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by the Reitox National Focal Point**

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DRUG SITUATION 2010**

FINAL VERSION

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PREFACE

The Report on the Drug Situation in the Netherlands 2010 has been written for the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). Each year, national centres of expertise on drug-related issues in the member states of the European Union ('Focal Points') draw up a report on their respective national drugs situation, according to guidelines provided by the EMCDDA. These reports form the basis of the "Annual Report on the State of the Drug Problem in the European Union" compiled by the EMCDDA. In keeping with the guidelines, the report focuses on new developments in the reporting year. In order to avoid too much overlap, the reader is repeatedly referred to previous National Reports.

This 2010 national report was written by the staff of the Bureau of the Netherlands National Drug Monitor (NDM) at the Trimbos Institute and staff of the Scientific Research and Documentation Centre (WODC) of the Ministry of Justice. The NDM was established in 1999 on the initiative of the Ministry of Health, Welfare and Sport. The Ministry of Security and Justice also participates in the NDM. The NDM carries out the functions of the Netherlands Focal Point.

The NDM relies on the contribution of a multitude of experts and input from registration systems and monitors in the Netherlands. In particular, the authors would like to thank the members of the Scientific Committee of the NDM and other expert reviewers for their valuable comments on the draft version of the report.

Table of contents

Preface	5
Summary	9
Part A: New developments and trends	14
1 Drug policy: legislation, strategies and economic analysis	15
1.1 Legal framework	15
1.2 National action plan, strategy, evaluation and coordination	21
1.3 Economic analysis	25
2 Drug use in the population	28
2.1 Drug use in the general population	28
2.2 Drug use in the school and youth populations	31
2.3 Drug use among targeted groups	35
3 Prevention	42
3.1 Universal prevention	43
3.2 Selective prevention and indicated prevention	44
3.3 Mass media campaigns	46
3.4 Research	46
4 Problem drug use	49
4.1 Prevalence estimates of problem drug use	49
4.2 Data on problem drug users from non-treatment sources	51
4.3 Intensive, frequent, long-term and other problematic forms of use	55
5 Drug-related treatment: treatment demand and availability	57
5.1 Strategy/policy	57
5.2 Treatment systems	57
5.3 Clients in treatment	66
6 Health correlates and consequences	72
6.1 Drug-related infectious diseases	72
6.2 Other drug-related morbidity	83
6.3 Drug-related deaths and mortality among drug users	89
7 Responses to health correlates and consequences	92
7.1 Prevention of drug-related emergencies and drug-related deaths	92
7.2 Prevention and treatment of drug-related infectious diseases	92
7.3 Responses to other health correlates among drug users	98

8	Social correlates and consequences	100
8.1	Social exclusion	100
8.2	Social reintegration	103
9	Drug related crime, prevention of drug related crime and prison	109
9.1	Drug related crime	109
9.2	Prevention of drug related crime	121
9.3	Interventions in the criminal justice system	123
9.4	Drug use and problem drug use in prison	131
9.5	Responses to drug related health issues	132
9.6	New developments	133
10	Drug markets	134
10.1	Availability and supply	134
10.2	Seizures	138
10.3	Price/purity	139
Part B: Selected issues		147
11	History, methods and implementation of national treatment guidelines	148
11.1	History and overall framework	148
11.2	Existing guidelines: framework and content per guideline	150
11.3	Experiences in the Netherlands with the implementation of guidelines	157
11.4	Comparison with the WHO guidelines on pharmacological treatment of opiate dependence	165
12	Mortality related to drug use: a comprehensive approach and public health implications	169
12.1	Overall mortality among problem drug users	169
12.2	Conclusions from a public health perspective	172
Part C		174
13	Bibliography	175
13.1	References	175
13.2	Alphabetic list of relevant data bases	196
13.3	List of relevant internet addresses	200
14	Annexes	203
14.1	List of tables used in the text	203
14.2	List of graphs used in the text	204
14.3	List of abbreviations used in the text	206
Map of the Netherlands: provinces and major cities		209

Summary

Developments in drug law and policies (chapter 1)

The intended new Dutch drug policy was delayed because the Dutch government fell in February 2010. The resigned government decided to sustain coffee shop pilot projects to combat public nuisance on the municipal level. In these projects all kind of measures will be tested for their effectiveness: to encourage small-scale coffee shops, to spread the coffee shops, innovative enforcement, to introduce a special identity card system for coffee shops, more requirements for coffee shops owners, traffic measures, tackling illegal selling points and communication with foreign drugs tourists.

An amendment of the Opium Act to forbid grow shops, where materials and equipment for cannabis cultivation are sold, has been prepared.

An expert committee was installed in 2010, which will work out scenarios for the ranking of drugs in the Opium Act.

With regards to traffic offences, a bill will be re-introduced to the Lower House to amend the Road Traffic Act; limiting values for drugged driving offences will be defined.

In certain Dutch regions a 'zero tolerance' drug policy is executed at clubs and dance events.

Developments in drug use in the population and specific target groups (chapter 2)

Drug use in the general population remained generally stable between 2001 and 2005. Data for 2009/2010 are not yet available. Several other (local) sources suggest no major changes in the prevalence of cannabis use. Drug use among pupils (12-18 years) from regular secondary schools generally stabilised between 2003 and 2007, although the overall trend since 1996 is decreasing. Prevalence rates of drug use are appreciably higher among subpopulations of pupils from special education (depending on school type), residential youth care, judicial institutions for youth and in general among low-educated people.

A national survey in 2009/2009 showed that drug use was also relatively common among young people recruited in clubs and large-scale parties, with last year prevalence rates being about 4 to 15 times higher compared to young adolescents and adults in the general population (15-34 years).

In a psychiatric epidemiological survey in the general population of 18-64 years, 0.3% of the respondents fulfilled a 12-month DSM IV diagnosis of cannabis dependence, and 0.4% fulfilled a DSM IV diagnosis of cannabis abuse. This means that about one in nine last year cannabis users had a cannabis use disorder.

Various indicators strongly point at an increase in the (problem) use of GHB in some subpopulations (both in and outside the nightlife scene), but trend data are lacking so far. In 2008/2009, 7.8% of a sample of visitors of large-scale parties had used GHB in the last year. For visitors of clubs and discotheques the last year prevalence was 3.4%. For comparison, rates of recent cocaine use in these groups were 12% and 5%, respectively.

Developments in prevention (chapter 3)

The focus of preventive activities has been shifting towards the risk groups of young people and people with a low socio-economic status, although specific interventions for these groups are relatively scarce. Effective interventions are presented at a new website and a knowledge

synthesis study has been conducted for prevention of substance use (problems) among youngsters as well as adults.

With regard to universal prevention, new modules have been added to the most popular prevention program the Healthy School and Drugs, the Centre Safe and Healthy Nightlife has been launched, and a Point of Support against Recreational Violence has been initiated. With regard to selective prevention and indicated prevention, research has been conducted on the Cannabis Show, and new interventions like the MOTI-4 and ACCU have been launched or are piloted. The Drugs Information and Monitoring System™ (DIMS™) has been supplemented by the Monitor drug-related emergencies, and the Drugs Information Line (DIL) has started the chat box Bzz.

Developments in problem use (chapter 4)

The number of problem opiate users has decreased in the past years. Using the treatment multiplier method, their number was estimated at about 18 thousand at national level in 2008. The number of opiate addicts in Amsterdam decreased strongly from about 9,000 in the late eighties till 2007 and stabilised at some 3,000 in 2009. There are indications that the size of the population of primary crack users who do not use opiates has grown in the past decade, but their number is not known. A field study shows that (problem) crack users are on average younger than problem opiate users and have a lower 'in-treatment rate'. A survey in 2008/2009 showed that one in five to one in ten last year users of cocaine, ecstasy or amphetamine recruited at parties and clubs is a problem user, according to self-reported symptoms indicative for dependence.

Developments in drug-related treatment (chapter 5)

Activities increasing professionalization in addiction care treatment continued in 2009. New impulses during 2009 were given by a new Knowledge Centre for Care, a specialist study in addiction medicine and pilots with Routine Outcome Monitoring and performance indicators. Moreover, there have been improvements in care for chronic (complex) addicts, pilots for the treatment of cocaine problems and increases in online therapy. A four year follow-up of heroin assisted treatment showed positive health outcomes, with no illicit heroin use and substantial reductions in cocaine use.

The increasing demand for treatment at addiction care services as well as general hospitals related to cannabis use is continuing. In 2009, 39% of the newly registered drug clients (TDI definition) had a primary cannabis problem, thereby forming the largest group among the drug clients. The proportion of cocaine clients in addiction care decreased from 38% in 2003 to 31% in 2009, but still clearly exceeded the proportion of *newly registered* opiate clients (18% in 2009). (Note that these percentages do not reflect total treatment demand.) When taken separately, the ecstasy and amphetamine clients never accounted for more than 6% of the new drug clients. The slight increase in amphetamine clients in the past years seems to have halted in 2009.

Several addiction care services have reported an increase in the number of clients presenting with GHB dependence. There were 279 clients with a primary GHB problem in 2009 (non-TDI definition). This trend is consistent with signals pointing at an increased popularity of this drug. There is no consensus yet on the most appropriate methods for GHB detoxification. A guideline on this issue is in development.

Health correlates and consequences (chapter 6)

Several sources indicate that the incidence of HIV and hepatitis B and C among (ever) injecting drug users remained low in the past years. The reduction in HIV transmission in IDUs can be partly explained by the decline in injecting and needle sharing, although sexual risk behaviour is still occurring. The main route of HIV transmission in the Netherlands is sexual, both through MSMs and heterosexuals. Nonetheless, the number of chronically infected drug users and hence (future) disease burden is fairly high, especially with regard to hepatitis C. The registration of the HIV Monitoring Foundation shows that 91% of HIV-positive IDUs is also infected with HCV. A cross sectional serosurvey among male detainees found that 58% of the 19 ever-IDUs in the sample was infected with HCV, which is in line with data from several drug treatment sources (Amsterdam, Heerlen).

The number of health emergencies related to GHB use has strongly increased in the past, and there are indications that the number of emergencies related to hallucinogenic mushrooms has decreased, at least in Amsterdam, after they have been brought under control of the Opium Act. In absolute terms, cannabis is still the drug most commonly associated with emergencies (reflecting its relatively high prevalence of use), although the majority of cases refer to mild intoxications.

Quite some research studies addressed the association between cannabis use and mental disorders, especially psychosis.

Responses to health correlates and consequences (chapter 7)

Attention for hepatitis (both in general and for drug users as high risk group) has grown in the past years and many preventive and treatment interventions have been reported. In 2009, a national hepatitis C information campaign, among others targeted at drug users, was conducted. In 2010, the hepatitis B vaccination programme for drug users has been reassessed. Still, risk behaviour related to injecting is decreasing, among others suggested by the ongoing decline in exchanged needles and syringes.

Several initiatives have been taken to improve care for dual diagnosis patients and preventive interventions have been developed for substance using people with mild intellectual disabilities.

Social correlates and social reintegration (chapter 8)

The social state of the Netherlands in general shows positive signs by means of a low score on the misery index, more tolerance towards minorities, and more satisfaction with the government. However, there is dissatisfaction with the Dutch health care policy as there is a general feeling that the government should spend more on care. Moreover, there is a sizeable group in the Dutch society which has little or no trust in politics, and there are a number of groups who remain stubbornly distanced from society. Social exclusion especially touches people with a low income, a low education level, members of ethnic minorities, and people with an impairment or disability.

Increased problem drug use among socially excluded groups has been noticed among homeless youth, especially among youngsters who cannot manage soft drugs, and who consider it rather normal to sell drugs. Social exclusion among drug users is indicated by a bad housing situation, especially during the winter, and less access to health care and addiction

care. Moreover, due to the new local zerotolerance policies throughout the country, recreational drug users may now also experience social exclusion.

Within the framework of the Strategy Plan for Social Relief and underscored by the Charter of Maastricht, the social reintegration of (former) problem drug users has been boosted by means of programs to prevent homelessness, outreaching treatment, Assertive Community Treatment (ACT), Community Reinforcement Approach, Multi Dimensional Family Treatment (MDFT), Supported Living, expertise by experience, time-out services, work projects, schooling projects, activation projects, and co-ordinated probation and treatment. The results of the Strategy Plan for Social Relief have been evaluated in the four largest cities.

Drug-related crime, prevention of drug-related crime and prison (chapter 9)

The majority of recorded more serious forms of organised crime is drug-related. The fraction of cannabis related cases increased, that of hard drug related cases decreased.

The investigation and prosecution of organised drug related crime is a priority for Police and Prosecution for 2008-2012. A combination of administrative and preventive measures, judicial approaches and international co-operation is applied, with a strong focus in a combat on the local level.

The absolute number of Opium Act offences in the criminal justice chain – police, Public Prosecutor, Courts – appears to be decreasing. This is in line with a general declining trend in criminal justice cases in the Netherlands. The fraction of hard drug cases shows a decreasing trend; that of soft drug cases a clear increasing trend.

Recorded property crimes committed by drug users show a decreasing trend, but drug users commit more violent crimes.

Referrals to care facilities outside prison as an alternative to imprisonment are increasing. A new law for forensic care for detainees with addiction or mental health problems will be in force in 2011. The minister of Security and Justice has budget to buy care outside prison. Detainees with triple problems – addiction, psychiatric symptoms and mild learning disabilities – are addressed with priority.

The judges convicted over 1,800 prolific offenders, most of whom are problematic polydrug users, to the measure of placement in an Institution for Prolific Offenders from October 2004 until June 2010. The number of convictions is decreasing.

Male adolescents in juvenile justice institutions have high levels of alcohol and drug use prior to their detention, especially the age group of 13-14 years. The ministry of Security and Justice announced more stringent controls and preventive activities in the institutions.

