam and tilidine were most frequently mentioned (7 and 6 times respectively). In a detailed newsletter in the early summer of 2016, which for example also contained an article on "designer benzodiazepines", the project provided its network with a summary on the collected data (Piontek et al. 2016b).

#### **1.1.2 Harms related to NPS use (T1.1.2)**

The most common side effects of NPS were investigated in the scope of the EU project, "Spice II Plus" (see Harms and Harm Reduction workbook 2015, section 1.4)

#### **1.1.3 Prevalence, trends and harms related to other drug use (T1.1.3)**

The trend scout panel of the MoSyD (Werse et al. 2015) also provides information on some drugs which have come to the attention recently in Frankfurt. The results of the most recent Trendscout survey were reported in the 2015 Drugs workbook.

#### **1.1.4 Medical drug abuse**

In the scope of the ESA 2015 (Gomes de Matos et al. 2016), the prevalence of use of painkillers, sleep inducing substances and tranquillisers, stimulants, appetite suppressants, anti-depressants and neuroleptics as well as the prevalence of daily use among users in the 30 days prior to the survey. Data on whether a problem use existed in the last 12 months was collected using the Short Survey on Medical Drug Use (Kurzfragebogen zum Medikamentengebrauch, KFM). Scale values of 4 or more points indicate problem use (Watzl et al. 1991). Of the medicinal drugs asked about in the survey, the most commonly consumed in the 30 days prior to the survey were painkillers (47.1%, all analgesics - not only opioids), followed by sleep-inducing substances and tranquilisers (5.2%) and anti-depressants (4.9%). Women reported using these medicines more frequently than men. Among users of the respective medicinal drug group, painkillers were the least often drug taken on a daily basis (8.6%). Daily use was the most widespread among users of

neuroleptics (91.3%) and anti-depressants (87.5%). The problem use of medicinal drugs was exhibited by more female (6.0%) than male (4.5%) respondents. The extrapolation for the total number of adults with clinically relevant patterns of use in Germany based on this data amounts to 2.65 million.

Estimates from the German Epidemiological Health Survey (Deutscher Epidemiologische Gesundheitssurvey, DEGS) revealed, in contrast, a 12 month prevalence of medication dependence (stimulants, tranquilisers, painkillers and sleep inducing substances) of just 0.5% (Jacobi et al. 2014), which corresponds to 0.3 million persons between the ages of 18 and 79. Due to clear differences in the methodological approach, the inclusion criteria and the medications covered, however, the findings of the two studies cannot be compared with one another.

## **2 New developments (T3)**

### **2.1 New developments in the use of NPS and other drugs (T3.1)**

No information beyond that reported above is available.

## **3 Additional information (T4)**

### **3.1 Additional sources of information (T4.1)**

In the scope of the EU project Spice II Plus, the online portal *www.legal-high-inhaltsstoffe.de*<sup>12</sup> was developed by the Frankfurt charity Verein Basis e.V., on which results of the projects are published and online advice on so-called "legal highs" is offered. The portal offers information, advice and analysis results on the common NPS and reports on the current legal and political backgrounds as well as any changes (on this point, see the 2015 Drugs workbook). The Germany-wide information system on the abuse of NPS and medical drugs PharMon NPS, which is funded by the BMG, is integrated on the same online portal. The basis is an interdisciplinary network, which at a national level enables a rapid and reliable identification of new trends as well as monitoring and reporting on the use of these substances.

### **3.2 Further aspects of NPS and other drug use (T4.2)**

No further information on this issue is currently available.

## **4 Notes and queries (T5)**

There are currently no notes and queries.

## **5 Sources and methodology (T6)**

The most important surveys, studies and sources are listed in section E1.1.

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<sup>12</sup> Accessed 19.10.2016.



## SECTION E. SOURCES AND METHODOLOGY

### 1 Sources and methodology (T6)

#### 1.1 Sources (T6.1)

##### **Most important data sources**

In Germany, epidemiological data on drug use and drug users is mainly available on the basis of regular national, representative surveys and prevalence studies. These are complemented by mostly regional, quantitative and qualitative studies, which often focus on individual substances and/or specific user groups. Furthermore, international studies in which individual *Laender* or regions participate will also be described in the following.

