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for Drugs and Drug Addiction



Harms and Harm Reduction

GERMANY

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REITOX Focal Point to the EMCDDA
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CONTENTS

0	SUMMARY (T0)	4
1	NATIONAL PROFILE (T1)	7
1.1	Drug-related deaths (T1.1).....	7
1.1.1	Drug-related deaths: Overdose deaths (T1.1.1)	7
1.1.2	Toxicology of overdose deaths (T1.1.2)	8
1.1.3	Mortality cohort studies (T1.1.3).....	11
1.1.4	Trends (T1.1.4)	11
1.2	Drug-related acute emergencies (T1.2).....	14
1.2.1	Drug-related acute emergencies (T1.2.1).....	14
1.2.2	Toxicology of drug-related acute emergencies (T1.2.2).....	15
1.2.3	Trends (T1.2.3)	16
1.3	Drug-related infectious diseases (T1.3).....	19
1.3.1	Main drug-related infectious diseases among drug users – HIV, HBV, HCV (T1.3.1).....	20
1.3.2	Prevalence data of drug-related infectious diseases outside the routine monitoring (T1.3.3)	24
1.3.3	Drug-related infectious diseases - behavioural data (T1.3.4).....	28
1.4	Other drug-related health harms (T1.4).....	29
1.4.1	Other drug-related health harms (T1.4.1)	29
1.5	Harm reduction interventions (T1.5).....	29
1.5.1	Drug policy and main harm reduction objectives (T1.5.1).....	29
1.5.2	Organisation and funding of harm reduction services (T1.5.2)	30
1.5.3	Harm reduction interventions (T1.5.3)	31
1.5.4	Harm reduction services: availability, access and trends (T1.5.4)	38
1.6	Quality assurance for harm reduction services (T1.7)	38
1.6.1	Quality assurance for harm reduction services (T1.7.1)	38
2	TRENDS (T2)	39
3	NEW DEVELOPMENTS (T3)	39
3.1	New developments in drug-related deaths and acute emergencies (T3.1)	39

- 3.2 New developments in drug-related infectious diseases (T3.2).....39
- 3.3 New developments in harm reduction interventions (T3.3).....40
 - 3.3.1 Changes in low-threshold drug support due to the COVID-19 pandemic.....40
 - 3.3.2 Measures to prevent overdoses41
 - 3.3.3 Testing and treatment of drug-related infectious diseases42
 - 3.3.4 Pilot project drug checking “SubCheck”.....42
 - 3.3.5 Project “SHIFT Plus” - further development and evaluation of addiction support family training for drug-dependent parents43

- 4 SOURCES AND METHODOLOGY (T5).....44**
 - 4.1 Sources (T5.1)44
 - 4.2 Methodology (T5.2).....46
 - 4.2.1 Recording drug-related deaths.....46
 - 4.2.2 Notifications of drug-related infectious diseases.....47

- 5 TABLES50**

- 6 FIGURES.....50**

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0 SUMMARY (T0)

Drug-related deaths

According to the German Federal Criminal Police Office (Bundeskriminalamt, BKA), in 2020 a total of 1,581 people died as a result of the use of illicit drugs. This is the highest value recorded for 20 years and represents another increase of around 13% from 2019. In 2020, for the first time, long-term harms (with and without additional acute intoxication) are the most frequently registered cause of death, making up 27.3% of all deaths. This proportion has been continually increasing in recent years. It must be assumed that a larger proportion of these deaths concerns people from the aging, multi-morbid cohorts of opioid users and that opioids play a significant role among the additional acute intoxications. Apart from that, opioid poisoning also remains the most frequent cause of death (polydrug poisoning: 24.4%; monodrug: 11.8%).

Drug-related, non-fatal emergencies

The number of hospital admissions due to drug-related non-fatal emergencies in 2019 was 21,940. Following a continual increase in the ten years up to 2015, the numbers fell very slightly before remaining roughly stable for the last three years. Toxicological information from admissions must be interpreted cautiously due to large inaccuracies in coding. Around half of all cases are coded "Intoxication due to multiple drug use or use of other psychotropic substances (F19.0)". The number of cases of inpatient admission for this diagnosis steeply increased for ten years before stabilising at a high level from 2015 onwards. The four categories of substance - cannabinoids (incl. synthetic cannabinoids), sedatives/hypnotics, stimulants (excl. cocaine) and opioids - accounted for similarly large proportions of cases in 2019, as they had in previous years, at around 2,000 cases each, with cannabinoids and stimulants having gained importance over time.

Drug-related infectious diseases

The reporting data from the Robert Koch Institute (RKI) for HIV, hepatitis B (HBV) and hepatitis C (HCV) show declines in reported new infections in the general population for 2020, which can certainly be attributed at least in part to a lack of testing, due to the restrictions imposed in connection with the COVID-19 pandemic. For HBV and HCV, the absolute numbers of infections from injecting drug use have correspondingly fallen; their percentage share of all infections has not changed. Contrary to the trend in the general population, an increase in case numbers from injecting drug use has been observed for HIV.

In 2020, 2,454 HIV infections were reported to the RKI which corresponded to the case criteria and could be identified as new diagnoses (RKI, 2021). Injecting drug use was documented as the most probable mode of transmission among 10% of cases (n = 167) with information on the mode of transmission, and was thus the third most common mode of transmission. People using via injection were the only group with an increasing incidence in 2020: the incidence increased in the age groups between 20 and 40 years old, while it decreased in the other age groups. The increase was particularly observed among drug users, with the number more than

doubling from 19 (2019) to 42 (2020). The absolute and percentage increase in new HIV diagnoses among injecting drug users has been observed since 2013 and this has continued under the conditions of the COVID-19 pandemic.

For 2020 there were a total of 6,798 cases of hepatitis B reported according to the reference definition. In just 259 (4.0%) of the reported cases was there sufficient information on the probable mode of transmission for the evaluation. Of those, injecting drug use was the second most frequent mode (74 infections; 29%); eight of those infections were specified as “while in detention”.

For 2020, a total of 4,542 cases of hepatitis C were reported. Men continue to be more than twice as frequently infected as women. Injecting drug use remains the most common mode of transmission by some margin, having been recorded for 645 infections (68% of cases with information as to the mode of transmission), of which 42 infections were specified as “injecting drug use in detention”.

Harm reduction interventions

Harm reduction measures represent one of the four levels of the National Strategy on Drug and Addiction Policy (Nationale Strategie zur Drogen- und Suchtpolitik). Since 2016, the BIS 2030 Strategy of the German Federal Government has also been in effect, with the objective of substantially stemming HIV, hepatitis B and C as well as other sexually transmitted infections by 2030. Injecting drug users are explicitly named as one of the specific target groups of this strategy.

Health aspects of drug use are addressed both in the scope of specific services for drug users as well as within the general healthcare system. There is no uniform financing. The costs of most facilities are borne by the municipalities, however there is also some funding from the Federal Government and the *Laender*. The availability of harm reduction measures varies widely in Germany. Overall, it is better in cities and heavily populated regions than in rural areas. Care in prisons is very much in need of improvement (see, on this point, the Prison workbook).

In 2020, the availability of harm reduction measures was sharply restricted by the conditions imposed in response to the COVID-19 pandemic. In particular, during the first lockdown there were closures and partial closures of low-threshold facilities, meaning, among other things, fewer places were available in drug consumption rooms, training on the use of naloxone was as good as impossible and testing possibilities were sharply limited (see 1.5.3 and 3.3.1).

In order to counteract opioid overdoses, emergency training is currently offered in 18 cities on the use of the emergency medicine naloxone by laypeople; two more programmes are planned to start in 2021. The target groups are drug users and people around them. Availability has been significantly expanded in recent years, however it can by no means be described as comprehensive coverage. A new national pilot project started in 2021 with the aim of progressing the expansion in a scientifically evaluated way (see 3.3.2).

Drug consumption rooms continue to play a crucial role in harm reduction among injecting drug users. Currently, 25 drug consumption rooms and four mobile drug use facilities are available in 17 cities across eight *Laender*. There are still no drug consumption rooms in eight *Laender*. Nationwide, a tendency to switch from injecting to inhaling use can be observed, although injecting use continues to play a key role in the open scenes and in drug consumption rooms. Nevertheless, there is an increased demand for consumption apparatus for inhalative use (see 1.5.3, provision of syringes and other safer use equipment).

In 2021, the first pilot project on drug checking started in Germany. The “Sub-check” project offers rapid tests and on-site counselling at festivals and parties (see 3.3.4).

1 NATIONAL PROFILE (T1)

1.1 Drug-related deaths (T1.1)

1.1.1 Drug-related deaths: Overdose deaths (T1.1.1)

In Germany, there are two different systems for recording drug-related deaths, which differ from one another in several aspects. These are the police data from the "Drugs Data File" (Falldatei Rauschgift, FDR) and the "Statistical report on the causes of death" (Todesursachenstatistik) from the German Federal Statistical Office (Statistisches Bundesamt, Destatis). Both data collection systems are described in greater detail in section 4.2.1 and are only briefly characterised here.

The data collected by the BKA, the so-called FDR, shows long-term secondary diseases, suicides and accidents that have come to the attention of the police. The "Statistical report on the causes of death" or the general mortality register (allgemeine Sterberegister) records all deaths in Germany. The basis for extracting drug-related deaths from this register is the corresponding ICD-10 codes (Eggli, 2009).

The Statistical report on the causes of death is used for comparisons with other European countries, as this register largely follows common European standards. Data from the police register is of great significance for long-term comparisons of national trends and provides important information on categories of substances involved in overdoses. However, it is less suitable for Europe-wide comparisons due to differences in selection criteria and reported age groups.

Neither of the two methods used records all drug-related deaths. In each method, a certain number of relevant cases is not recognised, is not reported or is wrongly assigned. Similar patterns and trends have been seen in both registers for many years. In recent years however, these trends have further diverged (see section 1.1.4). The reasons for this are unclear. An empirical analysis of the question as to the extent to which the two systems record the same cases and how far the target groups overlap has not been performed.

Current police data on drug-related deaths

The reliability of information on drug-related deaths strongly depends on whether autopsies and toxicological reports have been utilised to validate the initial assessment of whether a particular death is drug-related. The autopsy rate for all drug-related deaths in the FDR from the BKA in the 2020 data year was 43.5%. This rate has continuously declined in recent years (2015: 60.9%). Toxicological reports were produced in 42.0% of cases (BKA 2021, data delivery). The rates in this regard vary considerably between the individual *Laender*. In some *Laender*, a rate of almost 100% is achieved, in others only isolated examinations are carried out.

In 2020, a total of 1,581 people died as a result of the use of illicit drugs. This is the highest value recorded in 20 years; the last time they were higher was in 2001. This figure represented

an increase of around 13% compared to 2019 (1,398 people). The progression over time is set out in detail in section 1.1.4. Due to the changeover to a new police data system and the recording or collection of information on drug-related cases, nothing else can be said for the data year 2020 beyond the raw number of drug-related deaths and the causes of death (nothing can be said, for example, as to age and gender of those who died).

Current data from the general mortality register

The current figures on drug-related deaths, available from the general mortality register of the German Federal Statistical Office, are from 2019. A total of 1,086 people were recorded (2018: 1,125 people). After a slight increase of 5.8% in the previous year, there was a slight decrease of 3.5% from 2018 to 2019, meaning there is no longer any clear trend evident. In 2019, 259 women and 827 men in total died in connection with illegal drugs (23.8% women).

Comparison of the data from the general mortality register with the police data

In 2016 the general mortality register recorded fewer cases than the parallel BKA register for the first time; this was then also the case in 2017 and 2018 (see Figure 1). The difference for the data year 2017 amounted to 204 cases (1,272 cases in the BKA register, 1,063 cases in the general mortality register); in 2018 the difference was 151 cases (1,276 cases in the BKA register, 1,125 cases in the general mortality register); more recent data is not available. Even though the reference populations and case definitions for the two registers are not identical, both registers have exhibited similar trends for years, but have diverged more widely from one another in the last three years. This is described in more detail in section 1.1.4. One problematic factor which persists is that the exact number of overdoses in the general mortality register produced by the Federal Statistical Office is not stated, as it remains the situation that too few cases are specifically coded with respect to the acute cause of death and a multicausal code has not become established nationwide. Thus, despite the changes to the WHO coding rules which took effect in 2006, the national mortality register is still seen as having less meaningful value, with respect to the analysis of the substance classes which acutely led to deaths in the case of intoxications, than the categorisation of the causes of death in the BKA figures.

1.1.2 Toxicology of overdose deaths (T1.1.2)

Police data on drug-related deaths

Table 1 gives an overview on the toxicological information on drug-related deaths. For the first time in 2020, long-term harms (with and without additional acute intoxication) made up the largest single proportion of drug-related deaths (27.3%). Comments on the trends can be found under 1.1.4.

Among cases of poisoning, overdosing on heroin/morphine (including poisoning by heroin/morphine in combination with other substances) remains the most common cause of death (22.7%). The proportion of drug-related deaths in which substitution drugs were detected, either alone or as the main substance in combination with other drugs, was at 11.4%,

(2019: 12.8%). Poisoning through substances other than opioids, especially through cocaine/crack and amphetamine/methamphetamine, was the cause of death in 18.0% of cases (2019: 19.1%).

It is possible that the numbers of mixed intoxications ("polydrug poisonings") could be underestimated in the representation of substance involvement since there is often a lack of exact toxicological information

Table 1 Drug-related deaths 2020 by substance, police data

Causes of death	% of Total		Number
	2019	2020	2020
Monodrug poisoning from opioids	15.5	11.8	186
Heroin/morphine	11.4	8.2	130
Opioid-substitution drugs	1.7	2.1	33
– of which: Methadone/Polamidon	1.6	1.9	30
– of which: Buprenorphine (i.a. Subutex)	0.1	0.1	1
– of which: Other	0	0.1	2
Opioid-based medicines	2.3	1.3	21
– of which: Fentanyl	1.8	1.3	21
Synthetic opioids (i.a. fentanyl derivatives)	0.1	0.1	2
Polydrug poisonings from opioids¹	31.0	24.4	386
Heroin/morphine in connection with other substances (i.c.w.o.s.)	20.7	14.5	230
Opiate-substitution drugs i.c.w.o.s.	11.1	9.3	147
– of which: Methadone/Polamidon i.c.w.o.s.	8.3	8.1	128
– of which: Buprenorphine (i.a. Subutex) i.c.w.o.s.	1.8	1.0	16
– of which: Other i.c.w.o.s.	1.1	0.3	5
Opiate-based medicines	4.2	4.5	71
– of which: Fentanyl	2.4	2.2	35
Synthetic opioids (i.a. fentanyl derivatives) i.c.w.o.s.	0.1	0.2	3

Monodrug poisonings from substances other than opioids/opiates	8.4	7.6	120
Cocaine/crack	2.6	3.0	48
Amphetamine/methamphetamine	3.9	3.2	51
– of which: Amphetamine	2.7	2.3	37
– of which: Methamphetamine	1.4	0.9	14
Amphetamine derivatives	0.6	0.4	6
New Psychoactive Substances (NPS)	0.6	0.4	7
- of which synthetic cannabinoids	0.4	0.3	5
- of which other NPS	0.3	0.1	2
GHB/GBL	0.4	0.3	4
Others (w.e.o. psychoactive medicinal drugs)	0.3	0.3	4
Polydrug poisonings from substances other than opioids/opiates¹	10.7	10.4	165
Cocaine/crack i.c.w.o.s.	4.4	3.7	59
Amphetamine/methamphetamine i.c.w.o.s.	4.9	4.9	78
– of which: Amphetamine i.c.w.o.s.	4.3	4.0	64
– of which: Methamphetamine i.c.w.o.s.	1.0	1.0	16
Amphetamine derivatives i.c.w.o.s.	1.2	1.2	19
New Psychoactive Substances (NPS) i.c.w.o.s.	0.7	0.5	8
- of which synthetic cannabinoids	0.4	0.3	4
- of which other NPS	0.3	0.4	6
GHB/GBL	0.6	0.5	8
Psychoactive medicinal drugs, i.c.w.o.s.	3.2	2.8	45
Other i.c.w.o.s.	1.1	2.0	31

Other causes of death			
Intoxications from psychoactive medicinal drugs only (possibly also in connection with alcohol)	0.8	0.9	15
Not specified/unknown poisonings	4.4	7.7	121
Suicides	6.9	7.7	121
– of which: Suicide by way of intoxication (already included in the causes mentioned above)	3.0	3.7	59
– of which: Suicide through means other than intoxication	3.9	3.9	62
Long-term harms	22.8	27.3	432
– of which: Long-term harms in combination with consequences of intoxication	12.3	12.5	198
Accidents	2.1	3.1	49
Other cases	0.4	0.3	4
Total (N)²	1398		1581

1 In the subcategories, multiple counting is possible.

2 The total number comprises the sum of all monodrug and polydrug poisonings plus all suicides not caused by intoxications as well as all long-term harms, accidents and other cases.