Drugs markets (chapter 10)

The number of coffee shops where the sale of cannabis is tolerated further decreased from 700 in 2008 to 666 in 2009. In 2010 pilot projects started in ten municipalities to further regulate coffee shops and reduce public nuisance.

Potency of cannabis samples sold in coffee shops, as measured by THC concentration, varied in the past years between 15% and 19% for Dutch marihuana, which is the most popular type of cannabis used in the Netherlands. The slight upward trend in 2010 might be associated with the change to a new laboratory for conducting the chemical analysis. Cannabidiol (CBD)

content in Dutch marihuana is low. Scientific knowledge on the importance of CBD relative to THC content in cannabis in causing adverse effects (mental disorders, dependence) is growing.

In 2008/2009 various indicators (seizures, purity) pointed at a reduced availability of precursors PMK and BMK synthesising for ecstasy and amphetamine, respectively, which resulted in a lower purity of these drugs on the retail market. In 2009, substances like mCPP and mephedrone seemed to some extent to replace MDMA in tablets sold as ecstasy, and speed samples were to a large extent adulterated with caffeine. In 2010 the purity of ecstasy and amphetamine seems to have returned to prior levels (or even higher purity), which might be related to drug producers switching to other precursors to synthesis these drugs.

The data also showed that the proportion of cocaine samples containing medicines continued to increase. In the first half of 2010, 25% of analysed samples delivered by consumers to prevention services contained phenacetin and 70% contained levamisole. Use of levamisole adulterated cocaine has been associated with serious blood diseases in the US, but no cases have been identified in the Netherlands so far. Chronic use of high phenacetin doses may cause kidney damage.

National treatment guidelines (chapter 11)

Between 2003 and 2009 nine guidelines for addiction care have been published, while several additional guidelines are forthcoming. Topics include co-morbidity, compulsory discharge from treatment, detoxification, methadone maintenance treatment, case management, client profiles, pharmacological treatment in prison, treatment of cannabis problems for young people and diagnosis and treatment of alcohol use disorders. Six of these guidelines have been initiated or are co-funded by the Program Scoring Results, which is since 1999 funded by the Ministry of Health to improve the quality of addiction care.

Several factors have been reported which hamper the use and implementation of guidelines in daily practice.

Part A: New developments and trends

1 Drug policy: legislation, strategies and economic analysis

1.1 Legal framework

Introduction

In the Netherlands, national drug policy has four major objectives (see §1.2 for the outlines of the new Dutch drug policy):

- To prevent drug use and to treat and rehabilitate drug users.
- To reduce harm to users.
- To diminish public nuisance by drug users (the disturbance of public order and safety in the neighbourhood).
- To combat the production and trafficking of drugs.

The primary aim of Dutch drug policy is focused on health protection and health risk reduction. In §1.2 the proposed new objectives will be described. The enforcement of relevant laws also has special attention. This policy was first formulated in the white paper: *The Dutch Drug Policy: Continuity and Change* (1995) (Ministry of Foreign Affairs et al., 1995). The implementation of this policy was monitored and updated by four progress reports. Since then, Dutch drug policy has developed drug-specific strategies and different initiatives to diminish public nuisance, drug offences and drug-related organised crime. The strategies on ecstasy and cocaine have a strong focus on law enforcement, while the cannabis strategy touches upon all aspects of the issue (see previous national reports).

The draft of a new Dutch drug policy, which should have taken place in the course of 2010, did not occur, because the Dutch government fell in February 2010 and new elections were held in June 2010. The formulation of a new Dutch drug policy is the task of the new government which came in office in October 2010 (T.K.24077-253). One of the proposals of the new government is that coffee shops should become private clubs for adult Dutch inhabitants, which are only accessible for persons with a club pass. Also, locations for coffee shops should have a minimum distance of 350 metres from schools (VVD & CDA 2010).

For more information see: § 1.2.

Laws

In the Netherlands, only a few laws and regulations are primarily directed towards drugs, but many other laws with a broader scope are important in relation to illegal drugs:

Drug laws and regulations

- Opium Act (Opiumwet) – (criminal law)
- Opium Act Decision (Opiumwetbesluit) (Royal Decree)
- Opium Act Directives (Directive of Public Prosecution Service)
- Victor Act (Wet Victor) – (criminal law/administrative law)
- Regulation Heroin Treatment – (ministerial regulation)
- Regulation Opium Act Exemptions (ministerial regulation)

Laws and regulations indirectly important for illegal drugs

- Prisons Act (Penitentiare Beginselenwet) - (criminal law)
- Conditional Release Act – (criminal law)
- Placement in an Institution for Prolific Offenders Act (Plaatsing in een inrichting voor stelselmatige daders – ISD) - (criminal law)
- Abuse of Chemical Substances Prevention Act (Wet Voorkoming Misbruik Chemicaliën) - (chemical precursors – administrative law)
- Public Administration Probity Screening Act (Wet bevordering integriteitsbeoordelingen door het openbaar bestuur or Wet Bibob) - (money laundering – administrative law)
- Health Insurance Act (Zorgverzekeringswet) (health law)
- Medicines Act (Geneesmiddelenwet) (health law)
- Collective Prevention Public Health Act (Wet collectieve preventie volksgezondheid) (health law)
- Community Support Act (Wet Maatschappelijke Ondersteuning - WMO) (health law)
- Plan of approach for social relief (Plan van aanpak maatschappelijke opvang) (policy letter)
- Combating organised crime (Bestrijding Georganiseerde Misdad) (policy letter)

New legislative initiatives with consequences for substance abusers

A new bill regulating forensic care for detainees (Forensic Care Act) is being prepared. The purpose of this bill is to prevent that sentenced people with a psychiatric disorder, a substance use disorder or mental retardation end up in a correctional institution, but instead are offered forensic care (T.K. 32398-3). Although this bill has not yet the force of law, the National Agency of Correctional Institutions is already purchasing forensic care at 88 institutions e.g. at mental health care or addiction care or forensic care institutions. In total there are 1,020 forensic care places. Another new bill which is being prepared to substitute the existing Psychiatric Hospitals Compulsory Admissions Act and is tuned with the Forensic Care Act, is the Compulsory Mental Health Care Act. A multidisciplinary commission will decide whether a person with a psychiatric or substance abuse disorder runs the risk to cause damage to oneself or to another and 'needs' compulsory customized care. This Act will set the new rules for compulsory care for non-detainees (T.K. 32399-3).

For more information about the content and impact of these laws and regulations: see our previous National Reports. See also § 9.6

The Opium Act

Dutch legislation is consistent with the provisions of all the international agreements which the Netherlands has signed, i.e. the UN Conventions of 1961, 1971 and 1988, and other bilateral and multilateral agreements on drugs. The Dutch Opium Act (1928), or Narcotics Act, is a partly criminal law. It was fundamentally changed in 1976, when a distinction was made between drugs presenting unacceptable risks (Schedule I) and drugs like cannabis (Schedule II), which were seen as less dangerous. Since then, the Opium Act has been amended on various occasions but its basic structure has been maintained.

New developments concerning the Opium Act

Since 15 October 2009 heroin (diamorphine) can be prescribed by physicians working at municipal treatment units for treatment resistant heroin addicts to addicts who are registered

at those units. For this reason Appendix 2 was added to the Opium Act Decision (Stb 2009-348).

Since 23 September 2009, 1-benzylpiperazine (BZP) is placed on list II of the Opium Act (Stb. 2009 -380).

The Minister of Justice is preparing an amendment to the Opium Act to forbid the so-called *grow shops* i.e. outlets where all the necessary objects for growing and reaping cannabis plants are sold. In practice, there is enough evidence that many grow shops function as centers for large scale and professional cannabis production and are linked with organised crime. This initiative is part of the decision to tackle large-scale cannabis cultivation for the 2008-2012 period as one of the priorities in efforts to combat organised crime (T.K. 24077-239). It is estimated that there are about 275 grow shops in the Netherlands (Driessen and Sabel 2009).

Amendment of Road Traffic Act

The Ministers of Justice and Transport are preparing an amendment to the Road Traffic Act in order to give police investigators the authority to use an oral fluid screener as pre-selection method to detect drug use of traffic participants (see also § 6.2). According to the Minister of Transport, there are now reliable saliva screeners that can be used as pre-selection method. The legal evidence will remain a blood test. Just as the use of certain amounts of alcohol is forbidden when driving a vehicle, the Road Traffic Act will be adjusted to forbid the use of certain amounts of drugs (amphetamines, cannabis, heroin, cocaine and GHB). A special commission has proposed limiting blood values per drug in accordance with international practices (T.K. 29398-236; www.rijksoverheid.nl/).

Hallucinogenic mushrooms

On 1 December 2008 all hallucinogenic mushrooms, which contain the substances psilocin or psilocybin by nature, as well as mushrooms containing muscimol or ibotenic acid by nature were put on Schedule II of the Opium Act (Stb 2008-486). This means that 186 different kinds of mushrooms now have the same judicial status as cannabis. This applies to the fresh as well as to dried hallucinogenic mushrooms, meaning that the dried mushrooms, which were already placed on Schedule I, moved from Schedule I to Schedule II. The reason to also legally control the poisonous mushrooms like the fly agaric (*amanita muscaria muscaria*) and the *amanita pantherina* is based on research from England where after the prohibition of hallucinogenic mushrooms in 2005, a shift to the use of the mentioned poisonous mushrooms was discerned (T.K.31477-2).

In October 2009 the Minister of Health informed Parliament that the number of hallucinogenic mushroom-related incidents in Amsterdam had decreased in the period from 1 December 2008 until 21 September 2009 from 117 to 37 health emergencies, that is a decrease by two thirds. For the Minister this is a justification of his decision for prohibition (T.K. 24077-247). The appeal of the Dutch Association of Smart shops against the prohibition of the hallucinogenic mushrooms was dismissed by the Court of Appeal in the Hague (www.rechtspraak.nl: LJN: BI0941). Partly because of this prohibition, the sales volume of smart shops diminished with about fifty per cent in 2009, leading to the bankruptcy of at least 20 per cent of the smart shops in Amsterdam (Redactie Parool, 2009).

Medicinal cannabis

On 6 October 2009, a private member's bill to make medicinal cannabis more accessible for patients was presented to the Lower House and the Minister of Health (TK 32159-2). In his

bill, Member of Parliament (MP) Van der Ham analyses the practical problems with the legal medicinal cannabis and he presents concrete solutions.

Since 1 January 2001 the Office for Medicinal Cannabis (OMC) has been the government agency responsible for overseeing the production of cannabis for medicinal and scientific purposes. The OMC has a monopoly on supplying medicinal cannabis to pharmacies, and on its import and export. The quality of the medicinal cannabis is guaranteed by a constant supervision of the grower and the distributor.

In advance, it was estimated that there are about 10,000 potential patients in the Netherlands who can benefit from medicinal cannabis e.g. symptom reduction for Multiple Sclerosis, pain and nausea control for cancer or HIV patients, control of neurological pains and rheumatism. MP Van der Ham sees the following shortcomings: 1. Many doctors (and patients) have a taboo on prescribing (asking for) medicinal cannabis; 2. The OMC offers too few cannabis variants (only three); 3. The costs for the patients per gram of medicinal cannabis are higher than cannabis from the tolerated coffee hops, because most health insurance companies don't or only partly reimburse the costs.

In 2007 the estimated number of patients using medicinal cannabis was only 300. In 2010, 500 to 550 persons were using medicinal cannabis, with an average of 0.5 gram per day per person. The production costs are about € 800,000 per year. The pharmacies charge from € 6.60 to € 8.90 per gram. The average price of cannabis in the tolerated coffee shops amounts to € 7.30 per gram in 2007.

MP Van der Ham proposes the following solutions: the Minister of Health should offer better public information on the benefits of medicinal cannabis, the Minister should order the breeding of more cannabis variants, medicinal cannabis should be included in the standard health insurance package and the Minister should approve the self-cultivation of cannabis plants by patients after an approval by a doctor.

The Minister of Health answered that the Government is only responsible for the quality of the raw material cannabis, and that pharmaceutical companies are responsible for developing medicines. On prescription of the attending physician the pharmacy will deliver medicinal cannabis to the patient. The Minister is prepared to investigate whether it is possible to cultivate a fourth cannabis variant, if this can be performed without extra costs. Medicinal cannabis can only be reimbursed by health insurance companies if it is a registered drug or a so-called standardized pharmaceutical preparation. According to the Minister a certain pharmaceutical company is developing a medication based on cannabis. He is prepared to ask the Commission Pharmaceutical Treatment to assess whether medicinal cannabis can be seen as a standardized pharmaceutical preparation. He is explicitly against self-cultivation of cannabis by patients (TK 32159-3; TK 32159-5; TK 32159-6).

The medicinal cannabis is also exported to pharmacies in Finland, Italy, and Germany (Driessen, 2010a).

Institution for Prolific Offenders (ISD)

In 2004, the act 'Placement in an Institution for Prolific Offenders (Plaatsing in een inrichting voor stelselmatige daders – ISD)' came into effect (Stb 2004-351) (see also § 9.3). It concerns a measure which is applicable to all prolific offenders, not only addicts. The primary objective of the ISD Order was to reduce the public nuisance caused by extremely persistent offenders. Another objective was to reduce recidivism by influencing behaviour. The initial expectation was that a large group of ISD subjects would end up in a regular penitentiary regime through a lack of motivation. The majority of ISD subjects has a history

of addiction; more than half have some combination of psychiatric problems and a personality disorder, and some have possible learning difficulties as well. Because the judicial decisions pointed to an interpretation by the judges of the ISD Order as a course for rehabilitation, the ISD became a "behavioural intervention, unless it is not possible" (Van Ooyen et al 2009). It is clear that the ISD Order is not just to keep people off the streets for a long time, but also to reintegrate them (Goderie et al 2008).