##### **Nationwide data sources**

- The ESA is a combined written, telephone and online survey on the use of psychoactive substances, their effects and on their assessment as well as on other underlying data. The study has been conducted since 1980 every three to four years on the basis of a representative sample of the resident population<sup>13</sup>. Funded by the German Federal Ministry of Health (BMG), the survey has been conducted by the Institute for Therapy Research (Institut für Therapieforschung, IFT) since 1990. Some of the *Laender* have provided additional funding for a regional expansion of the sample to ensure an adequate statistical basis for Land specific analysis. The ESA sampling in 2015 was based on a two-stage, random selection process. Overall, the adjusted sample included 9,204 people, which corresponds to a net response rate of 52.2% (Gomes de Matos et al. 2016; Piontek et al. 2016c).
- The DAS carried out by the BZgA investigates the use, the motives for use and the situational conditions with regard to tobacco, alcohol and illegal intoxicants among adolescents and young adults (age group 12-25 years) on a long-term basis. The study has been conducted every three to four years since 1973. In the 2015 study a representative sample of 7,004 test persons was questioned via computer assisted telephone interviewing (CATI). Compared to the last DAS, the current study has introduced two methodological innovations: firstly, the weighting of the data also took into account the education level of the respondents whilst secondly the survey was conducted not only via landline numbers but also via mobile telephone numbers (dual frame approach). The response rate of the landline sample amounted to 48.7%, whilst the mobile telephone sample was 32.0%. Crystal meth and NPS were added to the 2015 DAS as new substances (Orth 2016).

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<sup>13</sup> The target group changed over time from adolescents and young adults in the age range of 12-24 (1980), 12-29 (1986) and 12-39 (1990) to the adult population of 18-59 year olds (1995, 1997, 2000, 2003) and finally of 18 to 64 year olds (2006, 2009, 2012, 2015).

- In addition to the DAS, the BZgA conducted representative surveys conducted on cannabis use among 12-19 year-old adolescents and 12-25 year olds in 2007, 2010, 2012 (BZgA 2007; 2011; 2014) and in 2014.<sup>14</sup> The surveys from 2010 onwards were conducted in the scope of the Alcohol Survey. In the 2014 study, a representative sample of 7,000 adolescents and young adults was questioned (for the first time also via mobile telephone). The response rate of the landline sample amounted to 40.3%, whilst the mobile telephone sample was 30.2% (Orth & Töppich 2015).
- The "Study on the health of children and adolescents in Germany" (KiGGS) is part of the health monitoring performed by the Robert Koch Institute (RKI) and is currently carried out as a combined cross-sectional and cohort study (Lampert et al. 2014). In 2007, the findings of the 2003-2006 KiGGS base line surveys were released (Lampert & Thamm 2007). They are based on nationwide representative data on the health of children and adolescents aged from 0 to 17 years old. A total of 17,641 children and adolescents participated in the study. For the analyses of tobacco, alcohol and drug use, the data from interviews conducted among 11 to 17 year old boys and girls and their parents was used.<sup>15</sup> With the first follow-up survey to the KiGGS study (KiGGS wave 1, 2009-2012), the findings of the base line survey were continued, however only in relation to tobacco and alcohol consumption (Lampert et al. 2014).
- Due to the increasing relevance of (meth)amphetamine in addiction counselling and treatment, the BMG funded a study in 2013 to find out more about these users. Conducted by the Centre for Interdisciplinary Addiction Research (Zentrum für Interdisziplinäre Suchtforschung, ZIS) and with a duration of one year, the aim of the study was to identify relevant groups of people with abusive consumption of (meth)amphetamine and to obtain information on their history, motives and patterns of use from them as the basis for possible target group specific preventive measures. The study was also designed to investigate whether international research on (meth)amphetamine user groups as well as prevention and therapy approaches could work in Germany. The project was divided into three modules, in which, in addition to the main aim of empirically surveying users, internet forums were also evaluated as well as people who had ceased their (meth)amphetamine use. With the help of an instrument which can be accessed online according to the mixed methods approach (with coordinated quantitative and qualitative elements), 392 users from various contact points were surveyed (Milin et al. 2014)<sup>16</sup>. The results of a recent analysis of the motives for use of methamphetamine users are presented in section B1.2.4.

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<sup>14</sup> The findings were presented in detail in the REITOX Reports 2007, 2011 and 2014.