BKA 2021, data delivery

Data from the general mortality register

In 2019, the underlying disease (dependence, harmful use of drugs, others from the ICD group F 1x.x) was coded for 56.2% of deaths (2018: 59.6%); however, due to the monocausal registration principle, the information on the acute cause of death is lacking for these cases. Therefore, the informative value of the national mortality register with regard to the substance classes which acutely led to the deaths is lower than that of the BKA data. In 2019, 32.9% of cases were coded as “dependency” (previous year: 34.9%), 23.0% as “harmful use” (previous year: 24.1%). The proportion of deaths marked as “accidental intoxication” amounted to 29.6% (previous year: 27.1%). 10.6% of intoxications cases were registered as suicidally motivated (previous year: 8.5%).

Evaluations of trends in the coded causes of death can be found in section 1.1.4.

1.1.3 Mortality cohort studies (T1.1.3)

There is no overview available on mortality in the overall population of drug users, nor are there any known current regional cohort studies.

1.1.4 Trends (T1.1.4)

Comparison of the two data collection systems

The long term trends in the total numbers of drug-related deaths in Germany were similar for both registration systems between 2005 and 2016, albeit with gradients of differing steepness

(see Figure 1). In 2017, the numbers fell sharply in the general register on the causes of death however and have remained stable over the last three years, with slight fluctuations. In the police data collection, there was no comparable decline and there were even increases in 2019 and 2020, such that the number of drug-related deaths has now reached its highest value for 20 years. The reason why the two data collection systems are currently exhibiting diverging trends remains unclear. Due to the delay in data collection in the general register on the causes of death, no comparison can yet be made for the 2020 data year.

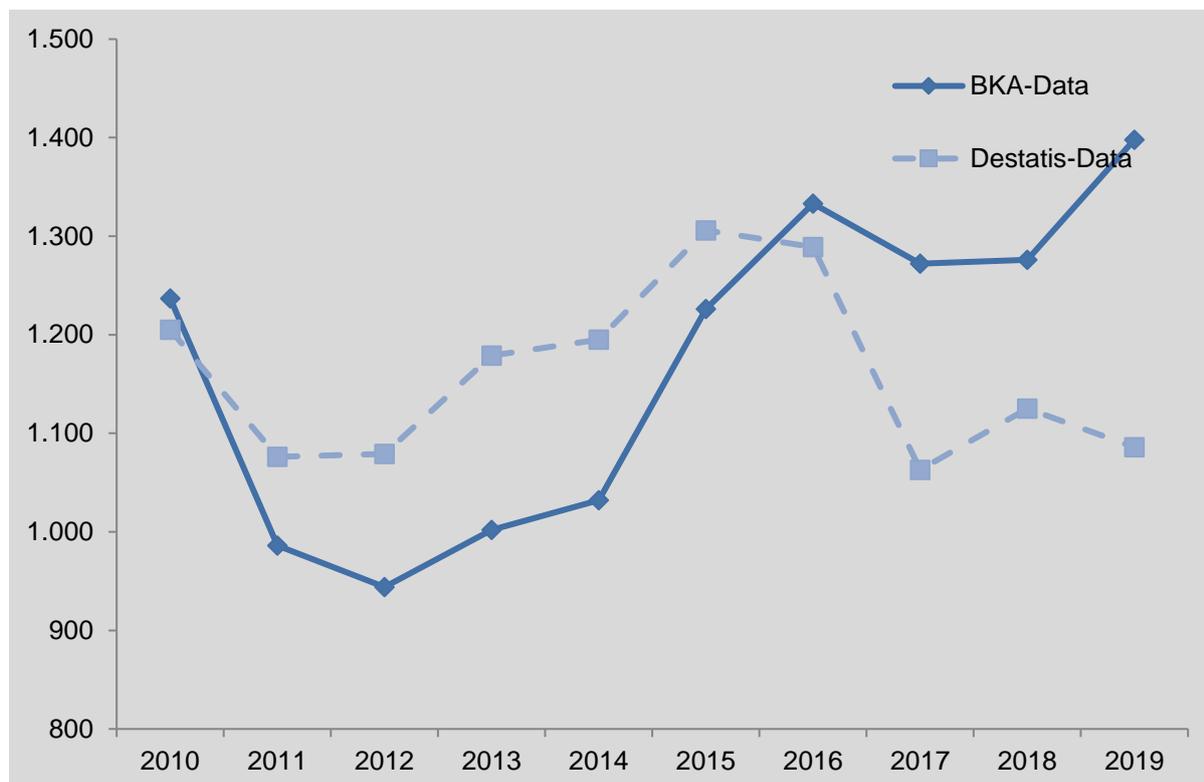


Figure 1 Trends in the number of drug-related deaths: Comparison of BKA and Destatis data, 2010 to 2019

Statistisches Bundesamt, special calculations; Federal Situation Report on narcotics crime from the BKA (Bundeslagebild Rauschgiftkriminalität), most recently 2020, and BKA 2021, data delivery

Police data on drug-related deaths

As the data recording system of the BKA was changed in 2012, only trends in substances causing death will be described from this point onwards. Poisonings from opioids are the main causes of death in that register also. Unlike in the general mortality register, a distinction is drawn between monodrug and polydrug poisonings (see Figure 2). This year, for the first time, long-term harms (with and without additional acute intoxication) were the most frequently registered cause of death, accounting for 27.3% of all deaths. This proportion has been continually increasing in recent years; it was down at 10.9% in 2015. It must be assumed that a larger proportion of these deaths concerns people from the aging, multi-morbid cohorts of opioid users. As the age of drug-related deaths has, for several years, no longer been recorded and there is no toxicological information on these drug-related deaths that would prove whether the acute cause of death was an opioid intoxication, this assumption cannot be checked. A

similar trend is found, however, in several neighbouring European countries in which this information is available (EMCDDA, 2019).

Polydrug poisoning from opioids has been the most frequent cause of death for several decades. However, since 2015 its proportion of all deaths has fallen and for 2020 is now at 24.4%. The proportion of monodrug opioid poisonings has also fallen continuously in recent years and for 2020 is now only 11.8%. The proportion of monodrug and polydrug poisonings from substances other than opioids somewhat increased at the beginning of the 2010s at a considerably lower level, and in the last three years has remained rather stable, with slight fluctuations.

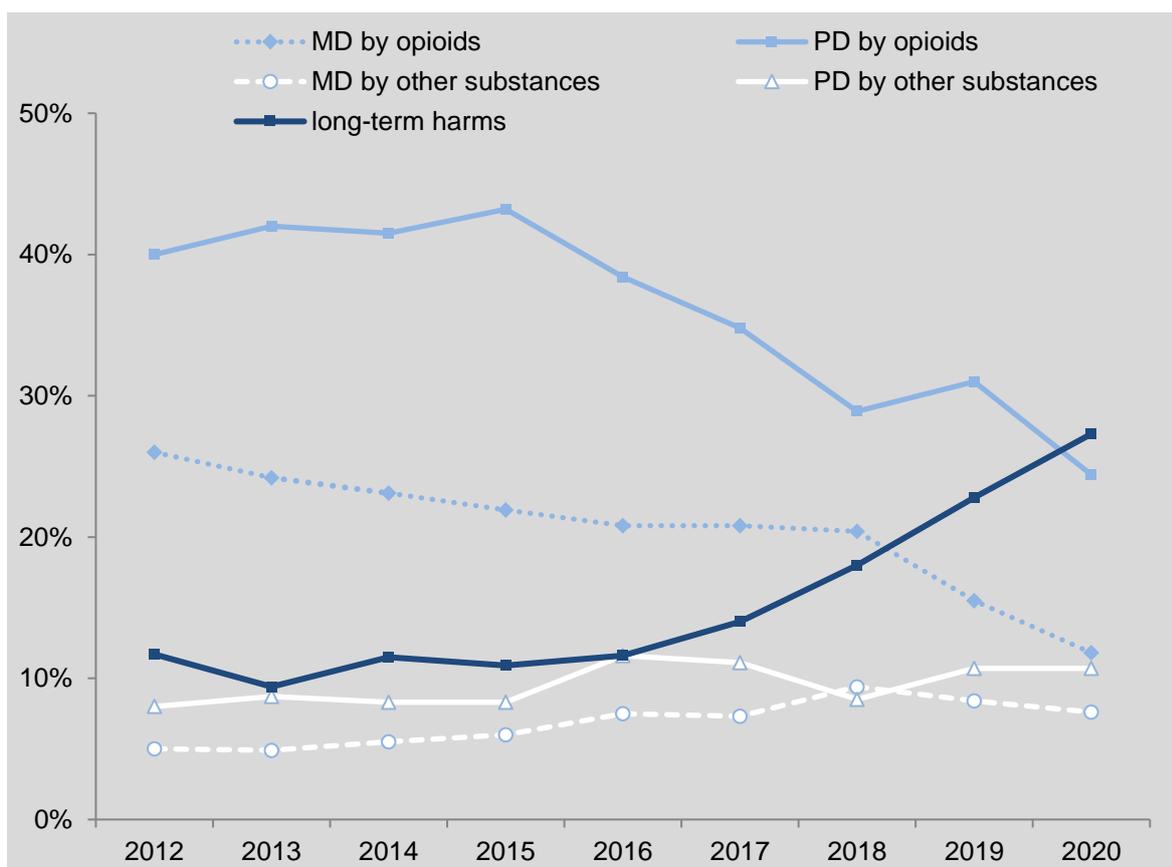


Figure 2 Causes of death, BKA data 2012-2020

MP = monodrug poisoning, PP = polydrug poisoning

BKA 2021, data delivery

Data from the general mortality register

The age distribution of drug-related deaths since 2000 has shown a shift over time to a higher age of death. While hardly any clear age group shift was apparent between around 2013 and 2016, the trend has become more pronounced again in the last two observation years. The proportion of deaths of people over 60 years old reached 16.4% in 2019, the highest value registered to date; correspondingly, the proportion of recorded deaths of people under 25 years old over the last 20 years has fallen from 19.5% to 3.7%. The actual long-term age shift - also observed in the police registrations - may be exaggerated in the national statistical report on the causes of death which is based on ICD-10 coding, as here, particularly with higher age

groups, a background of abuse of the substance which causes death is not clearly verified, especially in cases of accidental opioid intoxications or an adjustment for cases that may have been miscoded is not possible.

Only the coding of drug-related deaths with the additional X/Y code, provided for in ICD-10 for external causes, allows reliable inferences to be drawn on the substance spectrum involved in instances of intoxication, as this additional code allows a substance-specific breakdown by T-code classification. In 2019, this was true for only 43.9% of registered cases. Purely opioid-related deaths in this subgroup accounted for 65.8% of cases (2018: 69.0%) (see Figure 3). Other substance groups were mentioned in 7.8% (2018: 7.7%) of cases. 26.5% (2018: 23.3%) of cases involved unspecified intoxications. Further opioid intoxications were able to be included within this latter group. It is not known how many of these classifications are actually based on the findings of complete chemical-toxicological laboratory analyses from post-mortem biomaterials on the spectrum of substances that caused the deaths.

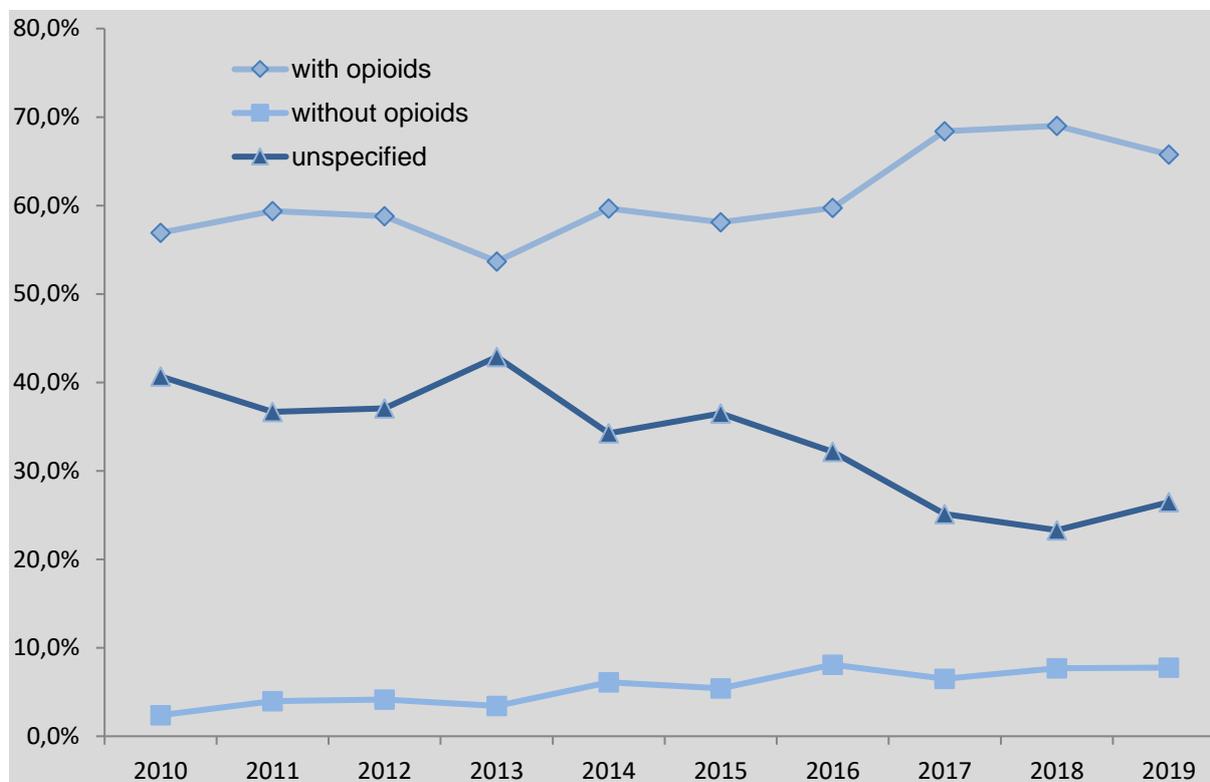


Figure 3 Proportion of opioid intoxication in drug-related deaths, 2010 to 2019

Statistisches Bundesamt, special calculations

1.2 Drug-related acute emergencies (T1.2)

1.2.1 Drug-related acute emergencies (T1.2.1)

As an approximation of the number of drug-related, non-fatal emergencies, there is nationwide data available on acute intoxications (ICD-10 diagnoses F1x.0) and poisonings (ICD-10 diagnoses T40.X) treated on an inpatient basis in hospitals from the Statistical Report on Hospital Diagnoses 2019 (Krankenhausdiagnosestatistik) as well as the special calculations of the German Federal Statistical Office (see Table 2). It should be noted that the cases of

poisoning (ICD-10 T40.X) could be either an overdose or mistaken administration or ingestion of the wrong substances. Moreover, cases of opioid poisoning, for example, could be caused by (accidental or intentional) overdoses of prescribed medications containing opioids and not by the use of illicit drugs. In addition, this data only allows statements to be made in respect of drug-related, non-fatal emergencies admitted to hospital on an inpatient basis. Emergencies that are either not treated or treated by other facilities are not recorded here. This affects, for example, poison information centres, but also practice-based doctors or emergency medical treatment without a subsequent inpatient stay. It is also not clear from the data how seriously pronounced or dangerous the symptoms were and how long the respective treatment lasted; very short stay cases are also included. The data should therefore only be interpreted with caution.