The critical report of the Inspectorate for the Implementation of Sanctions (ISt) on the implementation of the ISD Order (from 2008) was taken seriously: more psychiatrists and psychologists were involved in the diagnostic phase of the course and the staff of the ISD institutions were better educated in order to be able to supervise the sentenced offenders (T.K.28684-276; bijlage).

The Monitor Prolific Offenders 2010 reports that from 2004 until July 2009 1,580 persons were sentenced to the ISD Order. Eighty two per cent of these persons are problem drug users. Only 11.7% of the category "Very Active Adult Prolific Offenders" was in the period 2003-2007 sentenced to an ISD Order (Tollenaar & Van der Laan, 2010).

To investigate whether the detention of prolific offenders has resulted in a decrease of the local criminality, all the relevant data of twelve urban areas for the years 2001-2007 were gathered and analyzed. The most important conclusions are:

1. As a result of the detention of prolific offenders the amount of car burglaries and home burglaries has decreased with 30 per cent in the cities.
2. The number of very active prolific offenders decreased with 25 per cent in the studied cities.
3. The ISD order is very cost effective: the gains of the decrease of burglaries are two times higher than the costs for detention and treatment (Vollaard, 2010). For more detailed information on this subject see elsewhere.

Medical heroin prescription

In August 2009, there were 715 treatment places for medical heroin prescription operational at 17 units in 15 different municipalities (personal communication VWS). Since 15 October 2009 heroin (diamorphine) can be prescribed by physicians working at municipal treatment units for treatment resistant heroin addicts to addicts who are registered at that units. For this reason the Opium Act Decision was complemented with Appendix 2 (Stb 2009-348). Medical heroin prescription is legal on condition that strict requirements are met. One of the 4-year follow-up studies concluded that the physical and psychological condition of the patients who received heroin treatment was far better and they caused much less public nuisance than the heroin users who withdrew from the treatment (Blanken et al., 2010).

Implementation of Laws

Opium Act Directive

The Opium Act guidelines -which were not changed since 2000- are continued until the end of 2010 (Stc 2009 – 19486)

The Minister of the Interior declared in a question time of the Lower House that the Public Prosecution Service estimates the number of cannabis farms in the Netherlands between 30,000 to 40,000 (T.K. Handelingen 2009-2010/31-2874). Besides using criminal law, the municipal governments resort also to administrative law in finding judicial justification for dismantling these cannabis farms (www.hetccv.nl).

The *Public Administration Probity Screening Act (Wet BIBOB)* gives local administrators the power to screen all kinds of new licence requests. The actual screening is conducted by a special central BIBOB-office. This office has access to secured sources such as the police files and the Tax and Customs Administration. The BIBOB office not only inspects the antecedents of the applicant, but also checks his or her immediate environment. This may result in a recommendation about the degree of risk. Dutch administrative authorities may refuse contracts, subsidies or permits for organisations and companies if they have serious doubts about the integrity of the applicant. In its most recent annual report, with data of the year 2009, the BIBOB-office writes that nine per cent of the requests is about coffee shops (Bureau BIBOB 2010).

Combating organised crime in the Netherlands

Periodically the National Crime Squad publishes an analysis of the most important activities of organised crime in the Netherlands. In 2009 it was decided to perform such a thorough analysis every four years instead of every two years. In 2009 only a global impression of the information of the police on organised crime was published (KLPD-Dienst Nationale Recherche, 2010).

In the special attention area of the Organised Cannabis Cultivation, the National Crime Squad confirms the impression that grow shops have a key role in cannabis cultivation. The Dutch cannabis crime entrepreneurs are expanding to Belgium and Germany. The police didn't gain much insight into the export of Dutch cannabis. The National Crime Squad detected a decrease in the supply of the precursor PMK in 2008. The manufacturers of MDMA switched to the pre-precursor safrol in order to be able in a more complicated way to produce ecstasy pills. The Netherlands are still the heroin hub of Western Europe. Most heroin is imported from Turkey by Turks born in the Netherlands. The smuggling of cocaine to Europe is a ponderous business. West-Africa is still the international hub for cocaine smuggling (KLPD- Dienst Nationale Recherche, 2010).

Intensified actions against ecstasy

Organised crime with regards to synthetic drugs remains a priority area for the police and the Public Prosecutor for 2008-2012 (T.K.29911-17). In 2008, 21 production locations were dismantled. The National Dismantling Facility reports that there has been an increase in the number of MDMA production facilities in 2009 with 55%. The size and professionalism of the facilities was in line with the trend in 2008 (Editors NND, 2010a). See also chapter 9 and 10.

Combating cocaine trafficking at Schiphol Airport

The investigation and enforcement of trafficking of cocaine remains a priority in combating organised crime from 2008 to 2012. An important target of the policy is to improve international collaboration within the European Union (T.K.29911-17).

The 100%-controls of the passengers of all flights from the Netherlands Antilles, Aruba, Surinam, Peru, Venezuela, Ecuador and the Dominican Republic were continued in the reporting year. The number of cocaine pellet swallows at Schiphol airport appears to be stabilizing. In 2009, 710 swallows were caught, which is a decrease of eleven on the figures for 2008. Drugs were more often found in the luggage of drug couriers. Last year, this amounted to a total of 557 kilograms (Editors NND, 2010b). See also chapter 10.

1.2 National action plan, strategy, evaluation and coordination

1.2.1 Drug strategies: stagnation on central level

As was reported in our National Report 2009, the Dutch government had the intention to draft a new white paper on the drug policy. Because of the fall of the Dutch government in February 2010, this white paper has been delayed till further notice. Parliament decided that important changes in the ongoing drug policy are considered as controversial.

This is a summary of the intentions of the former government:

The government is opting for a comprehensive drugs policy that responds to change flexibly and dynamically, and, where possible, stays one step ahead of developments. To bring this about conditions must be improved. This will be achieved as follows, in accordance with the recommendations of the Advisory Committee on Drugs Policy.

- *First, the main principles and objective of the policy will be redefined.*
- *Second, given the new principles and objective, and in the light of the report issued by the National Institute for Public Health and the Environment (RIVM) on the ranking of drugs, the classification system used in the Opium Act will be reviewed.*
- *Thirdly, the administrative structure within which drugs policy is shaped will be changed.*

In years to come, the Dutch coffee shop policy will target the following objectives:

1. *Re-establishing coffee shops as small establishments, geared to local users. Municipalities will be encouraged to carry out pilot projects in the coming two years and the projects will be evaluated after completion. Regulation of cannabis cultivation will not be sustained by the government, and is not allowed to be part of the pilot projects.*
2. *Restricting the number of coffee shops on the basis of the local situation.*
3. *Tying in with the integrated approach to fighting organised crime of all kinds.*

Administrative law and criminal law will be deployed effectively and in a balanced manner. Dutch municipalities are free to set up pilot projects of their own, under the strict proviso that their aim is to scale down coffee shops and to regulate the sale of cannabis. They should also work closely with the Association of Netherlands Municipalities.

The resigned government decided in anticipation to the new government to sustain coffee shop pilot projects to combat public nuisance on the municipal level and to install an expert commission with the assignment to evaluate the existing drug classification system of the Opium Act (T.K. 24077-253) and to make proposals for amendments. This expert committee has been installed mid 2010.

1.2.2 Drug strategies: new initiatives on local level

Zero tolerance in certain regions at clubs and dance events

In the Netherlands, criminal investigation and prosecution operate under the so-called 'expediency principle' or principle of discretionary powers (*opportuiniteitsbeginse*). The Dutch Public Prosecution Service has full authority to decide whether or not to prosecute and may also issue guidelines. Individual public prosecutors also have to make choices. The

scope for their decisions is circumscribed by the national policy, but they can take local circumstances into account. They can decide, for instance, whether to give priority to public nuisance or criminality by drug abusers or to improving road safety. The public prosecutor may, at his own discretion, decide to impose a fine instead of taking the case to court. This often happens in the case of relatively minor offences such as shoplifting or minor damage to property.

The Public Prosecution Service does not take these decisions alone. In the Netherlands there are 19 district courts and district public prosecutor's offices. One of its tasks is to take part in tripartite consultations with local mayors and chiefs of police to discuss matters relating to public safety and the use of police resources.

Although the Ministers of Justice and Health denied that the investigation of drugs use at dance events had become more tight in the period 2005-2007, the impression of prevention workers and researchers was different. With an appeal to the Government Information Public Access Act (*Wet Openbaarheid Bestuur*), employees of the Jellinek treatment centre in Amsterdam asked the district public prosecutor whether new regional guidelines concerning the prosecution of individual drug users were ordered. The answer was that since 2006 the four court regions of Utrecht, Haarlem, Amsterdam and Arnhem had decided that at dance events the possession of all drugs are directly investigated. In the tripartite consultations it was agreed that dance events should be drugs free. So, the Dutch police are executing a zero tolerance guideline in certain regions and directed at certain events and venues (Doekhie et al, 2010). This is in line with a policy letter of the municipal government of Amsterdam which states that Dance Events are of cultural and economic significance for the city, but no drugs are allowed at these dance events (Gemeente Amsterdam, 2008).

According to criminologist Nabben, who investigated the night life in Amsterdam: "the more repressive approach was motivated not so much by 'internal' factors, such as public disorder or large-scale drug dealing, but more by an intensifying focus on public order and safety and a desire to heighten the authorities' visibility and proactive law enforcement efforts."

(Nabben, 2010). According to the Bonger Institute for Criminology in the regions of Amsterdam, Utrecht, Arnhem and Eindhoven the so-called "hard" zero tolerance was observed i.e. the police uses sniffer dogs, undercover agents, also the possession of small quantities of cannabis is investigated and the partygoer with drugs is booked on the spot. If he pays the fine no further prosecution will follow. Moreover, partygoers reported not to diminish their drug use but either to take their pills before the party or to find smart ways to 'smuggle' the pills (Doekhie et al., 2010).

Local drug policy

In order to encourage the local governments to find creative solutions to combat the public nuisance caused by coffee shops, the Dutch central government reserved € 3.3 million for the municipal pilot projects. The municipalities themselves have to co-finance these projects. In these pilots all kind of measures will be tested for their effectiveness e.g. to encourage small-scale coffee shops, to spread the coffee shops, innovative enforcement, to introduce an special identity card system for coffee shops, more requirements for coffee shops owners, traffic measures, tackling illegal selling points and communication with foreign drugs tourists. The applications of the following cities were rewarded: Amsterdam, Arnhem, Eindhoven, Heerlen, Kerkrade, Leeuwarden, Lelystad, Maastricht, and Roosendaal/Bergen op Zoom. Most of these cities have problems with foreign drug tourists (T.K. 24077-256).

The ban on smoking cannabis in a specific quarter of Amsterdam, which is enforced since 2006, had much media attention. Such a ban is always a local measure based on a General Local Bye-law (Algemene Plaatselijke Verordening) Generally, the reason behind the ban is combating public nuisance in the public space. At the end of 2009, 81 Dutch municipalities had introduced some kind of smoking ban on cannabis (Chevalier, 2009).

Developments in the province of Limburg

In Spring 2009, the mayors of the Limburg towns with coffee shops had a summit meeting in order to gear the measures to combat drug related nuisance. They agreed to sustain the scheme for a 'closed system' for Limburg coffee shops that was proposed by the mayor of Maastricht under the name "Limburg draws the line". All the mayors agreed for a discouraging policy and thought that to forbid all the coffee shops is not a real option. The coherent scheme contains 14 measures concerning the coffee shops consumers and the supply of the coffee shops in order to diminish foreign coffee shop tourism and public nuisance. Some striking measures are: compulsory identification for all visitors, compulsory registration of the sold amount of cannabis per person (at most 3 gram a day), non-Dutch residents are no longer allowed to visit coffee shops, coffee shops become closed establishments with members identified with ID card, the coffee shop owner becomes responsible for the cultivation of the cannabis, and the spreading/localization of coffee shops.

Researchers of the University of Tilburg were asked to check the practical and judicial feasibility of the proposed 'closed system'. Their report was published in April 2010. Four kind of measures were discerned in the policy paper "Limburg draws the line": measures in order to decriminalise the production of cannabis; measures aimed at identification and registration; measures aimed at situational improvement and measures aimed at the limitation of the supply. It is the opinion of the researchers that the implementation of most of the measures will stimulate illegal parallel markets and lead to an increase of public nuisance. Only the implementation and enforcement of situational measures such as the spreading of coffee shops and the handling of "house rules" –e.g. the appointment of a coffee shop porter who corrects the behaviour of the visitors in the vicinity of the coffee shop- will diminish the public nuisance of drug tourists, according to the researchers. Judicially the local government has a large scope of policymaking on the coffee shop issue, but some of the measures have to be checked by a law court (Maalsté et al., 2010).

Because one of the cornerstones of the "closed system" is to ban non-Dutch residents from the coffee shops, and the test case to get a judgment on this matter from the Dutch Council of State and the European Court of Justice in Luxembourg is still pending, the Limburg mayors decided to hold on a final decision on the implementation of the 14 measures (Gemeente Maastricht, 2010). The advice of the Solicitor General of the European Court of Justice to that Court on this case is that a municipal government must be allowed to deny the access to coffee shops of drug tourists. The principle of the free movements of goods and persons is not legitimate in this case because soft drugs are illegal commodities (Redactie NRC, 2010). The sentence in this test case is expected in 2011.

In spite of the feasibility study, the mayors of Limburg still back the idea of a 'closed coffee shop system' and continue to implement situational improvements such as the localization/spreading of coffee shops, the tackling of traffic problems caused by drug tourists, the tightening of the conditions for a coffee shop licence, and the tackling of the illegal hard drug market (www.hetccv.nl/nieuws/2010/05).