<sup>15</sup> The most important results of the KiGGS base line survey were been presented in the REITOX Reports 2007 and 2008.

<sup>16</sup> The study (Milin et al. 2014) is described in chapter 2.5 of the REITOX Report 2014.

### ***International Studies***

- The ESPAD17 has been conducted every four years since 1995 in numerous European countries. Initiated by the Pompidou Group at the Council of Europe and CAN (Swedish Council for Information on Alcohol and Other Drugs, Stockholm), the coordinated survey is used for data collection of Europe-wide common standards. Germany has participated in the ESPAD Study since 2003 at a federal level. Bavaria took part in the follow-up surveys along with a number of other Laender in 2007 and 2011/18 (Kraus et al. 2012), but it was the only Land from which data was collected in 2015. In the course of the data collection, pupils from the cohort who reach their 16 birthday in each survey year (in Germany pupils of the 9th and 10th school year group in regular schools) were interviewed. For Germany this enables data analysis by birth cohort as well as by school year. The data collection in Bavaria was undertaken in April 2015 as a written survey to classes of school pupils. In the 2015 survey the adjusted sample size in Bavaria was 2,034 pupils from 95 classes, which corresponds to a response rate of 54.6% following data cleansing (Kraus et al. 2016a).
- The HBSC study, funded by the WHO, aims to collect international comparisons of the health and health-related behaviour of young adults. It is carried out every four years and has grown to include 44 countries in Europe and North America. Germany participated for the first time in 1993/94 with its most populous Land North Rhine-Westphalia. Data was collected in all 16 Laender for the first time in the current wave of surveys from 2013/14. The HBSC study is designed as a cross-sectional study. Guidelines on conducting and evaluating the HBSC study are set out in detail in international study protocols and are binding on all participating Laender. The target population of the survey is pupils from the 5th, 7th and 9th year groups across all types of school specific to the Laender. The sample for 2013/14 amounted to 5,961 11-15 year-old boys and girls from 188 general and 8 special needs schools; a sample size of at least 1,500 was realised across all age groups (11, 13 and 15 years old). The response rate of schools was 24.4%, and of pupils it was 77.2%. Questions on drug use were only put to 15 year-olds (HBSC-Studienverbund Deutschland 2015b).

### ***Data from the Laender and the regional monitoring systems***

- In 2009, the findings of the MODRUS IV study (Moderne Drogen- und Suchtprävention – Modern Drug and Addiction Prevention) were presented in Saxony-Anhalt.<sup>17</sup>
- Brandenburg obtains information on substance use amongst adolescents from a pupil survey in the 10th year group which has now been conducted three times, each four years apart and most recently 2012/13. A total of 9,994 pupils from 13 administrative districts and administratively independent urban districts and thus 55% of all pupils in the

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<sup>17</sup> www.espad.org [accessed 19.10.2016].

<sup>18</sup> The following Laender took part in the 2011 survey: Bavaria, Berlin, Brandenburg, Mecklenburg-Western Pomerania and Thuringia. The adjusted sample size was 6,192 pupils from 352 classes (Kraus et al. 2012).

<sup>19</sup> The results were presented in the REITOX Report 2009.

10th year group in Brandenburg took part in the current survey, "Brandenburg adolescents and substance use" (Brandenburger Jugendliche imd Substanzkonsum, BJS). The average age of the adolescents interviewed was 16 and has remained roughly constant over the years that the survey has been conducted (Ministerium für Umwelt, Gesundheit und Verbraucherschutz des Landes Brandenburg 2014).<sup>20</sup>