Data on drug emergencies treated in drug consumption rooms is available this year; this is presented in section 1.5.3 in the section “Provision of drug consumption rooms”.

1.2.2 Toxicology of drug-related acute emergencies (T1.2.2)

Table 2 Number of acute intoxication and poisoning cases, Statistical Report on Hospital Diagnoses, 2019

ICD-10 diagnosis	Total	Age in years				
		<15	15 - 24	25 - 44	45 - 65	65+
Acute intoxication [acute inebriation] (F11.0 to F16.0, F18.0, F19.0)	20,737	530	5,762	10,013	3,714	1,083
from opioids (F11.0)	1,961	9	219	1,068	476	189
from cannabinoids (F12.0)	2,176	185	1,186	630	157	18
from sedatives/hypnotics (F13.0)	1,862	26	318	705	553	260
from cocaine (F14.0)	832	6	193	520	113	0
from other stimulants (F15.0)	2,395	131	944	1,179	130	11
from hallucinogens (F16.0)	347	17	205	114	9	2
from volatile substances (F18.0)	74	6	22	34	8	4
from multiple substance use or use of other psychotropic substances (F19.0)	11,022	135	2,649	5,750	2,258	230

Poisoning by narcotic drugs and psychodysleptics (hallucinogens) (T40.X)	1,271	77	216	349	264	365
from opium (T40.0)	51	1	3	12	12	23
from heroin (T40.1)	80	0	8	50	22	0
from other opioids (T40.2)	701	34	53	121	173	320
from methadone (T40.3)	74	6	7	38	19	4
from other synthetic narcotics (T40.4)	13	3	3	1	4	2
from cocaine (T40.5)	83	3	17	53	10	0
from other and unspecified narcotics (T40.6)	39	4	12	10	5	8
from cannabis (derivatives) (T40.7)	170	22	90	38	14	6
from lysergide (LSD) (T40.8)	20	1	14	4	1	0
from other and unspecified psychodysleptics (T40.9)	40	3	9	22	4	2

Statistisches Bundesamt, special calculations 2021.

1.2.3 Trends (T1.2.3)

The following trend is based on the nationwide data available on acute intoxication and poisoning cases treated on an inpatient basis in hospitals (ICD-10 diagnoses) from the annual Statistical Report on Hospital Diagnoses from the German Federal Statistical Office (Statistisches Bundesamt, special calculations). This data should be interpreted with great caution; the limitations are explained above (see 1.2.1).

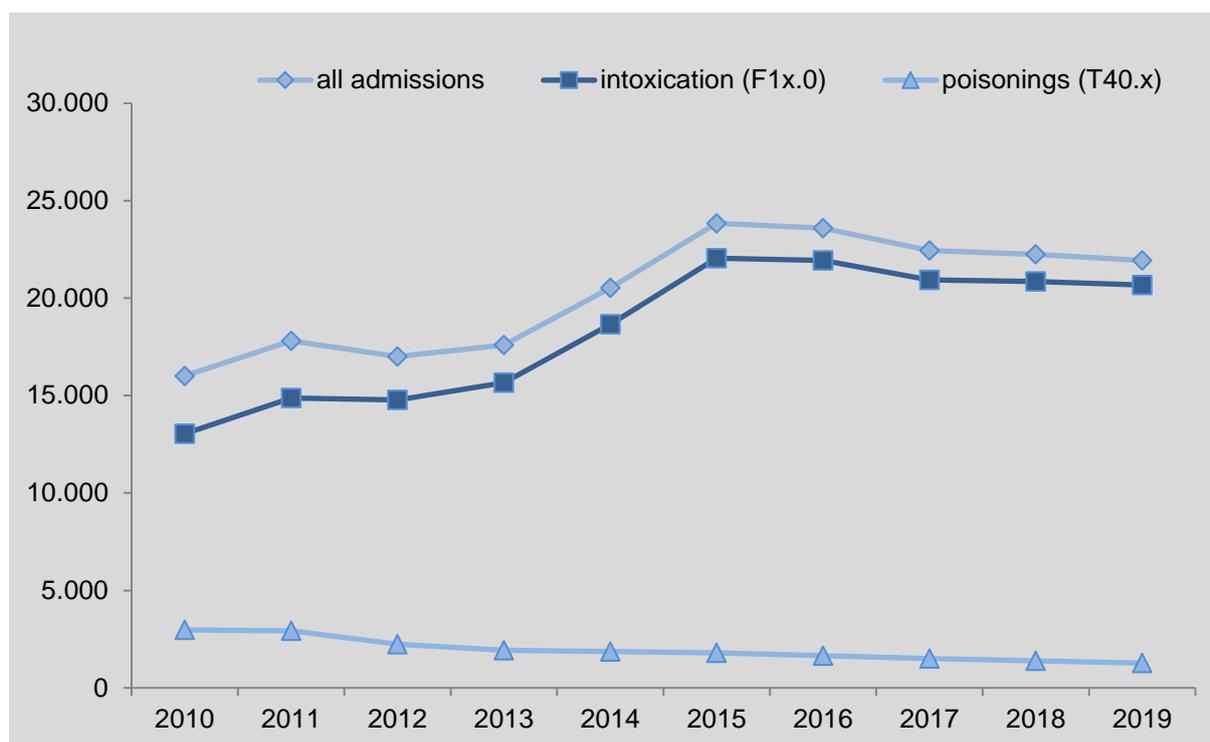


Figure 4 10-year trend in acute drug-related emergencies admitted to inpatient treatment

Statistisches Bundesamt, special calculations

The number of drug-related, acute emergencies admitted to inpatient treatment had increased to 23,839 by 2015 (see Figure 4). Since then, it has fallen slightly and, remaining somewhat stable for three years; in 2019 there were 21,940 cases. In the coding, cases of acute intoxication (F coding) represent, by some margin, the overwhelming majority, numbering 20,669 in 2019 and also causing the overall increase of the previous years. The number of coded cases of poisoning, which were already coded at a much lower level in 2010, has fallen even further in the last ten years, with 1,271 cases in 2019. It remains unclear as to whether this can be explained through coding practices or whether in fact there really were fewer cases of poisoning and more cases of intoxication admitted.

If poisoning and intoxication are considered separately, poisoning through "other opioids" (T40.2) clearly predominates among the more rarely coded inpatient admissions for poisoning (T 40.x codes, see Figure 5) in the last 10 years. Following a significant increase up to 2011 (1,660 cases), the number is falling once more (2019: 701 cases). Up to 2010, poisoning from heroin (T40.1) was, for many years, the second most common diagnosis in this group. The number of cases has been decreasing almost constantly for over ten years, however, and today comprises only a small proportion of poisonings (2019: 80 cases). Since 2011, cannabinoid poisoning (T40.7) has been the second most commonly coded cause of hospital admissions. The number has remained stable with slight fluctuations. At 170 cases in 2018, the level is still considerably lower than that of opioid poisoning. All other substances, including other/unspecified narcotics, play only a minor role, with up to 100 reported cases.

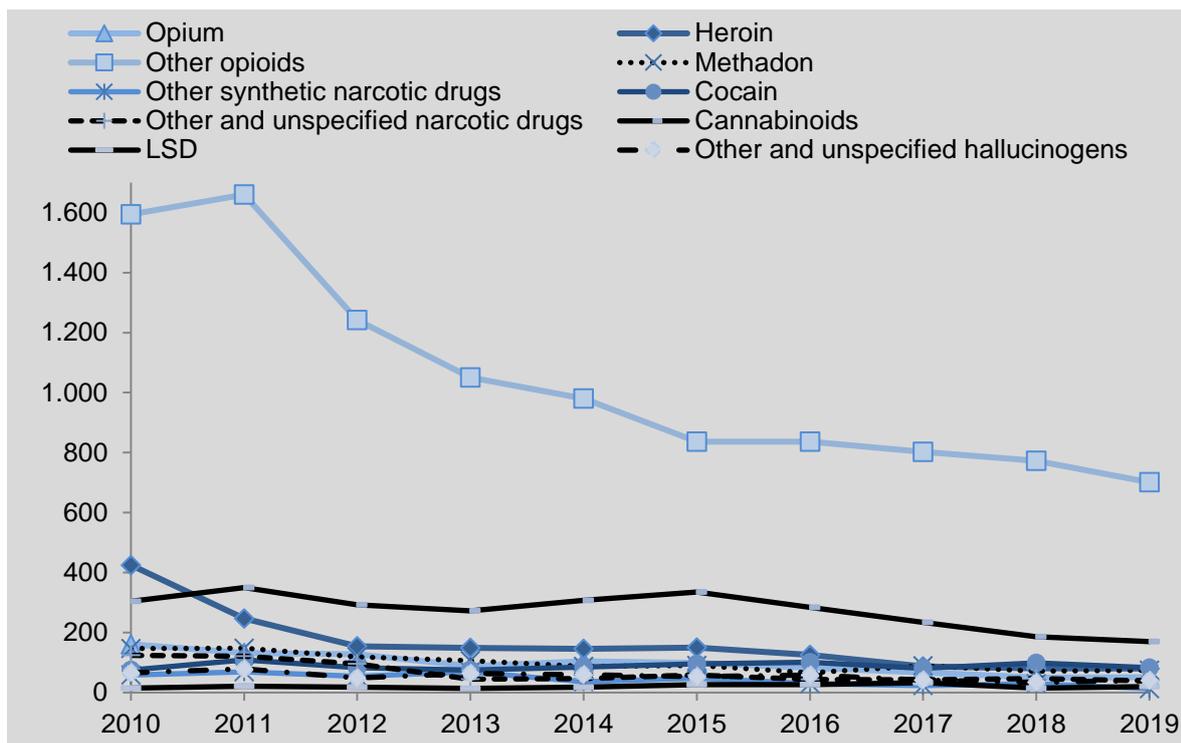


Figure 5 10-year trend in acute drug-related emergencies admitted to inpatient treatment: poisonings (T40.x codes)

Statistisches Bundesamt, special calculations

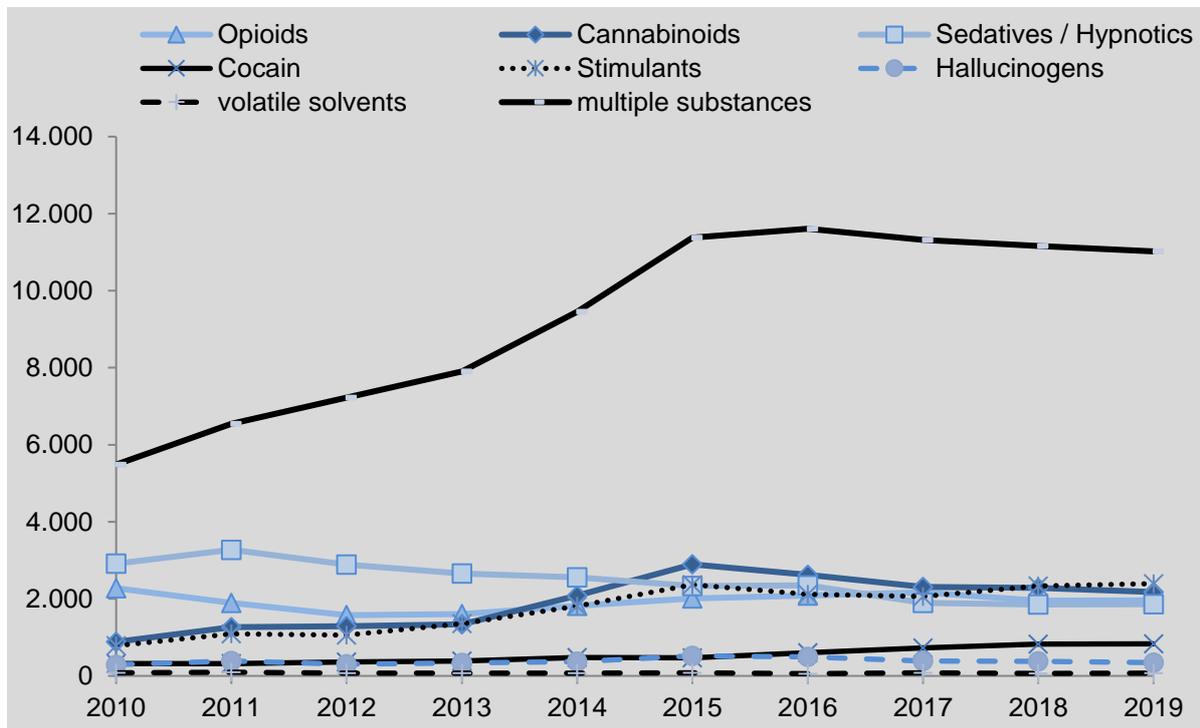


Figure 6 10-year trend in acute drug-related emergencies admitted to inpatient treatment: acute intoxications (F1x.0 codes)

Statistisches Bundesamt, special calculations

In the acute intoxications group, which is more frequently coded, intoxication due to multiple substance use or use of other psychoactive substances (F19.0, 11,022 cases) makes up just over half of all diagnoses (see Figure 6). The number of cases of inpatient admission for this diagnosis increased steeply for ten years before stabilising at a high level from 2015 onwards. They account for a large part of the total increase in all non-fatal, drug-related emergencies admitted to in-patient hospital treatment up to 2015. No information is available on the individual substances which have been coded under "multiple use" or "other psychotropic substances", so no more precise conclusions can be drawn as to the use behaviour.