New regional drug policy in the region West and Central Brabant

The police district of West and Central Brabant is situated in the southern part of the Netherlands on the border with Belgium. It has 26 different municipalities, with among others two bigger cities (Breda en Tilburg) and three middle ranged towns (Bergen op Zoom, Oosterhout and Roosendaal). In March 2009, a commission (Commission Fränzel) consisting of mayors, police representatives and members of the regional public prosecutor's office was installed to formulate a joint regional approach for handling the drugs problem. During the term of the Commission Fränzel, the mayors of Bergen op Zoom and Roosendaal decided to close down their 8 coffee shops, in order to diminish the public nuisance caused by foreign drug tourists. These mayors didn't wait for the conclusions of the commission or for a change in the national drug policy. The effects of this policy were monitored in the police district. Under the name Project Courage the towns of Roosendaal and Bergen op Zoom are working closely together to tackle drug related crime. Six months after the closure of the coffee shops, it was reported that the number of foreign drug tourists had diminished with 90 per cent and that the reported public nuisance and street trading had declined (Gemeente Roosendaal, 2010). The dreaded shifting of the drug tourists to the bigger cities of the region partly took place because the municipality of Breda detected an increase of 30 per cent coffee shop visitors after September 2009, but no increase in public nuisance was reported. The municipality of Tilburg reported no change in the number of foreign coffee shop visitors.

In its advice the Commission Fränzel followed the basic ideas of the national Advisory Committee on Drugs Policy.

Some of the measures proposed by the Commission Fränzel are:

1. To monitor the number and characteristics of problematic juvenile groups
2. More strict enforcement of the rules of the existing coffee shop policy;
4. To start a pilot with small scaled closed coffee shop clubs with a maximum number of members: these coffee shop clubs can be commercially or non-commercially operated; the commission thinks that the municipalities that closed their coffee shops have to find a solution to supply their local cannabis market;
5. The district must develop a *joint* communication strategy to diminish drug tourism;
6. All of the grow shops in the region will be checked by a BIBOB procedure.
7. To organize the dismantling of large scale cannabis farms according to one common procedure in the region (Commissie Fränzel, 2009).

Most of these measures will be implemented under the watchful eye of the same Commission Fränzel.

Pilot project Eindhoven

Although the city of Eindhoven is also situated near the Belgium frontier in the province of North-Brabant there are no problems with foreign drug tourists. However, the mayor wants a coffee shop pilot project in order to combat the serious criminality which is connected with cannabis cultivation and also because many criminal juvenile groups are using cannabis. The municipal government respects the policy proposed by the national Advisory Committee on Drugs Policy, although she prefers an experiment with a regulation of cannabis cultivation. The pilot has four purposes: 1. More transparency of the entrepreneurship of the coffee shop owner, e.g. the owner must be able to submit to the authorities his exact purchases and sales; customers are obliged to pay by bank card; to investigate whether the entry age could be raised to 21 years. 2. Scaling down the size of the coffee shops:

introduction of a permit-registration system for customers with a maximum number of clients per coffee shop. 3. Combating organised crime connected with cannabis production, e.g. more administrative barriers for owners of grow shops and coffee shops; dismantling of large-scale cannabis cultivation in residential areas. 4. Tightening of the so-called W-AHOJ-G criteria: coffee shops are tolerated in their sale of cannabis, if they adhere to certain criteria: no harm to the neighbourhood, no advertising, no sale of hard drugs, not selling to persons under the age of 18, not causing public nuisance and not selling more than 5 grams per transaction (Gemeente Eindhoven, 2010).

This is one of the municipal pilot projects to find solutions in combating public nuisance caused by coffee shops that was granted with a state subsidy.

Coffee shop policy in Amsterdam

In his reaction to the governmental Letter Outlining Drug Policy of 11 September 2009, the then mayor of Amsterdam explained the special position of Amsterdam concerning coffee shops. The problems of the border towns with public nuisance caused by drug tourists are not found in Amsterdam. Amsterdam has 226 coffee shops, but the many foreign tourists visiting these coffee shops are not causing public nuisance. The city of Amsterdam does not feel for a closed coffee shop system. The mayor prefers experiments with regulated cannabis cultivation (Gemeente Amsterdam, 2009).

Sometimes local coffee shops take measures to combat public nuisance. This is the case in the Amsterdam quarter De Baarsjes where special security and street coach personnel is hired by the coffee shop owners to maintain order in the public space. They address coffee shop visitors with antisocial behavior and clean the street every day. This model is successful and will be implemented by the municipality of Leeuwarden (Driessen, 2010b).

Trial against coffee shop Checkpoint

In March 2010, the court of Middelburg passed the sentence in the trial against the former biggest coffee shop in the Netherlands, which was closed down in 2008. The owner and the employees of Coffeeshop Checkpoint in the town of Terneuzen –near the Belgian border– were accused of violating the tolerated maximum daily trading stock of 500 gram of cannabis and of being members of a criminal organization. The Public Prosecution Office demanded one and a half year prison and a fine of € 27.6 million. The judges imposed a punishment for the owner of the length of the custody (16 weeks) for drug trafficking, because his trading stock had exceeded for years the tolerated quantity, and they also considered Coffeeshop Checkpoint as a criminal organization. He 'only' has to pay € 10 million. These penalties were less than demanded, because the court judged that the local authorities (municipality, police and public prosecution) were conducive to the considerable growth of the sales of Checkpoint. Neither had the coffee shop ever been warned that it had grown too big in the eyes of the authorities (www.rechtspraak.nl: LJN: BL8815).

1.3 Economic analysis

Expenditures on addiction care

In the Netherlands, an institute for addiction care or mental health care is financed by several sources. As a rule, regular institutes receive funding from the Ministry of Health, the

Ministry of Security and Justice, the provinces, the municipalities, the health insurance companies, additional temporary funds, and some private funding.

Unfortunately, all these resources that flow to the addiction care are not labelled beforehand as to retrieve which amounts will actually be spent on addiction care, let alone treatment for drug addiction. "Labelled drug-related public expenditure" is defined as "the direct expenditure explicitly labelled as related to illicit drugs by the general government of the state" (Prieto 2010). This author further argues that "from a drug policy perspective labelled expenditure is more relevant than unlabelled expenditure". If a country spends a million euro on drug policy, what difference does it make whether or not that million was labelled beforehand to be spent on drugs? According to Prieto (2010) it does make a difference because "labelled expenditure is proactive, in that it is linked to the achievement of specific policy aims, while unlabelled expenditure is reactive, in that it arises as a result of drug misuse, such as enforcement or health costs".

However, the policy trend during the past years in the Netherlands, as in many other Member States of the European Union, has been in the opposite direction of decentralization and labelling public expenditures less and less beforehand. The more and more a municipality, at the local level, becomes responsible to take care for its own drug addicts, the less and less a national government can label beforehand which amount of funding is to be spent on the drug issue. Moreover, for a concrete drug addict receiving a certain amount of expenditure in the form of addiction care, it will make no real difference whether that expenditure was labelled beforehand or not.

Nonetheless, labelled or not labelled, the actual expenditures by the main institutes for addiction care in the Netherlands are retrievable from their annual accounts. It should be noticed that the addiction care included in these expenditures, apart from care for drug addiction, also includes care for alcohol addiction, medicines addiction, gambling addiction, and other addictions. Table 1.3.1 gives an overview of these expenditures in the fiscal years 2008 and 2009. From this table it can be estimated that the annual expenditures of the main regular institutes for addiction care, together with the institutes for integrated addiction care and mental health care, in 2008 amounted to 1,332,960,533 euro, which increased to a total of 1,472,928,984 euro in 2009. Unfortunately, it is not directly clear which part of these amounts is spent on treating addiction, let alone drug addiction, and which amount is still missing from the non-merged mental health care. It will come as no surprise that a high correlation has been found between the expenditures of an institute and its number of clients. There is a correlation of 0.986 between the expenditures in 2008 and the total case load at the end of the year.

Table 1.3.1: Expenditures in the fiscal years 2008 and 2009 by institutes for addiction care and institutes for integrated mental health care and addiction care

Institute, Place of business	Domain of care	Fiscal year	
		2008	2009
Arkin, Amsterdam	Addiction & mental health	190,679,000 EUR	209,981,000 EUR
Bouman GGZ, Rotterdam	Addiction*	66,216,302 EUR	71,041,669 EUR
Parnassia Groep, including Brijder Verslavingszorg, The Hague	Addiction & mental health	479,317,599 EUR	541,180,132 EUR
Centrum Maliebaan, Utrecht	Addiction	30,968,422 EUR	34,274,095 EUR
Verslavingszorg Noord Nederland, Groningen	Addiction	51,479,370 EUR	58,729,770 EUR
Tactus Verslavingszorg, Deventer	Addiction	54,827,488 EUR	62,212,405 EUR
IrisZorg, Arnhem	Addiction & social relief	69,349,367 EUR	75,776,696 EUR
Emergis, Goes	Addiction & mental health	81,818,000 EUR	86,678,000 EUR
De Hoop, Dordrecht	Addiction & mental health	21,963,325 EUR	26,371,847 EUR
Novadic-Kentron, Tilburg	Addiction	59,307,544 EUR	64,714,946 EUR
GGZ Noord- en Midden-Limburg, Venray	Addiction & mental health	101,257,116 EUR	110,463,424 EUR
Mondriaan Zorggroep, Heerlen	Addiction & mental health	125,777,000 EUR	131,505,000 EUR
Total		1,332,960,533 EUR	1,472,928,984 EUR

*Although *Bouman GGZ* offers mental health care as well as addiction care, its actual clients are still mainly addiction clients. Source: <http://www.jaarverslagenzorg.nl>.

Expenditures on medical care

Unfortunately, the expenditures on medical care for drug abuse and drug addiction are not systematically available for the Netherlands. Only fragmented information becomes available. The Consumer Safety Institute, for example, estimates that, averaged over the period from 2004 through 2008, the accident and emergency departments of the hospitals have spent 7.3 million euro per year on drug-related emergencies. However, for alcohol-related emergencies the annual expenditures were much higher, namely 38 million euro (Valkenberg 2009). From the expenditures on drug-related emergencies, a salient proportion of one third (33%) is spent on GHB (Stolte 2010).

Other expenditures

Some information about the criminal justice costs is given in § 9.2.1.

2 Drug use in the population

2.1 Drug use in the general population

Developments in drug use in the general population are monitored in the National Prevalence Surveys on substance use (see below). The most recent data are from 2005. Results for the 2009/2010 survey are not yet available. For cannabis use (disorders), new data are available from NEMESIS-2, the second Netherlands Mental Health (De Graaf et al., 2010), and from some local surveys in the four big cities.

NNIA

In 1997, 2001 and 2005 nationwide surveys on substance use in the general population were conducted. Methods of data collection were different between surveys. Trend analyses were conducted only on data collected with the Computerised Assisted Personal Interview (CAPI). For more information about the methods, see National Report 2006 and Online Standard Table 01.

- Table 2.1.1 gives the lifetime and last year prevalence rates of drug use. The results show that the lifetime use of cannabis and ecstasy was higher in 2005 compared to both 2001 and 1997. Lifetime prevalence of ecstasy showed a steady increase between 1997 and 2005. For heroin a significant rise between 1997 and 2005 was found. The percentage of last year users of ecstasy also increased between 1997 and 2001, and remained at the same level between 2001 and 2005. Last year prevalence rates of the other drugs were fairly stable across the years.
- Incidence rates, defined as the percentage of first time users of all respondents in the past year, decreased between 2001 and 2005 for cocaine (0.4% and 0.1%, respectively) and amphetamine (0.2% and 0.1%, respectively). Changes in incidence rates of cannabis, ecstasy and heroin were not significant.
- Data on frequency of use are only available for cannabis. In 2005, 23,3% of the last month users reported daily or almost daily use (on 20 days or more). This is some 0.8% of the total population aged 15 through 64 years, or 85.000 (almost) daily cannabis users in absolute numbers. In the 2009/2010 survey, data are also collected on cannabis dependence, using DSM-IV criteria.

Table 2.1.1: Prevalence of drug use (%) in the Dutch population of 15-64 years in 1997, 2001 and 2005*

	Lifetime prevalence (%)			Last year prevalence (%)		
	1997	2001	2005	1997	2001	2005
Cannabis	19.1	19.5	22.6 ^{b, c}	5.5	5.5	5.4
Cocaine	2.6	2.1	3.4 ^{b, c}	0.7	0.7	0.6
Ecstasy	2.3	3.2 ^a	4.3 ^{b, c}	0.8	1.1	1.2 ^c
Amphetamine	2.2	2.0	2.1	0.4	0.4	0.3
LSD	1.5	1.2	1.4	-	0.0	0.1
Heroin	0.3	0.2	0.6 ^{b, c}	0.0	0.0	0.0

Data collected by CAPI. * N= 17,750 in 1997; N= 2,312 in 2001; N=4,516 in 2005. a Significant change from 1997 to 2001. b Significant change from 2001 to 2005. c Significant change from 1997 to 2005. Figures in italics = less than 50 cases. Source: National Prevalence Survey, IVO (Rodenburg et al. 2007).

Age and gender

- NNIA. The numbers of drug users are only sufficient for cannabis to make a breakdown by age and gender.
- Table 2.1.2 shows that the percentage of recent cannabis users decreases with age.
- There was a slight shift towards the higher age groups between 1997 and 2001. The percentage of young cannabis users (15-24) decreased while the percentage of cannabis users aged 25-44 years increased in this period. This shift may have resulted from a cohort effect in that some of the cannabis users from the age group 15 through 24 years in 1997 migrated to the age group 25 through 44 years in 2001.
- In 2005, the prevalence of last year cannabis use was about 2.5 times higher among men than women (7.8% as against 3.1%). This male-female ratio was smaller in previous years (almost 2:1).