- A source that has been providing information on drug trends at a local level for many years is the MoSyD from Frankfurt/Main. The MoSyD is made up of several components: a representative pupil survey, a trend scout panel<sup>21</sup>, a scene-based survey<sup>22</sup> and an expert survey. A key methodological change in comparison to previous years is the fact that since 2013 the pupil survey has been conducted with the help of tablet PCs. In the study period (November 2015 - March 2016) in the scope of the pupil survey within MoSyD, a total of 1,491 questionnaires were included in the analysis (based on all respondents from the 10th-12th year groups or in the 1st-3rd years of a traineeship); 1,091 respondents (weighted sample) were between 15 and 18 years old (Werse et al. 2016).
- A survey called "Hamburg SCHOOL BUS" (Hamburger SCHULBUS) on the prevalence of contact with addictive substances was carried out for the sixth time in 2015 within the framework of the LMS among pupils aged 14 to 18 at schools providing general or vocational education. Among illicit drugs a key focus was on the different aspects of methamphetamine use. The survey was also carried out in parallel in the regions of Bavaria and Saxony that border the Czech Republic as well as the regions of North Rhine-Westphalia that border Netherlands, due to growing indications that the spread of methamphetamine in this region has considerably increased. For the 2015 survey, in total 4,226 14 to 17 year olds were able to be included (weighted sample figures; unweighted sample n=7,297).<sup>23</sup> The SCHULBUS survey is not designed as a representative survey, rather it takes into account, both in the collection of data and in its analysis, region specific factors in order to be able to provide a foundation for strategies for action to local political decision makers, locally active addiction prevention experts and above all teachers (Baumgärtner & Hiller 2016).

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<sup>20</sup> The results of the survey were reported in the 2015 Drugs workbook.

<sup>21</sup> The trend scout panel used by MoSyD is a partly standardised survey instrument of a qualitative, ethnographic nature. The primary goal of the instrument is to uncover new trends and changes with respect to the use of illicit drugs in Frankfurt am Main. To this end, recreational scenes are selected primarily from youth cultures. The selection of the different settings is focused on the scenes for which a relatively high prevalence of use of illicit drugs can be assumed. The trend scout survey is designed as a panel survey - a pool of informants which as far as possible remains the same is interviewed at regular intervals (twice a year since 2006). The survey is based on a half-open, guideline-based interview.

<sup>22</sup> In 2015, the "Scene Study 2014", the last comprehensive report from MoSyD on the open drug scene in Frankfurt am Main was produced (Werse & Egger 2015); its findings were presented in the 2015 Drugs workbook.

<sup>23</sup> Distribution of the sample in the regions unweighted/weighted: Hamburg 1,613/1,091, North Rhine-Westphalia 1,196/507, Saxony 2,091/1,731, Bavaria 2,397/897.

Apart from these surveys, most of which are conducted on a regular basis, various studies commissioned by some individual *Laender* are carried out at a regional and local level. They focus, alongside other factors, on the extent and effects of the use of a specific substance and the patterns of use or characteristics of a specific group of users. These studies are based in part on individual analyses commissioned within the context of larger, nationwide studies and already mentioned within the nationwide data sources (e.g. regional analyses of KiGGS, HBSC or ESPAD).

Due to the objectives of the REITOX Report, no more detailed analysis will be performed on the data regarding alcohol and tobacco consumption amongst pupils, adolescents and young adults. An overview of the data sources available in Germany and some selected nationwide findings can be found in Chapter 2 of the REITOX reports up to 2014.

## 1.2 Methodology (T6.2)

### Basic terms

Experience with drugs means, in many cases, a one-off or infrequent use of drugs. After the drug has been tried, its use will frequently be ceased over time. Drug use *at some point during a lifetime (lifetime prevalence)* is therefore only a rough indicator of the extent of drug use in the population at a given point in time, which can go back 20 or even 30 years. Accordingly, the lifetime prevalence is not suitable as an indicator for current changes, since it does not give any valuable insight into the current use behaviour of the respondents.

Drug use in the *12 months prior to the survey (12-month prevalence)* is a more suitable indicator of current user numbers and is often cited in the relevant literature as a reference value. The 12-month prevalence is limited to a sufficiently manageable time frame of past consumption whilst also providing other, more interpretable, prevalence values. The *30-day prevalence* of the use of illicit drugs, with the exception of cannabis, often only produces extremely low figures which are of little to no interpretable value. The clear difference identified in the overall population in Germany between prevalence over the lifetime, prevalence in the last 12 months and prevalence in the last 30 days shows that experimental or short-term use is the most common pattern of consumption.

The EMCDDA defines HRDU as drug use which fulfils the following criteria:

- The use is recurrent.
- There are actual harms (negative consequences) for the person (e.g. dependence but also other health, psychological or social problems) or
- The use increases the probability/risk of the person suffering such harms.

In the reported data, the consumption of psychoactive substances (not including alcohol, tobacco and caffeine) according to high risk patterns of use (e.g. intensively, as far as frequency is concerned) and/or high risk routes of administration (e.g. injecting use) within the last twelve months is considered to be "high risk drug use".