The four categories cannabinoids (incl. synthetic cannabinoids), sedatives/hypnotics, stimulants (excl. cocaine) and opioids accounted for similarly large proportions of cases in 2019, as they had in previous years, at around 2,000 cases each. Over time, the significance of individual substance categories has significantly changed, however. The numbers of admissions recorded for cannabinoid intoxications (including synthetic cannabinoids) and for stimulants (excluding cocaine) sharply increased up to 2015, remaining stable since then, with some fluctuation. In contrast, the number of intoxications from the substance group of sedatives/hypnotics has fallen overall in the last ten years, with slight fluctuations. The number of intoxications from opioids has remained stable over the last 10 years, with slight fluctuations, at around 2,000 cases per year. Overall, in the area of acute intoxications, a trend towards multiple substance use and an increasing significance of cannabinoids and stimulants is apparent, whereas sedatives/hypnotics in comparison are rather losing significance.

1.3 Drug-related infectious diseases (T1.3)

Throughout Germany, all data on infectious illnesses, the reporting of which is mandatory under the German Protection Against Infection Act (Infektionsschutzgesetz, IfSG), is reported to the RKI and analysed there. This therefore also includes reports of HIV and hepatitis infections. In addition, since the introduction of the new Core Data Set, data on test status and test results of those treated are available from the Statistical Report on Substance Abuse Treatment in Germany (DSHS), which is reported on in 1.3.2. Data from other sources, for example surveys in drug consumption rooms and outpatient addiction support facilities, provides additional insight into the problems of specific, often regional, populations of drug users with HIV and hepatitis. Special mention should be made of the DRUCK study as an important data source, which from 2011 to 2015 examined the prevalence of hepatitis B and hepatitis C as well as HIV, unsafe use behaviours, knowledge about the infections as well as safer use practices among injecting drug users in eight German cities, the results of which were reported in detail in the 2017 and 2018 REITOX reports. The follow-up study, DRUCK 2.0, has since started and will be briefly outlined in 3.3.3.

More precise information on the data sources for drug-related infectious diseases can be found in section 4.2.2.

1.3.1 Main drug-related infectious diseases among drug users – HIV, HBV, HCV (T1.3.1)

The following information originates from the 2020 RKI reporting data from the infection epidemiology yearbook (Robert Koch-Institut (RKI), 2021). Any statements regarding trends refer to the year books from the corresponding data years. For the three infectious diseases reported on - HIV, hepatitis B (HBV) and hepatitis C (HCV) - declines are shown in reported new infections in the general population for 2020, which is certainly at least in part due to a lack of testing due to the restrictions imposed during the COVID-19 pandemic. For HBV and HCV, the absolute numbers of infections from injecting drug use have correspondingly fallen; their percentage share of all infections has not changed. For HIV, in contrast to the trend in the general population, an increase in case numbers from injecting drug use has been observed.

HIV reporting data

In 2020, 2,454 HIV infections were reported to the RKI which corresponded to the case criteria and could be identified as new diagnoses (RKI, 2021). This corresponded to a nationwide incidence of 3.0 new diagnoses per 100,000 population. The number of reported first diagnoses of HIV decreased from 2015 to 2018, increased slightly in 2019, then fell significantly in 2020 to the lowest level since 2005.

Information on the probable infection risk was available for 1,710 of the 2,454 HIV new diagnoses (70%). Where more than one answer was given, this was reduced to the most probable risk. Of the newly diagnosed cases with the relevant information, 59% (1,003) likely involved an infection contracted via homosexual contact among males, 31% (528) via heterosexual contact and 10% (167) via injecting drug use. 1% (11) of newly diagnosed cases concerned children who had been infected via their mothers.

People injecting drugs were the only group with an increasing incidence in 2020: the incidence increased in the age groups between 20 and 40 years old, while it decreased in the other age groups. The increase was particularly observed among drug users, with the number more than doubling from 19 (2019) to 42 (2020) (Figure 7). The absolute and percentage increase in new HIV diagnoses among injecting drug users has been observed since 2013 and this has continued under the conditions of the COVID-19 pandemic.

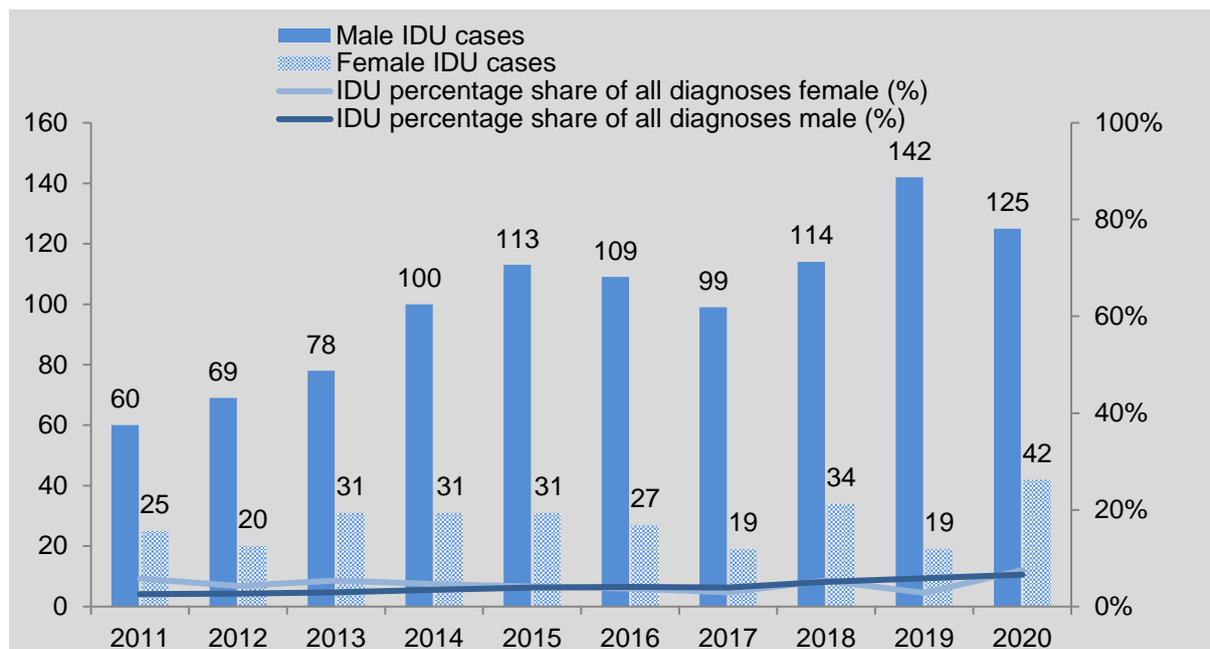


Figure 7 Trend in HIV diagnoses with mode of transmission injecting drug use

RKI infection epidemiology yearbooks, most recently RKI 2021

Hepatitis B reporting data

The case definitions for a verified hepatitis B diagnosis were changed in 2015, in order to conform to the European case definition and keep track of all active, i.e. infectious and therefore transmissible, HBV infections, irrespective of the current strength of the symptoms. Since 2019, chronic infections have also been published. After both definitions were changed, as expected sharp increases were seen in the reported case numbers (see Figure 8). The case definition is described in more detail in 4.2.2.

For 2020, there were a total of 6,798 cases of hepatitis B reported according to the reference definition (2019: 903). In just 259 (4.0%) of the reported cases was there sufficient information on the probable mode of transmission for the evaluation. In the evaluation, where several modes of transmission were given, these were reduced to the most probable. As in previous years, shared accommodation with an HBV carrier was the highest mode of transmission (95 cases, 37%). Transmission via injecting drug use was the second highest reported mode of transmission in 2020 (74 infections, 29%), eight of which were while in detention.

A sharp increase in case numbers has been recorded since 2015 (see Figure 8). This increase can be explained in part by the expansion of the reference definition to cases with no, with unclear or with unknown symptoms, as well as by the increased testing of asylum seekers between 2015 and 2017. Since July 2017, all proven diagnoses, regardless of the stage of hepatitis B virus infection, must be reported. This could be another explanation for the increase in case numbers, especially for cases with an unknown clinic. An analysis by stage of infection shows that over time, the number of acute infections since 2011 was under 600 infections per year, with the exception of 2015 (713 acute infections). Therefore no increase has been recorded in acute infections since 2011.

In comparison to the previous year, 2,148 fewer hepatitis B infections were transmitted in 2020 (reduction of 24%). Possible causes for the lower numbers in 2020 may be, among other things, an altered utilisation of healthcare services and changed contact behaviour during the COVID-19 pandemic. Any interpretation of the trend is difficult, however, due to the definition changes.

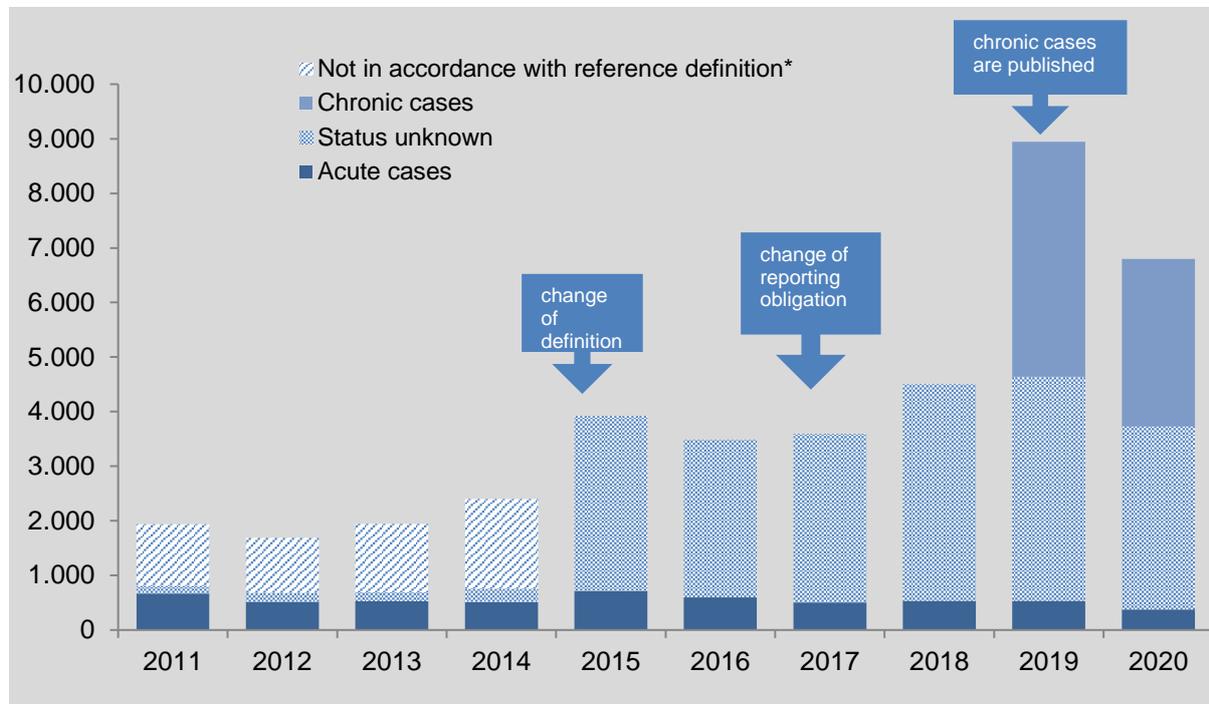


Figure 8 Trend in HBV diagnoses

RKI infection epidemiology yearbooks, most recently RKI, 2021

It is strongly recommended that all nursing infants, children and adolescents as well as other, defined at-risk groups are consistently vaccinated. In addition to persons who exhibit sexual behaviour with a high risk of infection, this concerns primarily injecting drug users (Robert Koch-Institut (RKI), 2021).

Hepatitis C reporting data

As the majority of new hepatitis C infections are asymptomatic, the reference definition includes all cases with first-time laboratory proof of an HCV infection, irrespective of the clinical picture. Thus, the overall number of cases contains a considerable proportion of already chronic hepatitis C cases (in the sense of a viral replication of more than 6 months); in 2020, 81% of cases, for which sufficient information was available to determine the stage, were chronic.

The trend of hepatitis C infection numbers can only be interpreted with great caution due to the changes in the case definitions. From 2005 onwards, a downward trend in the reporting incidence level and in the absolute numbers of newly diagnosed hepatitis C cases could be seen, a trend which slowed from 2009. In 2014 case numbers increased for the first time. In 2015, the case definition was changed (only cases with a direct pathogen detection, namely in which an active infection is present, met the criteria for laboratory diagnostic confirmation), and

as expected the figures fell as a result. In 2017 an amendment to the IfSG came into force, according to which every incidence of laboratory diagnosed hepatitis B must be reported, meaning that all active (acute or chronic) infections are captured. Since then, case numbers have been on the increase again. A growing proportion of double and multiple reports is also conceivable in this context; due to the provisions on deleting personal data, multiple testing of one person by a public health authority cannot always be identified as such. Determining the incidence is further complicated by the fact that HCV infections can often go unnoticed for many years. For more information on the methodology see 4.2.2.

For 2020, a total of 4,542 cases of hepatitis C were reported. This represented a national incidence of 5.5 new diagnoses per 100,000 population. Thus, the incidence is 24% lower than in the previous year. As in previous years, boys and men (7.7 infections per 100,000 population) are more than twice as frequently infected as girls and women (3.2).

Figure 9 shows information on the most probable mode of transmission. This information is available for 951 infections, corresponding to 21% of all reported infections. Multiple mentions were reduced to the most probable mode of transmission. Injecting drug use was reported as the most probable mode of transmission for 645 infections (68% of cases with information as to the mode of transmission). The additional specification "injecting drug use in detention" was recorded for 42 of these. Injecting drug use has for many years represented the most common mode of transmission for hepatitis C, by some margin; injecting drug users remain an extremely vulnerable group.