Table 2.1.2: Last year prevalence (%) of cannabis use by age group in 1997, 2001 and 2005

Age-group (years)	1997	2001	2005
15-24	14.3	11.6	11.4
25-44	5.2	6.5	6.4
45-64	1.1	1.1	1.5

Source: National Prevalence Survey, IVO (Rodenburg et al. 2007).

Cannabis use and cannabis use disorders: more recent data

A recent psychiatric epidemiological study was carried out on the prevalence and incidence of mental including cannabis use and cannabis use disorders in the general population from 18-64 years (NEMESIS-2, De Graaf et al., 2010). Baseline data were collected from 2007-2009 among 6,646 respondents (response rate of 65%). Face-to-face interviews were administered with the Composite International Diagnostic Interview (CIDI) 3.0.

- Last year prevalence of cannabis use was 6.5%. Taking age group differences and methodological differences between NEMESIS-2 and NPO into account, this figure suggests that cannabis use did not change much between 2005 (5.4%, see previous paragraphs) and 2007-2009.

- An estimated 0.1% to 0.5% of the population aged between 18 and 64 met the criteria for a last year diagnosis of cannabis dependence (DSM 4th revised edition). An estimated 0.2% to 0.6% of respondents met the criteria for a diagnosis of cannabis abuse. This means that about one in 9 last-year cannabis users has a cannabis use disorder.
- Cannabis-related disorders are more frequent among males than females (see table 2.1.3).
- Rates were higher among 15-30 year olds (0.9% for cannabis dependence and 1.0% for cannabis abuse).
- In population terms, there are an estimated 29,300 people with cannabis dependence and 40,200 with cannabis abuse. This population study did not survey juveniles aged under 18, people who were not sufficiently fluent in the Dutch language, and people who were homeless or were in a residential institution for a prolonged period. It is not known to what extent this may have influenced the results.

Table 2.1.3 Annual prevalence and numbers of people with a cannabis-related disorder (m/f). Between brackets: 95% Confidence Intervals. Survey period 2007-2009

Disorder	Males (%)	Females (%)	Total (%)	Total (Number)
Cannabis abuse	0.6 (0.2 – 1.0)	0.2 (0.0 – 0.4)	0.4 (0.2 – 0.6)	40,200
Cannabis dependence	0.4 (0.1 – 0.8)	0.1 (0.0 – 0.3)	0.3 (0.1 – 0.5)	29,300

Source: Nemesis 2007-2009 (De Graaf et al., 2010).

Local surveys

In 2008, general health surveys were held among the general population of 16 years and older in the four big cities: Amsterdam, Utrecht, Rotterdam and the Hague (Van Veelen et al., 2009). A written questionnaire was completed by a total of 20,877 people (response rate 50%) and data were weighted for gender, age group, ethnicity and type of area (disadvantaged or not). Questions on cannabis use were restricted to age group 16-54 years. The results showed that last month prevalence of cannabis use was almost twice as high in Amsterdam (10%) compared to the other cities (5% in Utrecht and the Hague and 6% in Rotterdam) (corrected for differences in background characteristics). In the total sample, last month prevalence was 7%, with appreciably higher rates among men than women (11% against 4%). Cannabis use decreased with increasing age and was higher among Dutch, Surinamese and Antillean residents compared to Turkish, Moroccan and other non-western immigrants, with highest levels found among 'other western' respondents. Cannabis use was also highest among people who cannot manage on their wage and were unmarried or divorced. A comparison of data from 2008 with those from previous surveys held in the period 2003-2005 suggests that cannabis use remained fairly stable in the past years, at least in these cities.

In conclusion

Drug use in the general population remained fairly stable between 1997 and 2005. Data from local studies as well as a comparison between two different (NPO and NEMESIS-2) suggest that no major changes in cannabis prevalence occurred between 2005 and 2008.

2.2 Drug use in the school and youth populations

Data on trends in drug use among pupils aged 12-18 years are available from the Dutch National School Surveys on Substance Use carried out every 3 or 4 years since 1988 (Online Standard Table 02). The most recent survey was conducted in 2007. In 2008 a survey was conducted as well among pupils of schools for special education. New data on cannabis use from the 2009 Health Behaviour in School-aged Children (HBSC) study will be available in December 2010 (after the submission of this National report). There are some new research data on factors related to (initiation of) cannabis use, among others from the TRAILS study (Tracking Adolescents Individual Lives' Survey), and cannabis use and school problems (secondary analysis HBSC 2005/2006).

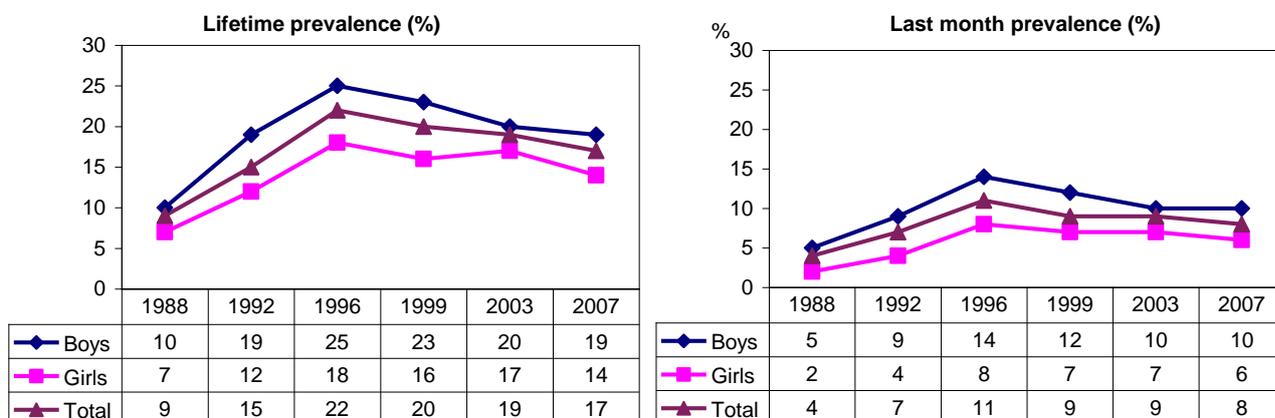
2.2.1 Regular secondary schools

NNIA. The pupils completed written questionnaires in the classroom. Random sampling occurred in two stages (first at the level of the class room and second at class level). The final net sample of respondents consisted of 7,550 students. In order to analyse trends, data from the different surveys were weighted with respect to gender, level of urbanisation and school type and school class. Until age 16, school attendance is fully compulsory; as of age 16 attendance is required only for unqualified pupils. As the higher school types are overrepresented among pupils of 17-18 years, the data for this age group are not considered to be representative for youth in general. Overall, the results showed that drug use among secondary school pupils increased between 1988 and 1996, and stabilised or decreased between 1996 and 2007 (see also Online Standard Table 02).

Trends in cannabis use

- Figure 2.2.1 shows that the lifetime and last month prevalence rates of cannabis use increased steadily between 1988 and 1996.
- Between 1996 and 2007, lifetime use decreased significantly. This decrease was apparent both for boys and girls but reached significance only for boys.
- Last month prevalence rates also significantly decreased between 1996 and 2007. Again, the difference was only significant for boys, although a decreasing trend is also visible for girls.
- In 2003 the gender gap as regards lifetime cannabis use had disappeared for the first time, but in 2007 lifetime use of cannabis was again more prevalent among boys than girls. Concerning last month cannabis use the gender gap became smaller as well since 1996, but differences between boys and girls remained significant throughout the years.
- There were no major differences in prevalence rates between Dutch and other ethnic groups, except for a lower rate of lifetime use among Moroccan pupils (8.1% against 16.5% among Dutch pupils).

Figure 2.2.1: Trends in lifetime and last month prevalence (%) of cannabis use among pupils (12-18 years)



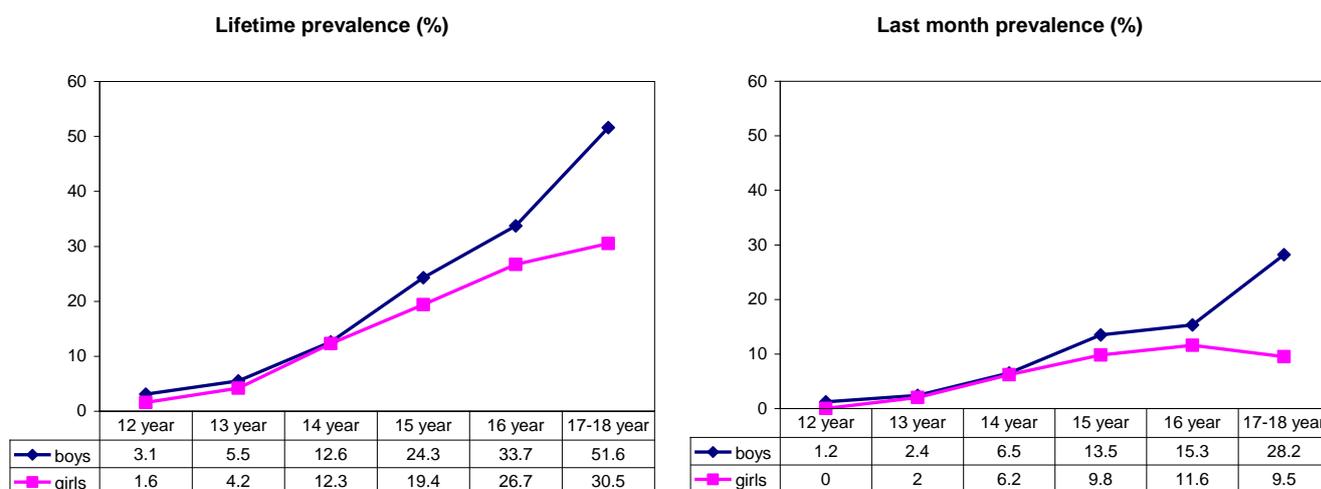
Source: Dutch National School Survey, Trimbos Institute (Monshouwer et al. 2008).

Cannabis and age (of onset)

Figure 2.2.2 shows that cannabis use strongly increases with age.

- At age 12 only few pupils have ever used cannabis: one in fifty (2.3%). At age 16, one in three pupils had ever tried cannabis (30%).
- The right panel of figure 2.2.2 shows that the percentage of current cannabis users increases until age 15 among girls and remains around 10% thereafter, while among boys a further sharp increase is observed in the higher age groups.
- The percentage of very young pupils (≤ 14 years) having ever tried cannabis decreased between 2003 and 2007 (trend significant for total and for boys separately). For example, LTP among 14-year old boys was 21% in 2003 against 13% in 2007.

Figure 2.2.2: Lifetime and last month prevalence (%) of cannabis use among pupils by gender and age in 2007



Source: Dutch National School Survey, Trimbos Institute (Monshouwer et al. 2008).

Frequency of cannabis use

Most pupils consume cannabis infrequently.

- Over half (55%) of the current cannabis users used cannabis on only one or two occasions in the past month (62% among girls, 46% among boys). Fourteen percent used cannabis on more than 10 occasions in the past month, more boys than girls (18% and 7%, respectively).
- Half of the current users (46% among boys, 57% among girls) smoked less than one joint per occasion, probably indicating that they shared a joint. Eighteen percent of the boys and 11 percent of the girls who were a current cannabis user smoked 3 or more joints per occasion.

Use of other drugs

- In general, the 2007 survey showed that prevalence rates of use of ecstasy, cocaine, amphetamine, hallucinogenic mushrooms and heroin were much lower compared to cannabis, with lifetime rates around 2%, while only 0.8% of the pupils had ever tried heroin. Last month prevalence rates are for all drugs below 1%.
- As for cannabis, the use of other drugs generally peaked in 1996 and decreased or stabilised since then. Ecstasy remains the most popular 'party' drug throughout the years, except for the last month prevalence in 2007, which was similar for ecstasy, cocaine and amphetamine (0.8%).

2.2.2 Special education

NNIA. In the National Report 2009 the results have been described of a survey among pupils of secondary special education (Kepper et al., 2009). Three school types for special education were included: Rec-4 (institutionalized pupils, for those who are who are uneducable or have specific problems, e.g. psychiatric problems, chronic diseases), Pro (practical education, for those who are not expected to be able to successfully complete their lower vocational study), and Lwoo (providing additional support to those students who have special needs or other problems, but are capable of successfully completing their lower vocational education). The data were compared with those from regular secondary education. Drug use rates were overall highest among pupils from Rec-4 schools (which make up 1% of *all* pupils of secondary schools). There were no or only minor differences in drug use between pupils from Pro, Lwoo and regular schools, except for GHB (lowest rate among pupils from regular schools). In contrast, the prevalence of current alcohol use did not differ between school types, but the prevalence of binge drinking (consuming 5 or more glasses or more on one occasion in the past four weeks) was higher among pupils from all special school types compared to their peers from regular schools.

2.2.3 Factors related to (Initiation of) cannabis use

The longitudinal study TRAILS suggests that the commonly report associations between behavioral problems and later cannabis use may be (partly) mediated by early onset of cigarette smoking (Korhonen et al., 2010). In this study over 1,600 Dutch adolescents were examined at baseline at ages 10-12 and at follow-up assessments at ages 12-15 and 15-18 (Huisman et al., 2008). Assessments included the Youth Self Report, the parent-rated Child Behavior Checklist and questions on substance use. *Early onset smoking* (first cigarette by the age of 12 years) and *ever and daily smoking* at the first follow up all appeared to be

powerful predictors of cannabis use at the second follow-up, for both boys and girls. These associations did not change much after correction for externalizing problems (combination of conduct, attention deficit hyperactivity and oppositional problems). Moreover, baseline externalizing problems (both parent or self-reported) generally increased the risk for later cannabis use. However, adjusting for smoking (early, ever, daily) attenuated the associations between parent-rated problem behaviors and cannabis use, resulting in non-significant values. The role of *self-reported* externalizing problems appears to be relatively independent of smoking, at least among boys.