Irrespective of the above definitions, use can also be classed as high risk even if only the user himself experiences it as such and, for example, considers themselves as being dependent without an objective classification confirming this (Kleiber & Soellner 1998). The working definitions used in various places respectively cover different subsets of the described total group. Only the terms based on clinical classification systems are clearly defined.

In various surveys, the concept of "problem" or "high risk" use (including of cannabis) has been investigated. However, terminology and operationalisation of the respective concept differ from study to study so that comparability of information is only possible to a limited extent. It appears necessary, especially in the context of cannabis use, in light of the data available on the possible long-term effects of intensive cannabis use, also to include this use behaviour when looking at problem or high risk patterns of use. In several German studies the SDS (Gossop et al. 1995) based on the last 12 months' use (e.g. ESA, SCHULBUS) is employed in order to obtain indications of clinically relevant patterns of use.

A detailed representation of the methodology for measuring and estimating high risk consumption can be found in Chapter 4.1 of the REITOX Report 2014 (Pfeiffer-Gerschel et al. 2014).

### **Estimates of prevalence and incidence of high risk drug use**

The EMCDDA has compiled and further developed a series of methods for estimating the prevalence of high risk drug use at national level. The selection of the target groups for these methods is based on the definition of high risk drug use as "intravenous or long-term/regular use of opioids, cocaine or amphetamines" (Kraus et al. 2003).

However, as it is not possible to eliminate double counting in the police records in Germany when looking at a number of substances, and as valid mortality estimates are only available for opioid users, the prevalence estimates for Germany based on the three multipliers described below were restricted to the target group of opioid users.

In view of the particular risks carried by injecting drug use, this form of use is of particular interest when trying to minimize secondary harm. In Germany, it is still primarily heroin which is associated with injecting use, despite a slightly falling proportion of injecting use having been observed for some years amongst clients in addiction support facilities. The different user groups are differentiated according to main drug in the estimates of prevalence just as in the description of clients treated and not according to route of administration.

#### ***EMCDDA estimation methods (indirect estimates)***

For the year 2015, two multiplier methods were recalculated for which results were also available from previous years:

- Estimate on the basis of police contacts  
Assuming an average duration of use of 8 to 10 years, the number of heroin users who have come to the attention of law enforcement for the first time (incidence), are added up over the respective years. The proportion of drug related deaths accounted for by

persons already known to police is used respectively to calculate the estimated number of unknown cases.

- Estimate on the basis of drug-related deaths

The total number of users of opioids in the population is extrapolated from the figure for drug-related deaths for the year in the general population, through the use of a mortality estimate (calculated from the number of deaths in outpatient treatment).

Moreover, the estimate based on the treatment data for the year 2014 was recalculated. Since some of the data (diagnostic data of patients in hospitals) that is needed for the estimation process are generally made available only after a considerable delay, it is not possible for the current REITOX Report to calculate an estimate for this multiplier based on data for the year 2015.

- Estimate based on admissions to treatment

For this, the overall number of treated cases is first calculated on the basis of reported client numbers in outpatient and inpatient treatment as well as the total number of outpatient and inpatient addiction support facilities. On this basis and with the help of a multiplier to reach the target group, the total number of all opioid users requiring treatment is estimated. The multiplier comes from publications with estimates of problem use of illegal substances and the help-seeking behaviour in the overall population and from comparing the availability of treatment possibilities in a region.<sup>24</sup>

All results should only be taken as rough approximations as different requirements must be taken into account. In particular, the multipliers employed which are based on small case numbers and selective samples have only limited relevance. All multiplier methods are subject in themselves to considerable limitations. Changes in prevalence rates, for example, are not necessarily reflected in the demand for treatment. The recording of users who come to the attention of law enforcement for the first time is significantly influenced by the prosecution pressure of the police. The absolute figures for drug-related deaths also only allow cautious interpretation. Other estimation methods (e. g. nationwide capture-recapture studies or other multiplier methods) have not been used since necessary parameters were not available in a timely, empirically supported form.

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<sup>24</sup> A precise presentation of the estimation method on the basis of the treatment data can be found in Chapter 4 of the REITOX reports 2010 and 2014.





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