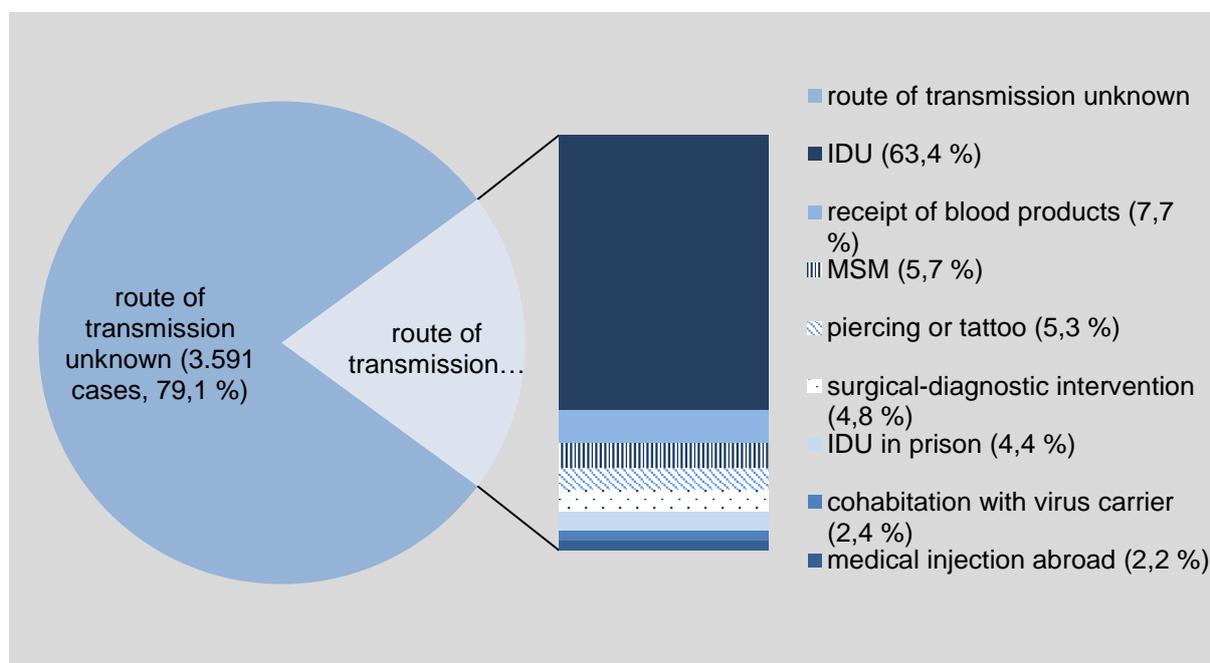


Figure 9 Modes of transmission for HCV diagnoses, 2020

Robert Koch-Institut (RKI) (2021).

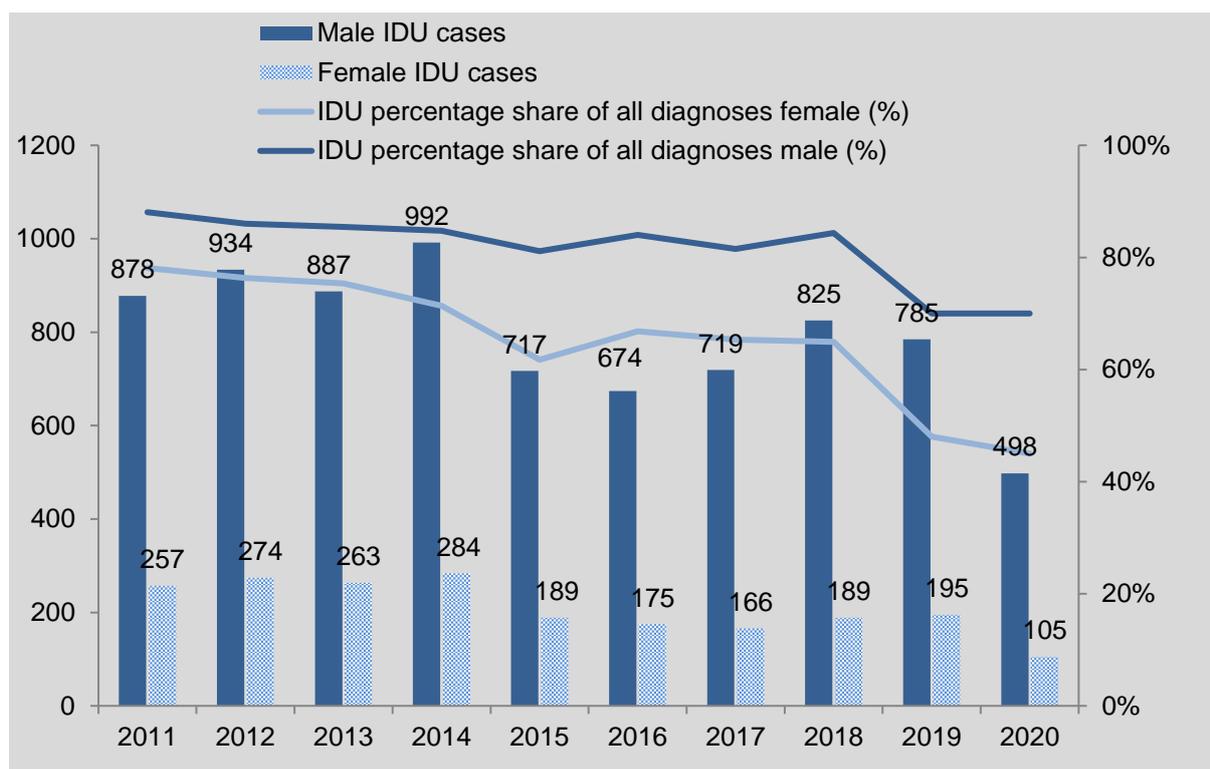


Figure 10 Trend in HCV diagnoses with mode of transmission injecting drug use, for men and women

RKI infection epidemiology yearbooks, most recently RKI, 2021

As in the previous years, the incidence was markedly higher among men than women (see Figure 10). The fact that men use drugs more frequently than women and that this is the most commonly reported mode of transmission explains, among other things, the considerably higher incidence of new diagnoses of hepatitis C among men.

Germany has committed to the WHO goal of eliminating viral hepatitis by 2030. In order to reach this goal, there is a need for further improvement in case detection, prevention and access to treatment, particularly among drug users and other groups with increased prevalence and incidence.

1.3.2 Prevalence data of drug-related infectious diseases outside the routine monitoring (T1.3.3)

The DRUCK study, which examined 2,077 injecting drug users in eight major cities in Germany between 2011 and 2014, produced data on the prevalence rates of HIV, HBV and HCV. The results of the study were detailed in the 2015 and 2016 Harms and Harm Reduction workbooks (Dammer et al., 2016, Pfeiffer-Gerschel et al., 2015) and are only referred to here as comparative values. The follow-up study DRUCK 2 is running at the moment (see 3.3.3).

HIV: Data outside the routine monitoring

Annually collected data on the HIV status of opioid users is available in the Hamburg basic documentation on outpatient addiction support (Lahusen et al., 2020) and from consumption room users in Frankfurt am Main (FFM) in the Consumption Room Documentation, which

covers four consumption rooms in Frankfurt (Stöver und Förster, 2020). Both documentation systems collect self reports from clients.

In 2019, the BADO data documented 3,437 people who stated that they mainly had an opioid problem. The largest proportion of those reported polytoxic drug use patterns, however. Of these, information on the HIV status is available for 2,491 people (671 women, 1,818 men). The somatic and psychological comorbidities are set out in greater detail in section 1.4.1.

The 2019 FFM documentation relates to 4,152 consumption room users (599 women, 3,553 men). This is not a purely opioid clientele. Around 79% of the instances of use involved opioids (among other substances) however. The use of crack is also widespread. 1,603 people reported an HIV test result. The trends from both documentation systems are presented together below.

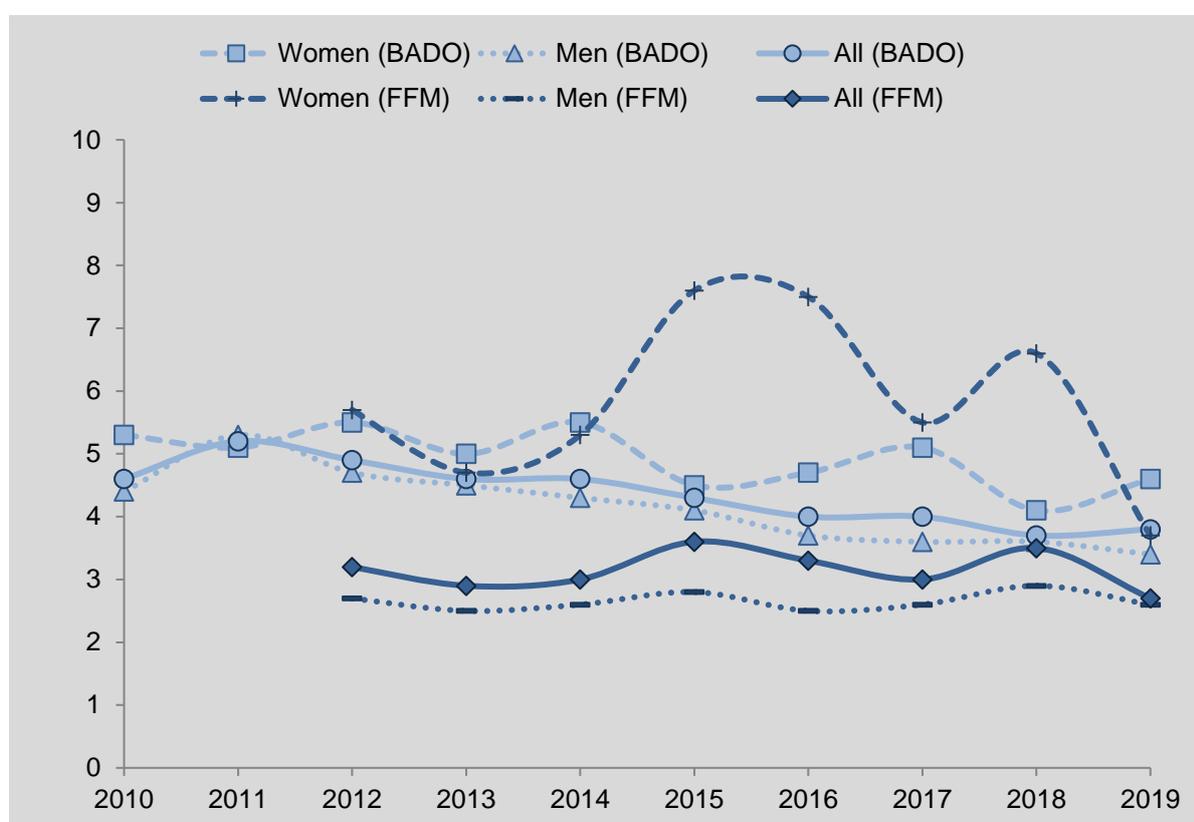


Figure 11 10-year trend in HIV infection rates among opioid users receiving treatment in Hamburg and FFM

Graph based on the annually produced documentations in Hamburg (most recently Lahusen et al., 2020, Stöver und Förster, 2020)

Data has been available from FFM since 2012. From the Hamburger BADO it is possible to show a ten-year trend. As Figure 11 shows, the infection rate in Hamburg has slightly fallen overall over the years, with slight fluctuations. The FFM documentation has shown a rather stable trend since 2012, with slight fluctuations. Over the years, women in both documentations have exhibited a higher infection rate than men. The DRUCK study also showed higher HIV infection rates among women than men (Robert Koch-Institut (RKI), 2016).

The data can only be interpreted very cautiously. The data is provided by way of self reporting, the validity of which is influenced, among other things, by how high the test rate is and how up to date the test results are. It is also conceivable that some people do not want to report a test result, for example for fear of being stigmatised or otherwise disadvantaged. In the BADO, 10.3% of the opioid-dependent clientele reported that they had not yet taken an HIV test; in FFM this figure was 13.2%. For 1,060 persons in FFM there is a note of when their last HIV test was: 42% of the tests took place in 2019, a further 43% in 2018. The other tests are older.

The 2020 DSHS also contains information on testing and results. For the opioid clientele in outpatient care, information on HIV testing is given for 6,935 people. 37% reported never having been tested, 26% stated that they had been tested more than twelve months previously and a further 37% reported having been tested within the previous twelve months. Information on test results was given for 4,311 people. Of those, 4% were positive.

If one summarises the findings from Hamburg, FFM and the DSHS, the resulting average HIV prevalence rate among opioid users ranges from approximately 3% to 4%, with values for women being higher. The values must be treated with caution due to the limitations set out above. They are, however, in the range of those collected in the DRUCK study (Robert Koch-Institut (RKI), 2016), which recorded HIV prevalence rates of between 0.0% and 9.1% (depending on the study city). The DRUCK study also showed that women were more frequently infected than men (7% vs. 4%). In the project “HIV? Hepatitis? I CHECK that!” (HIV? Hepatitis? Das CHECK ich!), which was described in detail in last year’s workbook, 0.9% of the rapid tests conducted among low-threshold addiction support clients were positive with a re-confirmation of the tests even lower, at just 0.5% (Gerlich et al., 2020).

Hepatitis C: Data outside the routine monitoring

Data is available on hepatitis C infection status from FFM and Hamburg (see, on the data sources, the above section on HIV data).

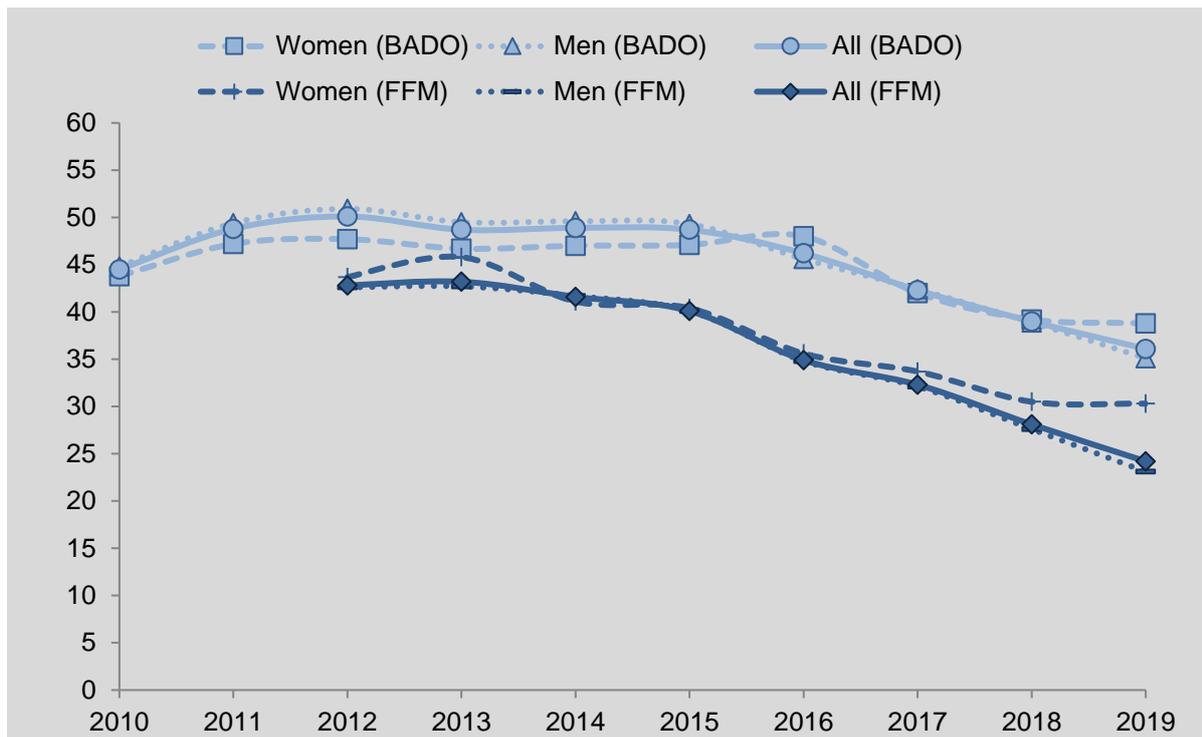


Figure 12 10-year trend in hepatitis C infection rates among opioid users receiving treatment in Hamburg and FFM

The graphic is based on the annually produced documentations from Hamburg (most recently Lahusen et al., 2020, Stöver and Förster, 2020)

In 2019, the HCV status of 2,520 opioid users was documented in the BADO. In the Frankfurt Consumption Room Documentation, information is available from 1,619 people on their HCV and HBV infection status. 24.2% of those reported being infected with HCV. A further 0.9% reported an HCV and HBV co-infection. The HCV infection rates reported have been falling for several years in both documentation systems (see Figure 12). Infection rates do not differ greatly between men and women in either city, however they are somewhat higher for women than men in both cities in 2019.