Another analysis of data from TRAILS focused on the role between temperament and peer substance use on predicting lifetime and regular cannabis use (Creemers et al., 2010). The results showed that *high intensity pleasure* (pleasure derived from activities involving high intensity or novelty) and *effortful control* (capacity to regulate behavior and attention voluntarily) both predicted lifetime cannabis use, but this was mediated through their influence on affiliation with cannabis-using peers. That means, adolescents with higher levels of effortful control were less likely to select cannabis using peers (buffering effect), while those with higher levels of high intensity pleasure affiliated more with cannabis using peers. Moreover, effortful control also buffered against the development of regular cannabis use (4 or more times in the past 4 weeks) by its buffering effect on affiliation with cannabis using peers.

In a different cross-sectional study among 3,783 first grade students from secondary schools, associations between personality profiles and cannabis and other substance use were investigated (Malmberg et al., 2010). The results showed that *hopelessness* (negative thinking which might lead to depression) and *sensation seeking* were related to lifetime cannabis use. Moreover, increased hopelessness was associated with a decreased age of onset of cannabis use. Anxiety and impulsivity were not associated with cannabis use variables. The role of cannabis using peers was not taken into account.

2.2.4 Cannabis use and school problems

Ter Bogt et al., (2009) analysed data of the HBSC-2005/2006 to answer the question whether cannabis (and alcohol) use were associated with truancy, school achievement and school motivation, and whether these associations were moderated by gender, age and education level. In the uncorrected model cannabis use was significantly associated with all study outcomes. After correcting for a variety of confounders the association remained strong and significant for truancy, was weaker but still significant for school motivation and turned out to be weak and non-significant for school achievement. This implies that to some extent cannabis use is 'embedded' within a broader pattern of risk factors, including contacts with the police, insufficient parental control, peer contacts, and substance use by peers (included as confounders). The association between cannabis use and truancy was moderated by age, indicating that it was strongest for the youngest age group (14 or younger). Moreover, contradictory to the expectations, the link between cannabis use and truancy was stronger for higher educational levels compared to those of lower education.

Although this (cross-sectional) showed that cannabis use was associated with school problems, it does not elucidate the underlying mechanism (direct causal, pharmacological effects of cannabis or, indirect socially mediated effects, e.g. Fergusson et al., 2003).

2.3 Drug use among targeted groups

In this paragraph attention will be paid to research among specific groups, including visitors of music venues and nightlife settings, adolescents with a low educational level, Amsterdam neighbourhood and problem youth, male adolescents in juvenile justice institutions, and GHB users in the province of Limburg.

2.3.1 Music venues and nightlife settings

In the Netherlands, there are several monitors and studies that apply qualitative and/or quantitative research methods to monitor the use of drugs in music venues and nightlife settings:

- The Party Survey (Feestmeter) in 2008/2009, covering the whole country by means of eleven large scale parties and five regions for clubbers and disco-goers (Van der Poel et al. 2010)
- The (bi-annual) Trendwatch, covering the whole country divided into five regions (Doekhie et al. 2010);
- The Amsterdam Antenna monitor, including qualitative data from a panel study and in 2009 a quantitative survey among visitors of coffee shops (Nabben et al. 2010; Nabben 2010). A review and analysis of Antenna data from 1994-2008 has been recently published in a PhD thesis by criminologist Nabben (2010).

Party Survey (Feestmeter) 2008-2009

In 2008-2009, the Party survey (Feestmeter) examined substance use among visitors at eleven national and regionally organised large scale parties (Van der Poel et al. 2010). In the same survey, substance use among clubbers and disco-goers was studied in large and medium-sized municipalities in five regions of the Netherlands: North (Friesland, Groningen, Drenthe), East (Gelderland and Overijssel), Central (Utrecht, Flevoland), West (North- and South-Holland), and South (North-Brabant, Zeeland, Limburg). (Potential) respondents of 15-35 years were recruited 'on the spot' and asked to answer a limited set of questions on their substance use in the past month ('short questionnaire'). They were then asked to complete a longer questionnaire (on paper or through internet) the day after the party night. A total of 4,842 partygoers completed the short questionnaire and 920 completed the longer questionnaire. For clubs and discotheques these figures were 10,945 and 2,044, respectively. Although response rate was fairly low (19% for both settings), it is not uncommon for research in this type of setting. In order to have some idea about a selective response, a comparison was made between population characteristics and prevalence rates of substance use based on the short questionnaire (SQ) with those from the longer questionnaire (LQ). In general, substance use was somewhat lower among the LQ sample compared to the SQ sample. These differences were largely explained by a selective gender response: more females completed the long questionnaire compared to the short one (53% versus 44% for parties and 53% versus 42% for clubs/discotheques). Party visitors were on

average older than club visitors (24 and 22 years, respectively). Data from the 'long' questionnaire was used for further analysis.

Table 2.3.1 shows the prevalence rates of substance use among visitors from both settings. Regional data were weighted for population size, age group and ethnicity to obtain a national estimate of substance use among club visitors.

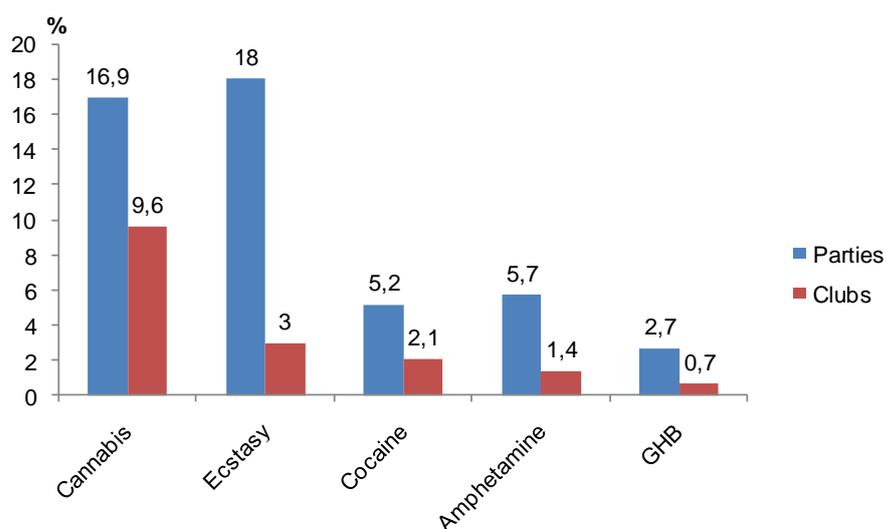
Table 2.3.1 Prevalence (%) of substance use among visitors of parties and clubs in 2008/2009

	Large-scale parties			Clubs and discotheques		
	Lifetime	Last year	Last month	Lifetime	Last year	Last month
Alcohol	98.5	96.5	90.5	98.1	96.4	92.0
Tobacco	74.0	59.1	50.9	70.9	57.1	50.5
Cannabis	69.9	45.6	30.3	62.0	39.0	23.7
Ecstasy	41.6	30.8	23.5	22.9	15.6	8.5
Cocaine	27.1	18.7	11.8	16.0	10.0	4.8
Amphetamine	22.6	11.0	7.3	12.6	6.3	3.4
GHB	14.3	7.8	4.6	6.4	3.4	1.7
Ketamine	8.5	3.8	1.2	4.1	2.1	0.6
Hall. mushrooms	24.7	7.9	1.1	16.2	5.9	0.8
LSD	6.4	1.3	0.8	3.9	1.3	0.4
Basecoke	2.7	0.6	0.2	1.2	0.4	0.1
Heroin	1.4	0.1	0.1	1.1	0.3	0.1

Source: Trimbos Institute/University of Amsterdam (Van der Poel et al., 2010)

In general, both alcohol and tobacco use did not differ much between settings, but (recreational) drug use appreciably higher among party-goers compared to club visitors. The typical street drugs heroin and crack cocaine were hardly use in both settings. Moreover, drug use among club visitors was generally higher in the western region of the country, followed by the Central and South regions. For amphetamine, differences between regions were smaller compared to those for cocaine, ecstasy and cannabis.

Figure 2.3.1: Prevalence of drug use during the night out at parties and clubs



Source: Trimbos Institute/University of Amsterdam (Van der Poel et al., 2010)

Figure 2.3.1 shows the prevalence of drug use during the night out. It is clear that drug use was on average highest at parties, but rates varied strongly between different parties (not shown). To some extent this variation is associated with music preference.

Comparing last year prevalence rates of substance use with those among 15-34 year olds in the 2005 population survey (Online standard table 1), it is clear that substance use is high among visitors of parties and clubs. For example, last year prevalence of cannabis use is 9.5% among the general population of 15-34 years compared to 39% and 46% among visitors of clubs and parties, respectively. For ecstasy these figures are 3%, 16% and 31%, respectively.

Trendwatch

The qualitative monitor Trendwatch, which covers the whole of the Netherlands, signalled three salient developments that took place during 2008 and 2009 on the Dutch drug market: (1) a more stringent action of the police at parties and dance events to combat drug dealing, (2) a sinking in of the ecstasy market, and (3) the spreading of GHB throughout the country (Doekhie et al. 2010). With regard to the use of drugs the Trendwatch has observed the following:

- In each user network and scene, *cannabis* is used, but its use is more expelled from public places. Heavy use of cannabis occurs in underground and hardcore scenes and among youngsters who hang around.
- *Ecstasy* remains popular among nightlifers, has gained the image of a "soft hard drug" among some users, but 'pure ecstasy' (containing predominantly MDMA-like substances) had become more difficult to obtain in 2009. Due to the adulterants in the ecstasy (see also § 10.3), some users started taking more pills at once to obtain the desired result. Other users looked for a substitute or stopped using.
- Although it is still used less often than ecstasy and is much more expensive, *cocaine* can be obtained easily throughout the country. It is used by all kind of groups. In Amsterdam, the new generation (20-24 years) seems less receptive to *cocaine* (Nabben et al., 2010).

- In general, *amphetamine* is easier to obtain in rural areas than in the larger cities. Youth in rural areas tend to use also on working days in addition to weekends and parties and they seem to underestimate the health risks. In the nightlife scene, use of amphetamine is most common in alternative clubs. In other groups amphetamines have a negative image. Nonetheless, it has been observed in Amsterdam that in 2009 *amphetamines* seemed to be on the rise, possibly as a substitute to the adulterated ecstasy (Nabben et al., 2010). Methamphetamine use remains restricted to small niches of the gay scene and among psychonauts.
- The popularity of *GHB* has increased among adolescents and young adults, but the market for GHB has remained much smaller than the market for ecstasy and cocaine. GHB is easy to produce and to obtain, and it has the image of being "dangerously innocent". Some users remain strikingly easy going about GHB, notwithstanding the comatose effects it sometimes has.
- *Ketamine* seems to gain some popularity in the western region of the trend setting alternative club scene and in the southern part of the country. Ketamine is mostly used at home during the weekend, but there are also signs of an increasing use at dance parties.
- *Energy drinks* (e.g. RedBull) remain highly popular and are used not only in the nightlife scene but also during work, study or driving,

Trends in substance use in the Amsterdam nightlife scene: 1994 - 2008

Repeatedly, previous National Reports from the Netherlands have reviewed the results from the Amsterdam Antenna which monitors the use of substances in the nightlife scene. The Antenna combines quantitative data from surveys with qualitative data from key informants. Recently, Nabben has published a PhD thesis in which reviews the trends that have been found by the Amsterdam Antenna from 1994 up to including 2008 (Nabben 2010). It is a study into cultural criminology, which "encompasses a broad spectrum of research disciplines that probe into issues such as the popularisation of crime, the widespread culture of carnivalesque sensation- and pleasure-seeking behaviour, the strong identification of young people with a norm-violating or even deviant consumption of visual culture, and transgressive nightlife subcultures". In addition to the social learning process of drug use, as described by Howard Becker, Nabben makes a distinction between "sensible 'euphoric artists' and the destructive 'euphoric bunglers'". The first group manages to enjoy drugs in a controlled way, the second group ends up in problem drug use.

Trends in drug use can take the form of a vertical expansion (more groups start using the drug), a horizontal expansion (more use of the drug within a group), respectively a vertical contraction (less groups continue the use of the drug), and a horizontal contraction (less use of the drug within a group). Different kind of trendsetters during different cycles in the nightlife all in all resulted in the following trends for different kind of drugs:

- *Ecstasy*: during the 1990s a vertical and a horizontal expansion took place, followed by a vertical and a horizontal contraction after the turn of the century.
- *Cocaine*: from the mid-1990s to 2006 a vertical and a horizontal expansion took place, followed by a stabilization.
- *Amphetamine*: from the mid-1990s a vertical and horizontal expansion took place within alternative scenes, but amphetamine remained less popular than ecstasy and cocaine.
- *Anaesthetics*: laughing gas (nitrous oxide), GHB, and ketamine showed a slight upward trend towards the end of the decade.

In the first decade of the 21st century, "more rigorous zero tolerance policies" were implemented at local level in the Netherlands. However, the zero tolerance policy has not resulted in drug-free events, but has probably promoted the use of drugs before the start of an event. Nonetheless, there was an expansion in nightlife of urban music, "whose followers had considerably less interest in drugs". However, a causal link between "the new sobriety" and repressive measures would be difficult to determine (Nabben 2010).