In FFM, 12% reported never having been tested; in Hamburg that figure is 8.8%. As already noted in relation to the HIV data, any interpretation of the data must be carried out with extreme caution (see above). The situation regarding hepatitis C is further complicated by the different options for testing, the details of which are likely rarely known to clients.

In the 2020 DSHS (Künzel et al., 2021) data is available on the hepatitis C testing of 7,027 people who mainly had an opioid problem. 35% of those people reported never having been tested, 27% stated that they had been tested more than twelve months previously and a further 39% reported having been tested within the previous twelve months. Test results are available for 4,421 people. Of those, 20% reported positive antibody detection and 18% an active virus detection.

In summary, the resulting estimate of the prevalence of hepatitis C among opioid users is between one quarter and one half of all those treated, with the numbers trending downwards in recent years. These numbers correspond with the results from other studies: The DRUCK

study (Robert Koch-Institut (RKI), 2016) showed an overall HCV prevalence of 42% to 75% over the eight study cities for the years 2012 to 2014. Men were on average more frequently affected than women (42% vs 38%). In the pilot project “HIV? Hepatitis? I check that!”, 36.2% of the drug users tested had an HCV infection, 26.8% had an infection that was active and thus potentially in need of treatment (Gerlich et al., 2020). In a sample of patients receiving substitution treatment for at least five years, chronic hepatitis C was documented for 37.5% of them (Zippel-Schultz et al., 2019).

Hepatitis B: Data outside the routine monitoring

The BADO documents an infection rate of 2.8% for HBV. The Frankfurt Consumption Room Documentation shows a very low HBV infection rate of 1.1%, with a further 0.9% HBV and HCV co-infection. The data seems to be of limited informative value in light of the unclear test status and complicated hepatitis B detection. A test result was recorded in the 2020 DSHS for 6,773 opioid users treated on an outpatient basis (Künzel et al., 2021). Of those, 38% reported never having been tested, 25% stated that they had been tested more than twelve months previously and a further 36% reported having been tested within the previous twelve months. Test results are available for 4,023 people. Of those, 1.6% reported an active virus detection and 6.9% antibody detection.

The DRUCK study showed, at 1.4% of people with a chronic HBV infection in FFM, a similar value to the Consumption Room Documentation and the DSHS, however the latter established a presumed, previously resolved HBV infection¹ for a further 27%, in the sense of lifetime prevalence (Robert Koch-Institut (RKI), 2016).

1.3.3 Drug-related infectious diseases - behavioural data (T1.3.4)

Of all types of use, injecting drug use has the highest inherent probability for the user of becoming infected with diseases. In the 2019 BADO, 39% of opioid users reported having injected drugs at some point in the past. 14% reported having shared a syringe with someone at some point and 2% reported having done so in the previous 30 days (2018: 53.9%, 26.8% and 5.0% respectively; 2017: 54.8%, 27.1% and 5.9% respectively) (Lahusen et al., 2020).

Data is available from the DRUCK study on risk behaviour and knowledge of risks and protection possibilities for injecting drug users, which was presented in detail in the Harms and Harm Reduction workbooks in 2015 and 2016.

¹ The authors of the DRUCK study consider in greater detail the problem of distinguishing, in terms of differential diagnosis, cured HBV infections from occult infections without current viraemia. For the presentation of the results however, they have chosen the option of treating the cases as cured infections. The presentation in this report is in line with that decision (see the final report of the DRUCK study, pp. 80 et seq.).

1.4 Other drug-related health harms (T1.4)

1.4.1 Other drug-related health harms (T1.4.1)

In addition to the suffering caused by the infectious diseases described above, drug users are to a considerable extent affected by a series of other somatic and psychological comorbidities. Comprehensive national or representative studies on this topic are not available. Data on comorbidities is collected in the DSHS. However, since data is missing for a large majority of all documented patients, no serious estimate as to comorbidities can currently be made on the basis of the few remaining data points.

Comorbid somatic and psychological disorders amongst opioid users in Hamburg

In the BADO 2019, there is information on both the physical and mental health of clients treated which cannot claim to be representative but which does offer an insight into this specific, heavily impacted clientele (Lahusen et al., 2020). The 3,435 opioid users documented in 2019 frequently exhibited additional substance-related and non-substance-related addictions.

The assessment by the people providing the care as to the negative physical health effects suffered by opioid users presents a stable picture of significant harm over the years: around one quarter of users (2019: 25.8%) each year are deemed to be suffering significant or extreme negative physical health effects, with a further third (2019: 33.2%) classified as suffering from a medium level of health impairment. In 2019, a degree of disability of at least 50% is documented in 10.2% of cases. Data on HIV and hepatitis status can be found in 1.3.2.

For years, the psychological harm suffered by clients has also been classified as constantly high by the persons providing the counselling, with women having higher rates than men. In 2019, 42.1% of clients were classified as considerably or extremely impacted (women 49%, men 37%). The rate of suicide attempts has also been consistently high for years; 24.7% of clients reported at least one suicide attempt in the past (women 33%, men 22%).

1.5 Harm reduction interventions (T1.5)

1.5.1 Drug policy and main harm reduction objectives (T1.5.1)

Harm reduction measures represent one of the four levels of the National Strategy on Drug and Addiction Policy (Drogenbeauftragte der Bundesregierung, 2012)². Various targeted approaches are used in an attempt to prevent deaths caused by drug use:

- Informing and educating on the risks of overdosing,
- Providing effective treatment measures for drug users, including substitution (see Treatment workbook) and improving retention rates,

2 The strategy is available online at <https://www.drogenbeauftragte.de/themen/drogenpolitik/nationale-strategie/> [accessed: 17 Aug. 2021].

- Improving transition management after release from prison (see Prison workbook),
- Providing drug consumption rooms,
- Improving the reaction of bystanders in the case of drug emergencies (first aid training, naloxone programmes).

More detailed information on the National Strategy can be found in the Drug Policy workbook.

Since the decision of the German Federal Cabinet of 6 April 2016, the BIS 2030 strategy of the Federal Government has also been in effect, which seeks to reduce HIV, HBV, HCV and other sexually transmitted infections substantially by 2030 (BMG and Bundesministerium für wirtschaftliche Zusammenarbeit und Entwicklung, 2016). Injecting drug users are explicitly mentioned as one of the specific target groups of this strategy, for whom needs-based services are to be created or expanded and integrated services are to be developed³.

Due to Germany's federal structure, political decisions at *Land* and municipal level also play an essential role in harm reduction interventions. For example, the possibility of opening drug consumption rooms is governed by *Land* regulations; since 2019, this has been possible in eight *Laender*.

1.5.2 Organisation and funding of harm reduction services (T1.5.2)

Health aspects of drug use are addressed both in the scope of specific services for drug users as well as within the general healthcare system. Data on general healthcare does not provide any information which can be specifically attributed to the target group of drug addicts. Therefore, other than a few individual cases, there is no data available on the number of emergency responses due to overdoses or other life-threatening conditions caused by drug use. Nor is there any data on the treatment of other secondary diseases carried out in GP surgeries or clinics. The costs are generally borne by the health insurance providers. This information is not collected or published separately, however.

Information on the extent and type of specific services for drug users is only available for some of the measures, as these are provided by specialised facilities or as part of special programmes. There is no uniform financing. The costs of most facilities are borne by the municipalities. There is also some funding from the Federal Government and the *Laender*, however, with a proportion of own funds (for example financed through donations), as well as various hybrid forms.

The availability of harm reduction measures varies widely in Germany. Experts rate the availability as being much better in cities and heavily populated regions than in rural areas. This has been confirmed, in relation to the provision of consumption apparatus, according to the findings of a new 2018 survey (presented in detail in last year's workbook). Care in prisons

3 The strategy is available online at https://www.bundesgesundheitsministerium.de/fileadmin/Dateien/5_Publikationen/Praevention/Broschueren/Stategie_BIS_2030_HIV_HEP_STI.pdf [accessed: 17 Aug. 2021].

is particularly poor (see the Prison workbook). As set out in section 1.5.1, the availability is also strongly determined by decisions made at *Land* and municipal level.

1.5.3 Harm reduction interventions (T1.5.3)

Provision of opportunities for testing for infectious diseases

There is no systematic, Germany-wide screening for infectious diseases. The testing possibilities within low-threshold facilities vary widely and are often dependent on financial circumstances. There is no Germany-wide data on services available, even if it can be assumed that testing is offered in some low-threshold facilities, at least for HIV, HBV and HCV.

Some low-threshold facilities cooperate with public health authorities for such testing. In the BADO and Frankfurt Consumption Room Documentation, usually between 85% and 90% of respondents state that they have been tested for these infections (see 1.3.2). In 2019, 42% of respondents in the Frankfurt Consumption Room Documentation reported that their HIV test was from the current year; for the rest of those tested, it was from longer ago. A similar picture is shown in the DSHS; among opioid users treated on an outpatient basis in 2020, 37% reported having been tested within the last year (Künzel et al., 2021). Hence, it cannot be assumed that there is sufficient frequency of testing. In the case of inpatient stays, there is frequently the possibility to be tested for various infectious diseases. Generally, any person in Germany can be tested for HIV anonymously and free of charge through their public health authority. This service does not exist for hepatitis infections, however.

Provision of syringes and other safer use equipment

Prevention of drug-related infectious diseases in low-threshold drug support facilities consists primarily of providing information on infectious diseases and risks as well as distributing safer-use equipment. Provision of syringes and syringe exchange in low-threshold work is explicitly permitted under the BtMG and is practised by many facilities.

The German Aids Service Organisation (Deutsche Aidshilfe, DAH) provides a website⁴ containing an overview of the locations of syringe vending machines it is aware of. Issuing syringes in low-threshold and other facilities is not documented on the website, however. According to the website, syringe vending machines are only available at all in nine *Laender*; seven *Laender* do not even have a single documented syringe vending machine. Of the 177 syringe vending machines listed by the DAH, over 100 are located in North Rhine-Westphalia (NRW) and 20 in Berlin. From this it is clear that the distribution of locations for the whole of Germany still cannot be described as comprehensive coverage by any means. Nonetheless, it must be assumed that the documentation of the syringe vending machines in the other *Laender* is incomplete, which could be a factor contributing to a distortion of data in favour of NRW and Berlin. At present, there is no exhaustive count of all syringe vending machines in

⁴ <http://www.spritzenautomaten.de> [accessed: 17 Aug. 2021].

Germany. Nationwide data on the provision of syringes is now available for the first time and was reported in last year's workbook. North Rhine-Westphalia (NRW) was previously the only *Land* which is not a city state where a regular survey is conducted on a local level on the distribution of disposable syringes by the NRW AIDS service.

Germany-wide, a trend of switching from injecting to inhaling use can be observed, (see below, Drug consumption rooms). The DAH project "SMOKE IT!" (Stöver, 2014) had the explicit aim of promotion this switch, since inhalative use has a lower risk overall. Among other things, SMOKE IT packs were distributed to low-threshold facilities in order to expand the range of consumption apparatus that is able to be provided to users. After the project finished, low-threshold facilities retained the ability to obtain consumption apparatus for inhalative use in a centralised order via the DAH. As this involves foil produced specifically for the use of heroin, that has already been cut, is more stable than that usually available commercially, and contains no additives, the costs are significantly higher than for household aluminium foil. Currently (as of July 2021) around 70 facilities avail themselves of this possibility, which indicates that demand remains high (DAH, 2021, personal communication).

The JES Bundesverband has developed "crack packs" containing consumption apparatus specifically for the use of crack, as an increase in crack use has been observed within the scene. After the JES Bundesverband had distributed 2,000 packs in 2019 and come to the conclusion that there was huge interest for them from both facilities and users, the set was revised again and can now be ordered online⁵. To date, a total of 8,000 sets have been ordered by facilities across the whole of Germany, which exceeds production capacity (DAH, 2021, personal communication). From this, one can conclude that there is a high demand for consumption apparatus outside of the "classic" supply of syringes.

Safer-use services in prison

According to estimates from healthcare experts, safer-use services in prison in Germany are still lagging far behind what is possible. The available information on this topic is presented in the Prison workbook.

Emergency training and naloxone take-home programme

In Germany, there were 1,581 drug-related deaths in the reporting year 2020. Of these, 36.2% were due to monodrug or polydrug opioid overdoses. In addition, there was an unknown proportion of long-term harms in combination with opioid overdoses (BKA 2021, data delivery). The proportion of directly opioid-related deaths has fallen in recent years⁶, however opioid poisoning remains, by some margin, the most frequent cause of death among all fatal poisonings from illegal substances. The opioid antagonist naloxone, which has been

⁵ <https://www.jes-bundesverband.de/projekte/projekt-safer-crack-pack/>

⁶ At the same time, the proportion of drug-related deaths as a result of long-term harms is increasing. There is no information on the substances actually causing the deaths, even if it can be assumed that opioids play a dominant role in this regard. See 1.1.1.

successfully employed in emergency medicine in the case of opioid overdoses for over 40 years, can also be administered by a layperson and thus save lives. For this reason, the WHO, EMCDDA and the Federal Government Commissioner on Narcotic Drugs recommend providing naloxone to people who are frequently present when opioids are used (Drogenbeauftragte der Bundesregierung, 2014; European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), 2015; World Health Organization (WHO), 2014). This means opioid users themselves, but also friends and family.

The dispensing of naloxone to laypeople is only sporadically practised in Germany. This has been expanded in recent years, however, both through a *Land* project in Bavaria (see below) and by the active involvement of individual funding agencies. It is made more difficult by the question of financing and is not integrated into regular healthcare. NGOs are making efforts to clarify and improve the legal situation for naloxone programmes in order to break down barriers to appropriate care and thus enable full coverage nationwide in the future. At the time of writing the report, there are programmes known in 18 cities from 2020. Their geographic distribution is illustrated in Figure 13. There is a clear focus of care in the west and south of Germany.



Figure 13 Naloxone projects in 2020

Condrops e.V., poster: "Save lives with naloxone! We're on board!" (Leben retten mit Naloxon! Wir sind dabei), own modification and addition

Data on the impact of the COVID-19 pandemic on naloxone training is limited, but the small amount of information available indicates severely restricted availability. There is information from Saarbrücken that training was sometimes not conducted as, for example, mask-wearing is not compatible with practising mouth-to-mouth resuscitation (which is part of the training concept). Thus, only three naloxone prescriptions were able to be dispensed in 2020

(Drogenhilfe Saarbrücken gGmbH, 2021). The project in Osnabrück that had been started in 2019 was also not able to be continued in 2020; training for 2021 is being planned (Aids-Hilfe Osnabrück e.V., personal communication). No new training took place in Frankfurt am Main in 2020 either, although naloxone was still dispensed to people who had already been trained previously and who required a new dose after having deployed their naloxone.