Amsterdam Antenna 2009

Amsterdam's 2009 nightlife was coloured by the economic crisis, a new generation of event organizers playing on safe and more stringent rules in the regular clubs (Nabben et al. 2010). Also among the nightlifers themselves the informal social control has increased, and they are "more forceful than in previous years about admonishing each other to responsible behaviour". On the other hand, some nightlifers have swerved to alternative, less commercial and self-organised venues at the outskirts of the city to find more freedom.

In this paragraph, we will describe the results of a quantitative survey conducted in more than 50 coffee shops among a total of 266 visitors. The more frequent cannabis users were overrepresented in the sample, their average age was 28 years, 80% was male, and almost two thirds was ethnic. Compared to the general Amsterdam population, the educational levels were low, unemployment was high, but mental health ratings differed little. The use of substances among visitors of coffees hops was as follows (table 2.3.2; (Nabben et al. 2010):

- Seven in ten visitors of coffee shops had consumed alcohol in the past month, of whom 13% drank daily (4% of total sample), and 7% was a risky drinker (defined as drinking at least 4 glasses daily or a few times per week).
- Tobacco smoking was also common, although about one-quarter had not smoked in the past month. Daily smoking was reported by 80% of the current smokers (58% of total sample).
- During the past month, 94% of the visitors had smoked *cannabis*, of whom three quarters used daily or almost daily, and on average four joints a day.
- During the past month, 6% of the visitors had used *ecstasy* and 5% had used *cocaine*, indicating a sharp drop from 2001 to 2009. Also for other recreational drugs (except, as expected for cannabis), prevalence rates of use had decreased in the past decade.
- Other drugs were used by less than 2% during the past month, and rates had generally decreased in the past decade.
- In terms of hard drug use, coffee shop visitors differ little from pubgoers.

Table 2.3.2 Prevalence of substance use among visitors of coffee shops in Amsterdam in 2010

	Lifetime		Last month	
	2001	2009	2001	2009
Alcohol	95.6%	91.0%	88.7%	70.9%
Tobacco	96.4%	89.8%	82.2%	74.0%
Cannabis	97.4%	97.4%	87.9%	94.0%
Cocaine	52.0%	33.6%	19.1%	5.4%
Ecstasy	62.6%	41.1%	23.1%	6.0%
Amphetamine	39.0%	19.6%	4.7%	1.5%
GHB	12.0%	12.9%	2.8%	1.5%
Hall. mushrooms	60.0%	37.5%	6.3%	0.4%
LSD	29.3%	11.9%	1.8%	0.4%
Heroin	8.8%	3.4%	0.9%	0%
Crack	19.1%	5.7%	1.8%	0%

Source: Antenna Monitor (Nabben et al., 2010).

2.3.2 Other targeted groups

Amsterdam Neighbourhood and problem youth

The Amsterdam Antenna monitor also includes a qualitative panel study on neighbourhood and problem youth (Nabben et al. 2010). These are the street youth who hang out in neighbourhoods. With regard to drug use the following observations were made:

- *Cannabis* is estimated to be smoked by some three quarters of the neighbourhood youth, and problem youth smoke frequently and heavily.
- Problem youth have more experience with *cocaine* and *ecstasy* than the common neighbourhood youth.
- Among the problem youth there is a growing curiosity about *GHB* and some experimentation with *crack cocaine*.

Adolescents with a low educational level

The National Institute for Public Health and the Environment (RIVM) has recently reviewed existing research on the link between substance use and a low educational level among adolescents (Schrijvers et al. 2010). The review confirms that all research points into the same direction: "Low educated adolescents more often smoke cigarettes, use cannabis, drink large amounts of alcohol and start to be sexually active at a younger age than adolescents with a higher educational level". Moreover, in low educated adolescents, "use of substances and active sexual behaviour starts at a younger age", that is, "at around 13-14 years".

Male adolescents in juvenile justice institutions

Research in 2009 indicates that, prior to their detention or pre-trial arrest, incarcerated boys had a high level of alcohol and drug use, compared to their peers in regular education. The findings are summarized in § 9.4 and table 9.4.1.

GHB users in the province of Limburg

The institute for mental health care and addiction care that is located in the north and the middle of the province of Limburg, *GGZ Noord- en Midden-Limburg*, has conducted qualitative research among GHB users. By means of the method of Rapid Assessment and Response (RAR), interviews were conducted among 47 GHB users and 15 key informants (Aarts et al. 2010). The GHB users lived in the north and the middle of the province of Limburg, most of them (72%) were recruited at the nightlife, the majority was male (74%), the age range was 16 up to including 39 years, and the mean age was 22 years. Average age of first GHB use was 19 years (range 13-19). About half of the respondents (51%) had used GHB during the past month. Reasons to use GHB include the positive effects (relaxing), sexual purposes, low price, being able to forget problems and other 'functional' motives (to improve sleep, better overall functioning). Reasons to start using GHB *for the first time* included curiosity, urge to experiment and promotion of use by the peer group. Almost half of the respondents (41%) had fainted or fallen into a coma once or more due to a GHB intoxication (called "out gaan"). Some users are afraid of it, but certain problem users go for it deliberately. In general, health risks (dependence, coma) seemed to be grossly underestimated.

3 Prevention

Introduction

In the Netherlands, the prevention of drug use, drug abuse, and the harm reduction among drug users is coordinated by the Ministry of Health, Welfare, and Sport (VWS). Research on prevention programs is conducted by the Trimbos Institute, Netherlands Institute of Mental Health and Addiction, universities and research departments of institutes for addiction care and treatment. On behalf of the Public Health Act (T.K. 2008-460),¹ Dutch municipalities are responsible for carrying out prevention programs, for which they receive funding from the ministry. Prevention programs are commonly carried out in co-operation between the prevention departments of institutes for addiction care and municipal health services, schools, neighborhood centers, the Dutch Centre for Crime Prevention & Safety (CCV), the Trimbos Institute, Netherlands Institute of Mental Health and Addiction and other 'health promoting institutes.

New developments and trends regarding prevention policies and interventions

The new national drug policy paper, that was expected to be published and discussed in 2010, has been delayed due to the fall of the cabinet (see § 1.1). In the outlines of the new drugs policy, more emphasis has been laid on negative norm setting ('no use of alcohol and drugs' below a certain age) and intensification of selective and indicated prevention programs (T.K.24077-239). Nonetheless, the emphasis on an integral approach to health prevention is still prominent.

The second Dutch policy paper on health prevention (*Preventie Nota*) from 2006 is still the guiding principle for activities in health prevention, including drug prevention (see National Report 2008). Health prevention activities are mainly directed to the general public, but the focus is shifting gradually towards young people and people with a low socio-economic status (SES). The focus is shifting, because the risks of health problems are most prominent among these groups and the evidence for the effectiveness of selective and indicated prevention activities is more convincing than for universal prevention. De Ridder (2003) concluded that the effectiveness of public health campaigns may be seriously flawed by not adapting the method and the message to the lifestyle characteristics and short-term needs of low-SES people (De Ridder 2003). Studies on effective prevention of unhealthy habits (for example drug use and unhealthy eating habits) for people with low socioeconomic status are nowadays still sparse. However, due to the changing health policy, some studies are currently underway (Tariq et al. 2009).

The Centre for Healthy Living (*Centrum Gezond Leven*), which is embedded in the National Institute for Public health and the Environment (RIVM), still supports local health promotion activities, and assesses the quality and effectiveness of interventions using a national certification system (Brug et al. 2010). For example, the RIVM has recognized "Moti-4", which prevents problem drug use among youngsters, as a well-described

¹ Since 1 December 2008, the Public Health Act replaces the former Collective Prevention Public Health Act (Wet Collectieve Preventie Volksgezondheid). The Public Health Act also includes the Infectious Diseases Act and Quarantine Act. There are also some changes with regard to youth care (mandatory electronic registration) and prevention for elderly.

intervention. As a result, a national "Counter for Healthy Living" has been presented at the internet (www.loketgezondleven.nl). This website makes available a database with lifestyle interventions, general information on themes concerning health and health in general at school, and on the quality and effectiveness of interventions. The implementation of the different interventions will also be monitored on the website.

In case a pupil drops out from school, not only the prospects of the individual pupil come at risk. Dropout from school also induces social costs, due to the loss of labour forces. Therefore, within the framework of European Union policy, it has been decided to reduce school dropout to a maximum of 8% of the pupils. Previous research already revealed the following risk factors for school dropout: urbanization, low social economic status, absence of social and cultural capital, ethnicity, being male, a lower intelligence, and a low school motivation. As reported in § 2.2, cannabis (and alcohol) use are also risk factors for truancy, low school motivation, and lower school performance, all factors which predict school dropout. The schools are in need of more support and knowledge about how to deal with this problem. The researchers recommend a low-threshold and school-based approach in co-operation with other institutes that deal with problem youth (Ter Bogt et al. 2009).

In January 2010, the college of higher education Windesheim, located in the city of Zwolle in the province of Overijssel, installed a lecturer in the field of addiction prevention (www.windesheim.nl) (Bovens, 2010). Especially at Windesheim's School of Social Work, the lecturer will pay attention to the teaching of and research on addiction prevention. Special attention will be given to incorporating the lived experience of a former addiction into the professional attitude of a prevention worker.

Regularly, conferences are organised that are relevant for prevention. For example, on the 14th of October 2010, a conference was held on alcohol and drug misuse among young people entitled *100% Bright* (100% Helder, www.medilex.nl). This conference for professionals paid attention to signaling and preventing problem alcohol and drug use and to how to support parents in dealing with this problem. To give another example, on the 12th of October 2010, a conference on cannabis was held entitled *Cannabis Issues* (Cannabiskwesties, www.trimbospreventie.nl). The conference paid attention to the physical and psychological risks of cannabis use among young people and to the options for prevention and treatment.

3.1 Universal prevention

Universal prevention (preferably school-based prevention) is still considered essential to inform parents and their children. The Healthy School and Drugs (see our former National Reports) is still the most applied school-based prevention program in the Netherlands. New elements are several e-learning modules for lower vocational education and the secondary school level. These modules cover alcohol, cannabis and driving under the influence. New is also a module for middle level vocational training (*MBO*).² Furthermore, the evaluated program "Preventing heavy alcohol use in adolescents" (PAS) was implemented in the Healthy School and Drugs program. This program aims to reduce heavy weekly alcohol use among students (Koning et al. 2009). PAS was based on an Swedish intervention (Koutakis et al. 2008). In the Netherlands, at 10 and 22 months after baseline measurement, only the combined student-parent intervention showed significant reductions in weekly alcohol use and in frequency of drinking (Koning et al. 2009).

² www.dgsg.nl

On the 21th of October 2010, the Trimbos Institute, Netherlands Institute for Mental Health and Addiction, and the Dutch Centre for Crime Prevention & Safety (CCV) decided to launch the Centre Safe and Healthy Nightlife (Centrum Veilig en Gezond Uitgaan, CVGU). this Centre will support local policy makers to attack problems in the nightlife (www.hetccv.nl; www.veiligengezonduitgaan.nl). The Centre will collect scientific information about measures that help to prevent alcohol- and drug-related incidents in the nightlife. Information about such measures can also be found at the website www.hnt-info.eu, the official website of the Healthy Nightlife Toolbox (HNT). The HNT "is an international initiative that focuses on the reduction of harm from alcohol and drug use among young people" (Voorham 2010). Funded by the European Union, the initiative was taken by the Netherlands (Trimbos Institute), the United Kingdom (Centre for Public Health, Liverpool John Moores University), Hungary (National Institute for Drug Prevention), Belgium (VAD), and Spain (IREFREA). The website of the HNT offers an overview of evaluated interventions in nightlife; a searchable database of reviewed academic literature on healthy nightlife interventions; a handbook with guidelines, tips and advice to help develop alcohol and drug prevention in nightlife settings; and news with updates on new publications and events on nightlife health. The website also offers a forum for professionals to discuss issues related to prevention in nightlife.

A quick scan showed that the local policies for alcohol and drugs are in most cases separated from policies for public safety (public violence). However, substance use (especially alcohol and cocaine use) and safety (or violence) are closely related. Most frequently it concerns destructive behaviours, vandalism and physical threat (CCV 2009a;CCV 2009b). The quick scan further showed that these behaviours are present in most municipalities, and that there is an urgent need for information about effective approaches. Given this urgent need, the Ministry of Health, Welfare, and Sport and the Ministry of the Interior and Kingdom Relations asked the Dutch Centre for Crime Prevention & Safety (*Centrum voor Criminaliteitspreventie en Veiligheid*) and the Trimbos Institute to initiate a Point of Support against Recreational Violence (Steunpunt Uitgaansgeweld). This point of support will set up expertise on the combined subjects of safety and health in and around recreational settings. It will target a quick and efficient exchange of knowledge and experience between professionals and municipalities.

3.2 Selective prevention and indicated prevention

The former 2009 National Report of the Netherlands described several programs for selective and indicated drug prevention (Van Laar et al. 2010). Some examples of these programs are the "Coping Power Project", which is a Family Motivational Intervention, and the "Cannabis Show" (EDDRA_2010_NL_02). Some of these programs were experimental and have not been implemented yet at a national level, although they showed promising outcomes. The Cannabis Show is a byproduct (derivate) of the Cannabis Intelligence Amsterdam (CIA), an intervention type that is actively involving participants in all parts of the intervention. CIA was developed by Jellinek Prevention in 2002. Six interventions (Cannabis Shows) have been carried out on nine locations of a specific school for young people with behavior and other disorders in the city of Amsterdam. Of the 485 students from 9 school locations in Amsterdam that participated in the Cannabis Show, 134 were both pretested and post tested: 65 in the intervention group and 69 in the control group (Van der Spek et al. 2009;Van der Spek et al. 2010).