In Hamm, the new naloxone project planned for 2020 was pushed back to 2021 due to the pandemic (Arbeitskreis für Jugendhilfe e. V., personal communication, Drogenhilfezentrum Hamm, 2021). Another new project is planned to start in 2021 in Würzburg (Condrobs e.V., 2021, personal communication).

All naloxone programmes in Germany consist of drug emergency training sessions, in which, for example, first aid techniques are taught and information is provided on the risks and signs of an overdose as well as on naloxone itself. In addition, specific exercises are carried out on the administration of the medicine. After the training sessions, if participants are willing and provided a prescription has been supplied by a doctor, the emergency kits are issued. These contain, in addition to the medicinal drug, the administration apparatus and often single-use gloves and resuscitation face shields. A naloxone preparation in the form of a nasal spray has been on the market in Germany since September 2018, which is used in many projects. Two manuals on the implementation of the naloxone projects are available online⁷. Results from the Bavarian pilot project, for which an interim evaluation is available, are reported in section 3.3.2.

Drug consumption rooms

Due to the continuing very high-risk patterns of use of heroin, cocaine and crack as well as other illicit drugs, drug consumption rooms and low-threshold drug support facilities are important places for affected persons to go. In the drug consumption rooms, drug users bring the drugs themselves with them. Infection prophylaxis is an intrinsic part of the service provided. Paraphernalia which the drug users bring with them to the consumption rooms are not allowed to be used. The aim of the service is the survival and stabilisation of the health of its users. This is also true for immediate intervention in the case of overdoses. In addition, cessation oriented support can thus be offered to people with drug dependence who would otherwise be unreachable. On the basis of Sec. 10a BtMG, which stipulates the minimum statutory requirements for such facilities, the *Laender* governments can pass ordinances regulating the issuing of licences to operate drug consumption rooms.

Currently, there are a total of 25 drug consumption rooms across 17 cities in eight German *Laender* (Baden-Württemberg, Berlin, Hamburg, Hesse, Lower Saxony, North Rhine-Westphalia, Bremen and Saarland) as well as three mobile drug consumption rooms in Berlin⁸

⁷ <http://www.akzept.org/uploads2013/NaloxonBroschuere1605.pdf> and <http://www.akzept.org/uploads1516/NaloxonJESnrw17.pdf> [accessed: 23 Aug. 2021]

⁸ <https://www.drogenkonsumraum.net/> [accessed: 17 Aug. 2021].

and one in Cologne⁹. In NRW and Saarland, the use of drug consumption rooms is permitted for substituting clients. An analysis comparing users and non-users/no longer users of drug consumption rooms in Berlin found that the exclusion of substituting people in the Berlin drug consumption rooms limits the scope of the service (Stöver et al., 2020).

In 2020, the operation of drug consumption rooms was subject to pandemic-related restrictions. Information in the annual reports in Frankfurt am Main and Saarbrücken shows that fewer consumption places were available for various longer or shorter periods, in order to maintain social distancing (Drogenhilfe Saarbrücken gGmbH, 2021, Stöver und Förster, 2021a). As a result, 19% fewer instances of use were recorded in Frankfurt am Main in 2020 than for 2019; for Saarbrücken it was 25% fewer. There are no figures or reports published from other drug consumption rooms for 2020 as yet. However, a qualitative survey by the BKI, the results of which are detailed in 3.3.1, also reports restrictions in this area (Krings et al., 2020).

In an evaluation of emergency statistics from 14 consumption rooms and one mobile consumption room in a total of eleven cities in 2019 found an increase in the proportion of emergencies considered to be probably life-threatening, from 39% in 2013 to 53% in 2019 (Kuban, 2020). Possible explanations offered for this increase are the increasing age of users and their often worse overall health. This explanation corresponds with the fact that the numbers of drug-related deaths due to long-term harms have been increasing for years in the police data (see section 1.1.2). Other risk factors listed are the high and strongly fluctuating purity levels of the frequently consumed substances heroin and cocaine, and the relatively high rate of refusal of users (mainly for disciplinary reasons), which could also explain the high rate of emergencies without prior use of the consumption room, which was 26% in 2019 (Kuban, 2020).

Information on emergencies treated in 2019 was also available this year specifically from FFM (Stöver und Förster, 2021b). The most common symptoms were breathing difficulties (79%), impaired consciousness (59%) and coma-like state (lack of reflexes, unresponsive, 55%) Circulatory impairments were somewhat rarer (38%), followed by somnolence and sopor (24% and 22% respectively) The most frequently deployed measures were the monitoring of vital functions (85%) and artificial respiration (79%). Stabilising the circulatory system (48%), providing oxygen (45%) and administering naloxone (44%) took place in just under half of the cases:

Some of the facilities now publish regular data studies on use and clientele. In NRW (ten cities with consumption rooms) the most recently published evaluation relates to the data year 2019 (Pauly und Mücken, 2021); there is also an evaluation from Berlin for its three mobile drug use facilities for the same year (Fixpunkt e.V., 2020). An annual evaluation is also published for the four drug consumption rooms in Frankfurt and the drug consumption room in Saarbrücken

⁹ https://www.aids-nrw.de/front_content.php?idcat=1669&idart=7254 [accessed: 17 Aug. 2021]

(SB). The following summary in Table 3 relates, in line with the reports from NRW and Berlin, to the 2019 data year (Drogenhilfe Saarbrücken gGmbH, 2020, Fixpunkt e.V., 2020, Pauly und Mücken, 2021, Stöver und Förster, 2020) and covers the results from a total of 15 drug consumption rooms and three mobile drug use facilities in 13 cities. As the documentation does not follow a common standard, some information cannot be provided for all consumption rooms.

Table 3 Data from 18 drug consumption rooms and mobile drug use facilities, 2019

	NRW	FFM	Berlin	SB
Basis of data	10 rooms in 10 cities	4 rooms	3 mobile drug use facilities	1 room
Users (n)	-	4,152	224	487
Age of users (average, in years)	-	40	-	40
Female ¹	14%	14%		18%
Male ¹	86%	86%		82%
Instances of use (n)	258,369	183,605	3,295	45,165
%age substituting	39%			
Substances used				
Heroin/opioids ²	70%	79%	31%	42%
Crack		46%	4%	
Cocaine	22%	1%	9%	
Cocaine and derivatives				17%
Heroin/opioids ³ + cocaine	7%		55%	41%
Other	1%	2%	1%	<1%
Routes of administration				
Injecting use	40%	77%	87%	72%
Inhalative use	56%			14%
Nasal use	4%			14%
Emergencies (n)	301	386		88⁴
Resuscitation (n)	10			29
Emergency doctor (n)	139	306		
Hospitalisation needed (n)	118	58 ⁵		

1 In NRW, gender information is based on the number of instances of use, in FFM and SB on the number of people using

2 NRW documented opioids; FFM and Berlin documented heroin, and for SB it was "opiates and derivatives"

3 NRW documented opioids + cocaine; FFM, Berlin and SB documented heroin + cocaine

4 59 of these were directly in the consumption room, 29 within the facility or in the direct vicinity

5 Not all users were actually admitted for treatment

In summary, one can say that the most important substances in the documented consumption rooms are opioids (above all heroin), crack and cocaine, which are frequently consumed in combination. There is an overarching trend towards less injecting use, although this form of use continues to strongly predominate outside NRW. The most commonly reported alternative type of use is inhalation; nasal use is reported to a lesser extent. The vast majority of users is male and the average age - to the extent this was recorded - is around 40 years old. There were 775 emergencies in 15 consumption rooms in a total of twelve cities out of 487,139 documented instances of use. This corresponds to a rate of around 0.16%. Not all emergencies were in direct connection with an instance of use, therefore this relatively low rate even constitutes an overestimation. The numbers originated from 2019 and were thus not yet influenced by the COVID-19 pandemic conditions.

Measures to prepare inmates for release from prison

Within the Bavarian naloxone pilot project, naloxone training sessions were given to inmates. More detailed information on this and on other measures for the reintegration of drug users and for the prevention of overdoses after release from prison can be found in the Prison workbook.

Treatment of hepatitis C among drug users

The new generation of HCV medicines has significantly increased the chances of recovery from an HCV infection and comes with a considerably improved side effect profile, meaning that the infection, which is very widespread among drug users, is now more treatable than even just a few years ago. These new developments were reported in detail in previous years' workbooks. It is not known how many drug users, who make up the largest group of those with HCV in Germany, actually receive new medicinal drugs and accordingly benefit from the described innovations. Outcomes from the pilot project "HIV? Hepatitis? I CHECK that!" on barriers to initiating and maintaining treatment, as well as possible solutions, were set out in detail in last year's workbook.

1.5.4 Harm reduction services: availability, access and trends (T1.5.4)

Since nationwide data on the number of syringes supplied has only been collected once, national trends cannot yet be reported in this area. This will only be possible in future workbooks.

1.6 Quality assurance for harm reduction services (T1.7)

1.6.1 Quality assurance for harm reduction services (T1.7.1)

There are currently no nationally binding guidelines on quality assurance for harm reduction, but there is now a range of scientifically-based recommendations available. Recommendations for further developing harm reduction in Germany based on the outcomes from the DRUCK study were already set out in 2016. These can be found in detail in the DRUCK study final report (Robert Koch-Institut (RKI), 2016). Based on this, the DAH published recommendations

for action in 2018 specifically for the provision of consumption apparatus (Leicht et al., 2018). In 2020 in NRW, guidelines were also published on harm reduction for people who use illegal drugs (Landesstelle Sucht NRW and Arbeitsgemeinschaft AIDS-Prävention NRW, 2020).

2 TRENDS (T2)

Not relevant in this section. Included above

3 NEW DEVELOPMENTS (T3)

3.1 New developments in drug-related deaths and acute emergencies (T3.1)

The current status and trends in the area of drug-related deaths are presented in section 1.1. The current status and trends in the area of non-fatal drug-related emergencies can be found in section 1.2.

During the COVID-19 pandemic, in a hospital in Essen, changes in diagnoses upon admission to emergency departments were evaluated. In that evaluation, the period 15 March 2020 to 4 May 2020 was compared to the same period from the previous year. The total number of emergencies due to psychiatric diagnoses increased by 3.3% compared to the previous year (2019: n = 374; 2020: n = 387). The proportion of patients with a primary diagnosis of addiction increased by 25% (2019: n = 132; 2020: n = 165). This increase was caused almost exclusively by the number of patients with a diagnosis of alcohol dependency (2019: n = 100; 2020: n = 127). Patients who were diagnosed as having an illegal substance dependency accounted for a much smaller proportion in 2020 (n = 38) and there was almost no change from the previous year (2019: n = 32) (Sobetzko et al., 2021). Representative data for the whole of Germany is not available.

3.2 New developments in drug-related infectious diseases (T3.2)

For the current situation regarding drug-related infectious diseases, see section 1.3. With the introduction of new medicinal drugs, the chances of success of hepatitis C treatment have significantly improved also for drug users. How many users actually benefit from these opportunities remains unclear.

The results of a qualitative study by the RKI (see 3.3.1) indicate that low-threshold testing services were strongly restricted during the COVID-19 pandemic (Krings et al., 2020). New developments on testing and treatment in the area of infectious diseases are reported in section 3.3.3.

3.3 New developments in harm reduction interventions (T3.3)

3.3.1 Changes in low-threshold drug support due to the COVID-19 pandemic

As the pandemic-related changes in 2020 have had a significant influence on the supply of measures, they are - where known about - listed above in 1.5.3 in the respective individual measures. Results from two studies are also given below.

Results are available from a quantitative and qualitative survey among 254 drug support workers conducted between November 2020 and January 2021 (Werse und Kamphausen, 2021). 178 of the respondents worked in low-threshold/acceptance-oriented drug support and 76 in substitution. The Respondents' expressed the view that the period from March to May 2020 (first lockdown) was the time in which the impact on their work was the most serious, followed by November and December (second lockdown). Measures implemented nearly universally were distancing rules (99%), obligatory mask-wearing (98%), hand sanitising (94%), restrictions to admission (89%) and spatial/structural measures (84%), for example floor markings or the installation of plexiglass. Almost two thirds (63%) of respondents reported a change to their service structure, for example telephone counselling. Just over half (53%) reported restrictions to their services, one third (34%) reported partial closures in some areas, and 8% complete closure for some periods. Clients' acceptance of measures within facilities was reported to be good to very good. At the same time, two thirds (65%) of respondents reported that the quality of their work had decreased.

In addition, results are available from a qualitative survey by the RKI at 23 facilities for the period 15 May 2020 - 15 June 2020 (Krings et al., 2020). The information therefore relates to the relatively early part of the pandemic (first lockdown and first phase of restrictions being lifted thereafter). Many of the facilities reported partial or even complete closure. Recreational rooms and drop-in centres were particularly affected, as a result of which there were too few private spaces for counselling sessions even though a particularly high demand for sessions was reported. Descriptions of the emergency footing included providing consumption apparatus in a different way, e.g. through a window and a whole week's supply at once, as well as food distribution at the door. Some facilities described increased outreach work in order to be able to maintain contact with clients, others reported not being able to do this any more at all, as distancing rules were not able to be complied with. A reduction in consumption rooms/spaces was reported. Low-threshold testing for infectious diseases was largely suspended. Helping people into substitution treatment was described by some facilities as being easier than before the pandemic, but others described it as more difficult.

In Hamburg, a low-threshold substitution practice was set up in an existing low-threshold contact centre, using special funds for the COVID-19 pandemic (Jugendhilfe e.V., 2020). The intention was to reach opioid users who were not yet substituting, whose living conditions had been further worsened by the pandemic-related restrictions. Regular healthcare in substitution treatment during the COVID-19 pandemic is reported on in the Treatment workbook; the legislative changes are set out in the Legal Framework workbook.

3.3.2 Measures to prevent overdoses

General information on the current situation with regard to naloxone take-home programmes in Germany are detailed in section 1.5.3, where an overview of the geographic distribution of the projects and impacts of the COVID-19 pandemic in 2020, as far as they are known, can also be found.

Interim evaluation of the pilot naloxone take-home programme in Bavaria

An interim evaluation is available on the reference date 30 June 2020 of the pilot project, commissioned by the Bavarian State Ministry of Health and Care (which ran from 1 October 2018 to 31 March 2021) (personal communication from the project management, Take-Home Naloxone in Bayern, 2021). Firstly, a training manual was created and on this basis manualised, psycho-educative drug emergency training sessions were conducted in addiction support facilities in the five largest Bavarian cities. The persons receiving training were opioid addicts. Following the training, participants received a drug emergency kit which included take-home naloxone. Pre-post and follow-up evaluations were carried out on the manualised training. In addition, participants who, after having received training, later rendered assistance during a drug emergency during which they used their naloxone were interviewed afterwards by means of partly structured interviews.

479 participants had received training by the reference date of 30 June 2020. These people were between 18 and 70 years old (average age almost 40 years old) of which 33% were female, 69% were undergoing substitution treatment, 10.9% were in prison and 20.1% were from the drug scene. Preliminary results show that opioid addicts in all three groups were able to benefit from the specific drug emergency training. They acquired knowledge and skills which enabled them to act with greater certainty and more effectively in a drug emergency situation. As well as many other aspects, this was also shown by the documented drug emergency situations, in which the participants successfully deployed their knowledge and skills. More information on the special training which took place in prison can be found in the Prison workbook.

Start of the national pilot project, “Naltrain”

On 1 July 2021, the BMG-funded national project “Naltrain” started - conception, implementation and evaluation of a scientific pilot project on delivering Germany-wide, quality-assured training on take-home naloxone¹⁰. The aim of the three-year pilot project is to carry out nationwide training for at least 800 employees from at least 400 drug and Aids support facilities. The aim is for these staff to then be able to carry out naloxone take-home training for drug users and substitution patients. At the same time, the plan is to establish a network of

¹⁰ See <https://www.naloxontraining.de/naltrain/> or <https://www.naloxontraining.de/wp-content/uploads/2021/08/Infotext-NALtrain.pdf> [accessed: 19 Aug. 2021].

doctors able to prescribe naloxone. In this way, a total of 10,000 drug users are to be trained for brief interventions and equipped with naloxone nose spray.

3.3.3 Testing and treatment of drug-related infectious diseases

The RKI DRUCK 2.0 study (1 April 2020 to 30 November 2022) is piloting a concept for the regular monitoring of HIV, HBV and HCV and sexually transmitted infections in low-threshold drug support facilities and substitution practices in two *Laender*. A total of 700 injecting users are intended to be reached in Bavaria and Berlin and tested for infectious diseases. In addition, data will be collected on socio-demographics, drug use, risk and prevention behaviour. Across three study arms, data will be collected on acceptance and practical feasibility of different implementation designs. Based on the findings of the study, nationwide monitoring will be rolled out, to take place every two years and be supplemented with specific questions using flexible additional modules (Steffen et al., 2021).

3.3.4 Pilot project drug checking “SubCheck”

In Thuringia in July 2021, the first uses of the drug checking pilot project “SubCheck” by “S i T - Suchthilfe in Thüringen gGmbH” took place on behalf of the Thuringia Ministry for Labour, Social Affairs, Health, Womens Affairs and Family Affairs (Thüringer Ministerium für Arbeit, Soziales, Gesundheit, Frauen und Familie). It was the first implementation anywhere in Germany of a pilot project on the topic of drug checking.

Substance analysis takes place at parties and festivals in close cooperation with the already established safer nightlife project “Drogerie” by the S i T prevention centre. If it becomes clear from the conversation with someone seeking counselling that they may be in possession of substances acquired on the black market, they are offered the option to have the substances analysed. This takes place anonymously. The sample is prepared by the person seeking counselling themselves, weighed and added to the test solution. Protective equipment such as nitrile gloves, protective gowns and protective glasses are issued, which must be worn while the analysis is carried out. The substance stays in the possession of the person seeking counselling until the chemical reaction is initiated by adding the test solution. Thus, employees of the service are at no time in possession of substances which may be subject to the BtMG or NpSG. Afterwards, the solution is subjected to various analysis methods. Expert support as regards the chemical and toxicological analyses is provided by LeadiX GmbH. The selection and combination of the appropriate analysis methods in each case are determined by the correspondingly trained staff member on site. The specific chemical processes are documented in order to develop a standardised process from the resulting data. Counselling on the basis of the results of the analyses is conducted by social education workers on site in the pharmacy motorhome on site. The aim of the counselling is to provide individual information on the composition of the substance submitted for testing, and give important advice on safer use and harm reduction, as well as on the importance of avoiding mixed use. Where there are indications of problem patterns of use, counsellors can act accordingly, stating what they are and referring clients to adequate (early) intervention services. Users explicitly do not receive

written feedback and are not allowed to photograph the results. This is to ensure that analysis results are not used as apparent “seals of approval” and cannot be abused by dealers.

Extremely high-dose substances with dangerous additives, unexpected or completely unknown substances are described and classified as especially dangerous. These results are published online as warning messages. In addition, a direct report is made to the competent ministries and health authorities, as well as the EMCDDA’s Early Warning System. Results which were expected are, in contrast, not published, in order not to promote a false sense of security among users, as it would be false to assume that phenotypically identical preparations also have the same composition. The project is supported by an evaluation carried out by Charité Berlin (Präventionszentrum der SiT-Suchthilfe in Thüringen gGmbH, 2021).

3.3.5 Project “SHIFT Plus” - further development and evaluation of addiction support family training for drug-dependent parents

The “SHIFT Plus”¹¹ project, based on the results of the predecessor project “Crystal meth and Family II”, in which the “SHIFT parent training” (SHIFT Elterntraining) was conceived specifically for the target group of methamphetamine-dependent parents. In a first evaluation, this had proven effective in promoting parenting behaviour and reducing drug-related problems. It was further developed in the scope of the new project for the entire area of dependence on illegal substances and modules for relatives were added, in order to expand it in the area of family resilience. The new project is a modular group intervention with ten sessions for drug-dependent parents of children aged between zero and eight years old, based on addiction and behavioural therapy principles. Children or other relatives are included in two of the sessions. Implementation was carried out nationwide in a total of eight practice locations in collaboration with addiction and youth support. The intervention is evaluated with respect to acceptance and effectiveness on the basis of a standardised questionnaire procedure at four measurement points (pre, post, 3-month catamnesis, 6-month catamnesis). Initial interim results show a significant effectiveness of the intervention with regard to reducing depressive symptoms and an improved knowledge of the topic of family and addiction in the intervention group immediately after taking part in the training. The reported acceptance and practicability of the programme is high, on both participant and trainer side (Deutsches Institut für Sucht- und Präventionsforschung der Kath. Hochschule NRW, 2021, personal communication).

¹¹ <https://www.katho-nrw.de/katho-nrw/forschung-entwicklung/institute/disup/forschungsprojekte/shift-plus/> [accessed: 17 Aug. 2021]

4 SOURCES AND METHODOLOGY (T5)

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4.2 Methodology (T5.2)

4.2.1 Recording drug-related deaths

In Germany, there are two general, comprehensive systems for recording drug-related deaths, which differ from one another in various aspects. These are the police data from the "Drugs Data File" (Falldatei Rauschgift, FDR) and the "Statistical report on the causes of death" (Todesursachenstatistik) from the German Federal Statistical Office (Statistisches Bundesamt, Destatis).

Drugs Data File (Falldatei Rauschgift, FDR)

In general, drug-related deaths are recorded by the individual *Land* Offices of Criminal Investigation (Landeskriminalämter), while the Federal Criminal Police Office (Bundeskriminalamt, BKA) has access to the base of data, performs data quality control and summarises the figures. Data collection modalities and the basis for the assessment of drug-related deaths differ between the individual *Laender*. The proportion of drug-related deaths for which an autopsy is carried out, as a measurement for the quality of the classification as "drug-related death" ("Drogentote"), varies (in some cases considerably) between the *Laender*. The toxicological examination of bodily fluids and tissue plays an important role in establishing the cause of death, as only this can provide sufficient information on the drug status at the time of death. Autopsy reports and toxicological reports are generally produced by different institutions. Since the latter in particular are often only available after a long delay, they are only taken into account in the classification of drug-related deaths to a limited extent.

In order to facilitate the recording of drug-related deaths and reduce errors, the following categories for drug-related fatalities were defined in a leaflet by the BKA (BKA, 1999):

- Drug-induced deaths caused by unintended overdose
- Death as a result of damage to health (physical decline, HIV or hepatitis C, organ weakness) caused by long term drug abuse (= "long term harm")
- Suicide out of despair over one's own living circumstances or under the influence of withdrawal symptoms (e.g. delusions, strong physical pain, depressive mood)
- Fatal accidents of persons under the influence of drugs

General Mortality Register¹²

In Germany, a death certificate is filled out for every death. The certificate contains, alongside the personal details, information on the cause of death. The death certificate is passed on to the health authority and then to the *Land* statistical office. Aggregation and evaluation at national level is undertaken by the German Federal Statistical Office ("Statistical report on the causes of death", Todesursachenstatistik). Often, this data source also does not take into account the results of delayed toxicological reports when classifying the drug-related deaths.

For the purpose of reporting to the EMCDDA, cases are selected from the general mortality register which meet the definition of "direct causality". The goal here is to record cases of death which follow a close time after the use of opioids, cocaine, amphetamine (derivatives), hallucinogens and cannabinoids, - i.e. in particular fatal poisonings, as sensitively as possible. The selection is based on the requirements set out by the EMCDDA (the so-called ICD-10 Code Selection B). The assumed underlying disorder (ICD10-codes F11-F19) or, in the case of accidents or suicides, the assumed cause of death (ICD10-codes X, T, and Y) are used as the basis for classifying a death as a drug death. This means that long-term secondary diseases, accidents not directly caused by poisoning and suicides are not covered by this definition, although individual cases of this type presumably may indeed be included due to erroneous death certificates or coding errors. In 2006, an amendment to the coding rules of the World Health Organisation (WHO) entered into force. The objective of the change was to code, where possible, the acute cause of death, instead of the F1x.x codes, namely the substances on which the intoxication was based. In Germany, the new coding has, however, not yet had an effect in respect of the desired increase in specificity, meaning that many F-codes still exist.

4.2.2 Notifications of drug-related infectious diseases

Under the IfSG, which came into force on 1 January 2001, data on infectious diseases, including on HIV and viral hepatitis, are reported to the RKI. Corresponding data is published at regular intervals¹³. According to the German Ordinance on Laboratory Reports (Laborberichtsverordnung) and the IfSG, all laboratories in Germany are obliged to report confirmed HIV-antibody tests anonymously and directly to the RKI. These laboratory reports are completed by supplementary anonymous reports from the attending doctors. In this way, HIV reports ideally contain information on age and gender, town/city of residence, route of transmission of the infection as well as information on the stage of the disease and HIV-related basic laboratory parameters. In addition, the AIDS-Case-Register collects together epidemiological data on diagnosed AIDS cases in anonymised form, based on voluntarily

¹² The use of the term "General Mortality Registry" is based on the terminology of the EMCDDA. The data reported here is from the "Statistical report on the causes of death" ("Todesursachenstatistik") of the German Federal Statistical Office (Special series 12, part 4).

¹³ <https://www.rki.de> [accessed: 25 Aug. 2021].

reports by the attending doctors. Due to changes in the collection of data regarding new HIV-diagnoses, it is now easier to exclude (formerly unrecognised) duplicate entries.

Since the introduction of the IfSG, information on possible modes of transmission of HBV and HCV has also been collected. This is done by way of investigations by the health authorities, either from the person themselves or on the basis of data passed on by the reporting laboratories and doctors. The current data is published by the RKI in the "Yearbook – Infection epidemiology of notifiable infectious diseases" (Infektionsepidemiologisches Jahrbuch meldepflichtiger Krankheiten) or respectively in the Epidemiological Bulletin of the RKI.

Since 2007, the DSHS has included data on the HBV and HCV status of patients, in addition to the HIV status. Since the number of facilities which report this data is very small and only patients for whom a test result is available are taken into account, this data requires cautious interpretation. The recording of infectious diseases has been improved in the new Core Data Set.

Changes to the case definition of hepatitis B reports

The case definitions of the RKI were changed in 2015, such that now only the direct detection of the hepatitis B pathogen meets the criteria for a laboratory diagnostic detection. HBe antigen detection has been added as a confirmation test for HBs antigen detection. The detection of IgM anti-HBc antibodies, which, according to the case definition up to 2014, was sufficient as a sole serological marker to fulfil the laboratory diagnostic criteria of the case definition, is no longer used and is only collected as additional information. Among the cases which were recorded according to the new case definition, now it is not only cases confirmed through clinical and laboratory diagnostics that meet the reference definition but also infections proven through laboratory diagnostics, for which the clinical picture is not met or not known. The described changes not only enable an alignment with the European case definitions but also aim to investigate active, i.e. infectious and therefore transmissible, hepatitis B infections, regardless of the strength of the symptoms. Following the introduction of the new reference definition, the number of published hepatitis B cases is, as expected, higher than previous years.

Changes to the case definition of hepatitis C reports

As it is hardly possible from a laboratory diagnostic or a clinical perspective to distinguish between acute and chronic HCV infections, all newly diagnosed infections are included in the statistics of the RKI. Cases for which an earlier HCV laboratory confirmation already exists are excluded. Thus, out of all the reported cases a considerable proportion are already chronic hepatitis C cases (in the sense of a virus replication of more than 6 months).

The case definition for hepatitis C was changed on 1 January 2015 in respect of the criteria for laboratory diagnostic proof. In the estimation of the RKI, the previous case definition, according to which (confirmed) antibody detection on its own was sufficient, led to the reporting of infections, in an unknown proportion of cases, which had already been spontaneously cured or been successfully treated as well as to an unknown number of multiple reports. Only cases

with a direct pathogen confirmation fulfil the new case definition (nucleic acid detection or HCV core antigen detection). Therefore, the RKI reporting now only analyses HCV infections which are active. This enables a better approximation of the true incidence of new diagnoses. However, this means that possible cases, that were not provided for further diagnostic investigation by means of direct pathogen detection after positive antibody screening are not captured. As the treatment options have significantly improved in recent years, it can be assumed, however, that diagnostics in Germany is carried out in full in most cases. Currently, the initial diagnoses of hepatitis C reported are - in the absence of better data sources on the incidence rate - currently the best possible estimation of the current situation regarding infections.

However, the numbers of cases reported under the new case definition are only comparable to a limited degree to those from previous years, such that trend evaluations are only possible with limitations. A decrease in the reported numbers of cases occurred as expected due to the change in case definitions. The implementation of the new case definition among public health authorities is complete; all cases are now reported according to the new case definition.

5 TABLES

Table 1	Drug-related deaths 2020 by substance, police data.....	9
Table 2	Number of acute intoxication and poisoning cases, Statistical Report on Hospital Diagnoses, 2019	15
Table 3	Data from 18 drug consumption rooms and mobile drug use facilities, 2019.....	37

6 FIGURES

Figure 1	Trends in the number of drug-related deaths: Comparison of BKA and Destatis data, 2010 to 2019	12
Figure 2	Causes of death, BKA data 2012-2020	13
Figure 3	Proportion of opioid intoxication in drug-related deaths, 2010 to 2019	14
Figure 4	10-year trend in acute drug-related emergencies admitted to inpatient treatment.....	17
Figure 5	10-year trend in acute drug-related emergencies admitted to inpatient treatment: poisonings (T40.x codes)	18
Figure 6	10-year trend in acute drug-related emergencies admitted to inpatient treatment: acute intoxications (F1x.0 codes)	18
Figure 7	Trend in HIV diagnoses with mode of transmission injecting drug use	21
Figure 8	Trend in HBV diagnoses	22
Figure 9	Modes of transmission for HCV diagnoses, 2020.....	23
Figure 10	Trend in HCV diagnoses with mode of transmission injecting drug use, for men and women	24
Figure 11	10-year trend in HIV infection rates among opioid users receiving treatment in Hamburg and FFM	25
Figure 12	10-year trend in hepatitis C infection rates among opioid users receiving treatment in Hamburg and FFM	27
Figure 13	Naloxone projects in 2020.....	34