Other 'new' interventions are the MOTI-4 and ACCU. The Moti-4 is an indicated preventive intervention for young people between 14 and 24 years with (developing)

problematic substance use or problematic gambling or gaming behaviour. The intervention consists of four face-to-face conversations which aim to increase the self awareness of the adolescent and insight in the possible consequences of the problematic behaviour, in order to reduce substance use or problem behaviour and/or to motivate them to seek treatment (<http://www.loketgezondleven.nl/i-database/interventies/m/13471/>).

In 2010 the Trimbos institute started a pilot to study the effectiveness of the 'Adolescent Cannabis Check-Up' in reducing cannabis use in young people of 14-21 years who use cannabis weekly or have symptoms of a cannabis use disorder. This brief intervention consists of a screening by telephone and two structured sessions and has been shown to be effective in an Australian population of young cannabis users (Martin & Copeland, 2004).

Recently, a report has been published about substance use and sexual behavior among adolescents having a low educational level (Schrijvers et al. 2010b). It is concluded that effective preventive interventions for this target group are rare and that existing interventions are poorly tuned to factors that relate to healthy behavior. The authors give several recommendations: include the family and the social environment in, start the preventive activities at an early age, spread the preventive activities over several settings like the school, the neighborhood and at home, and support these activities by law enforcement. As an example of support by law enforcement, the authors recommend to monitor the illegal selling of alcohol to minors.

The Drugs Information and Monitoring System™ (DIMS™)

Initiated in 1992, the Drugs Information and Monitoring System™ (DIMS™) monitors the contents of drugs delivered by users (see former National Reports). The information revealed by DIMS™ is disseminated to several organisations and networks to support their activities to prevent risky situations. Information is given to, for example, the Coordination Centre for the Assessment and Monitoring of New drugs (CAM), the Drugs Information Line (DIL), the European Early Warning System, and the EMCDDA.

As described in § 10.3, in 2009 ecstasy samples were on average less pure than in former years, which might be related to a temporary reduction in the availability of its precursor PMK. A quick scan by DIMS™ showed that, nonetheless, most ecstasy users did not switch to the use of other drugs.

The DIMS™ did not give insight yet into drug-related emergencies or incidents among drug users. To monitor these incidents, the DIMS™ has now been supplemented by the Monitor drug-related emergencies (Monitor drugsincidenten). The first results about the drug-related emergencies during 2009 have been published (Vogels 2010). The monitor receives its information from health-care organisations like hospitals, ambulance services, police medical-services, and first-aid services, in different regions of the country. The emergencies can be reported by professionals at the special website <https://www.drugsincidenten.nl> (see also § 6.2). Regularly, the participants receive feedback from the monitor.

The Drugs Information Line

The Drugs Information Line (Drugs Informatie Lijn, DIL) offers objective information about drugs to the general public by answering questions asked by phone or by e-mail. Compared to 2008, there was an increase in the number of contacts in 2009. There were a total of 4,031 contacts for drugs, 2,964 by phone, 981 by e-mail, and 86 otherwise (Van der Gouwe et al. 2010). The number of contacts about GHB has almost doubled.

In 2009, the DIL also started the chat box Bzz at the website <http://www.chatmetbzz.nl/>. Bzz targets young people from 13 to 16 years who are in need of reliable information about sexual health, alcohol and drugs, and who want to remain anonymous. Some 55,000 youngsters have now added this chat box to their friends list in Windows live Messenger (MSN). These young people seem to be anxious to use the internet or e-mail. Their mean age is 15 years, 64% is female, and more than half of the participants are living outside the cities. On average, an individual participant has asked 25 questions about sexual health, and 4 questions about alcohol and drugs.³

3.3 Mass media campaigns

The most important mass media campaign financed by the central government, which is running from January 2010 onwards for two years, is a life style campaign primarily targeted to parents with children from 10 to 16 years: Smoking, Alcohol and Cannabis Education: advice and support to parents (Roken, alcohol en cannabisopvoeding, advies en ondersteuning aan ouders). The central slogan of this campaign is: "No Alcohol below the age of 16". This campaign was developed by the Trimbos Institute in collaboration with other partners. In 2011 another public campaign will be developed, which will be targeted at augmenting the coping ability of young people against groups pressure. The new Minister of Health (Mrs. Edith Schippers) has made clear in her first debate with Parliament that the new government feels very strongly about the own responsibility of the citizens and the freedom of choice as far as life style is concerned ("no patronizing anymore") (T.K. Handelingen 2010-2011-15). It is not known what the consequences of these principles will be with regard to mass media campaigns for the coming years.

3.4 Research

Young people

In the Netherlands, youngsters more and more received an image of drug use and other unhealthy habits. In order to enable an evidence-based view on this topic, the minister for Youth and Families has initiated a study into the trends in youth health, lifestyles and behaviours. The study has reported advantageous and disadvantageous developments (Schrijvers et al. 2008). Smoking tobacco and using cannabis have decreased slightly, while overweight and alcohol use have increased. Psychological problems are fairly frequent among young people, but did not increase during the past twenty years. Unhealthy lifestyles and psychological problems are relatively frequent among youngsters having a lower education. The relation between health behaviour and ethnicity, however, remains unclear.

On behalf of the Netherlands Organisation for Health Research and Development (ZonMw), the Trimbos Institute, Netherlands Institute of Mental Health and Addiction and the Addiction Research Institute Rotterdam (IVO) have conducted a so-called 'knowledge synthesis' (kennissynthese) about the prevention of harmful alcohol and drug use. One part of the knowledge synthesis concerns adults (Schrijvers et al. 2010a) and another part concerns young people up to including 23 years (Van Hasselt et al. 2010). With regard to drugs, the knowledge synthesis reviews effective policy measures and interventions to prevent drug use and to reduce harm among those youngsters that nonetheless do use

³ www.trimbos.nl/nieuws/nieuw-op-druginfo---chatbox-bzz

drugs, as well as to reduce harm in their environment. Drugs include cannabis, ecstasy, amphetamines, GHB, and cocaine.

The knowledge synthesis has selected interventions that fulfill one or more of the following criteria: the intervention is at least "well described" according to the data base of the Centre for Healthy Living, the intervention has been broadly implemented, or research has been done on the intervention and the intervention has been well described. With regard to drug prevention, the following interventions have been selected: "ACCU", which targets cannabis use among youngsters from 14 to 21 years; "Barcode", which targets bar personnel who have to deal with substance users; "Safe Bar" (Bar Veilig), which prevents aggression in the nightlife; "Big Deal?", a peer prevention project; "Brains 4 Use", which targets youngsters from 12 to 23 years who committed alcohol- or drug-related crimes; "Cannabis Intelligence Amsterdam (CIA)", which targets ethnic cannabis users from 12 to 20 years; "The healthy school and drugs"; "DIMSTM"; "EHBDU", which targets prevention workers who give first aid after incidents; "Good host in the coffeeshop" (Goed gastheerschap in de coffeeshop), which targets coffeeshop personnel; "Intervention program for people with mild or borderline intellectual disabilities", "Moti-4", which targets youngsters from 12 to 24 years who are at risk for problem drug use; "Open and Alert", which targets youngsters in institutions; "Parents campaign smoking, drinking, drugs, and education" (Oudercampagne roken, drinken, drugs en opvoeding); "High, television series" (Roes, tv serie), which targets young people from 14 years onwards with stories about the consequences of alcohol and drug use; "2-Days Theatre" (Theater2daagse), which targets ethnic youngsters; "Nightlife, Alcohol and Drugs (Uitgaan, Alcohol en Drugs), which targets youngsters from 18 to 24 years in the nightlife; "Unity", which targets youngsters and adults from 18 to 35 years in the nightlife; "Utrecht Coping Power Program", which targets youngsters from 8 to 13 years at risk for problem drug use due to conduct disorder; Education given by telephone at the Drugs Information Line and by the Internet at drugsinfo.nl; "Weedsmart" (Wietwijs), which aims at the early detection of problem cannabis use.

Parent-based prevention

Recently, a study has been published on the feasibility of an integral approach to educational advice for parents (Vermeulen-Smit et al. 2010). The study was based on two expert meetings and a literature review. The authors traced several effective parenting characteristics for the prevention of smoking, alcohol use, and drug use that support an integral educational approach. They also studied possibilities for integrating advices for preventing sexual risk behaviour and ear damage caused by very loud music in recreational settings. A necessary general educational characteristic for a parent is the 'authoritative' approach. In such an approach a parent combines a warm involvement with setting clear-cut rules. However, an authoritative approach alone is not sufficient. Other educational characteristics are required that are drug specific and that fit in with the developmental stage of the child. The developmental stage of "young childhood" requires a different approach than the stage of "adolescence". Some drug specific educational advices are useful for an integral approach, for example the reinforcement of strict norms concerning drug use and reducing the availability of drugs. Moreover, parents need confidence in having influence on their children's drug use.

The evidence for the effectiveness of rule setting behavior by parents is still insufficient and subjects for future research on this issue are proposed. A non-frequent, open and informative communication is more effective than frequent communication characterized by

pressures and uneasiness. These prevention activities with regard to alcohol and smoking should be started during primary school. Preventing drug use should start at the first class of secondary school. Parental booster interventions are recommended. Finally, the authors advice to inform the parents themselves about sexual risk behaviours and the dangers of ear damage, because parents do not seem to be aware of these dangers for their children. When giving the advices to groups of parents, it is important to differentiate for group characteristics like ethnicity and socio-economic status.

E-health interventions

The Dutch website "drinking less" (www.minderdrinken.nl) offers self help for alcohol problems. It is the website that has been prone most to scientific research. It is based on motivational interviewing, cognitive-behavioural principles, and self-control training. The website targets heavy drinkers among the general adult population, and offers an interactive program albeit without input of a personal therapist. A previous randomized controlled trial reported reduced drinking among 17% of the experimental group, compared to only 5% of the control group. This group had no access to the intervention and only received an on-line alcohol education brochure. At baseline, both groups had an average of about 55 UK units per week. At six-month follow-up the experimental Drinking Less group drank about 36 UK units, while the control group barely changed its drinking quantities. A 'real world' test showed similar advantageous results. However, because many site visitors do not complete research surveys, one cannot be sure that these results will be replicated across all site users (Riper et al. 2009).

4 Problem drug use

4.1 Prevalence estimates of problem drug users

4.1.1 *Problem hard drug users (opiates and cocaine): national estimates*

The previous national estimate of the number of problem hard drug users in the Netherlands pertained to the year 2001. This estimate has now been updated for the year 2008 by means of the treatment multiplier (ST7_2010_NL_03) (Cruts et al. 2010). In order to apply (and improve) the treatment multiplier (TM), it was necessary to establish new estimates of the in-treatment rates. Methodologically, the in-treatment rate was defined as the proportion of drug users recorded in the National Alcohol and Drugs Information System (LADIS) during the past year. This has been accomplished by field work in eight regions in the Netherlands (Amsterdam, Rotterdam, The Hague, Utrecht, Groningen, Enschede, Eindhoven, and Heerlen) by means of a standardized questionnaire for field research.

Following an Amsterdam study, a distinction was made between problem hard drug (mainly opiate) users and "hard drug users" in methadone treatment, who function fairly well, do not use heroin or other hard drugs, and are in this sense not problematic anymore (Buster et al. 2001). According to key informants, it was estimated that about 60 per cent of the opiate users in treatment were problem drug users, being a total of about 9,740 clients, apart from the 6,500 less problematic opiate users in treatment. The problem hard drug users were defined as the socially marginalized drug users who, during the past month, used opiates, crack cocaine or amphetamines at least three days a week, and who showed criminal activities, had a psychiatric disorder, had a lifestyle causing public nuisance, or had an instable housing situation.

A total of 572 hard drug users were recruited (on the street and at various locations known to attract drug users), and in-treatment rates were calculated separately for opiate users and crack cocaine users who do not use opiates. For the opiate users an in-treatment rate was found of 87 per cent, and for the crack cocaine users a much lower in-treatment rate was found of only 41 per cent. It was concluded that a reliable estimate could only be made about the number of problem opiate users and not yet about the number of crack cocaine users.

For the problem opiate users, an in-treatment rate of 87 per cent implies a multiplier of 1.15. Applying this multiplier to the 9,740 socially marginalized problem opiate users who are in treatment, their total number is estimated at about 11,200. Adding the 6,500 less problematic opiate users who are in treatment, all in all leads to an estimated number of 17,700 more or less problematic opiate users in the Netherlands in 2008. The 95%-confidence interval runs from 17,300 up to 18,100 opiate users.

Table 4.1.1 lists the national estimates of the number of problem hard drug users based on surveys conducted several times in the past years. Due to the large confidence intervals, the estimate for 2001 did not differ significantly from the previous estimate for the year 1999. Compared to the previous years 1993 up to including 2001, however, the number of more

and less problem opiate users has clearly decreased in 2008. For 2008, the number of problem opiate users per 1,000 inhabitants aged 15 through 64 years is now estimated at only 1.60 (range: 1.56-1.64), compared to 2.7 in 1999. The decrease in the number of problem opiate users can be explained by the ageing of this group of problem drug users, and opiates not being popular among new groups of drug users.

*Table 4.1.1: National estimates of the number of problem hard drug users**

Site	Year	Method	Case definition*	Estimates (lowest-highest)	Source
National	1993	Multiple	Problem opiate users	28,000	(Bieleman et al. 1995)
National	1996	Treatment multiplier MIM	Problem opiate users	27,000 (25,000 - 29,000)	(Toet 1999)
National	1999	Treatment multiplier MIM	Problem opiate users**	29,213 (25,970 - 30,298)	(Smit et al. 2001)
National	2001	Treatment multiplier, MIM, Multiple imputation***	Problem hard drug users**	33,499 (23,773 - 46,466)	(Smit et al. 2006)
National	2008	Treatment multiplier	More and less problem opiate users	17,700 (17,300 – 18,100)	(Cruts et al. 2010)

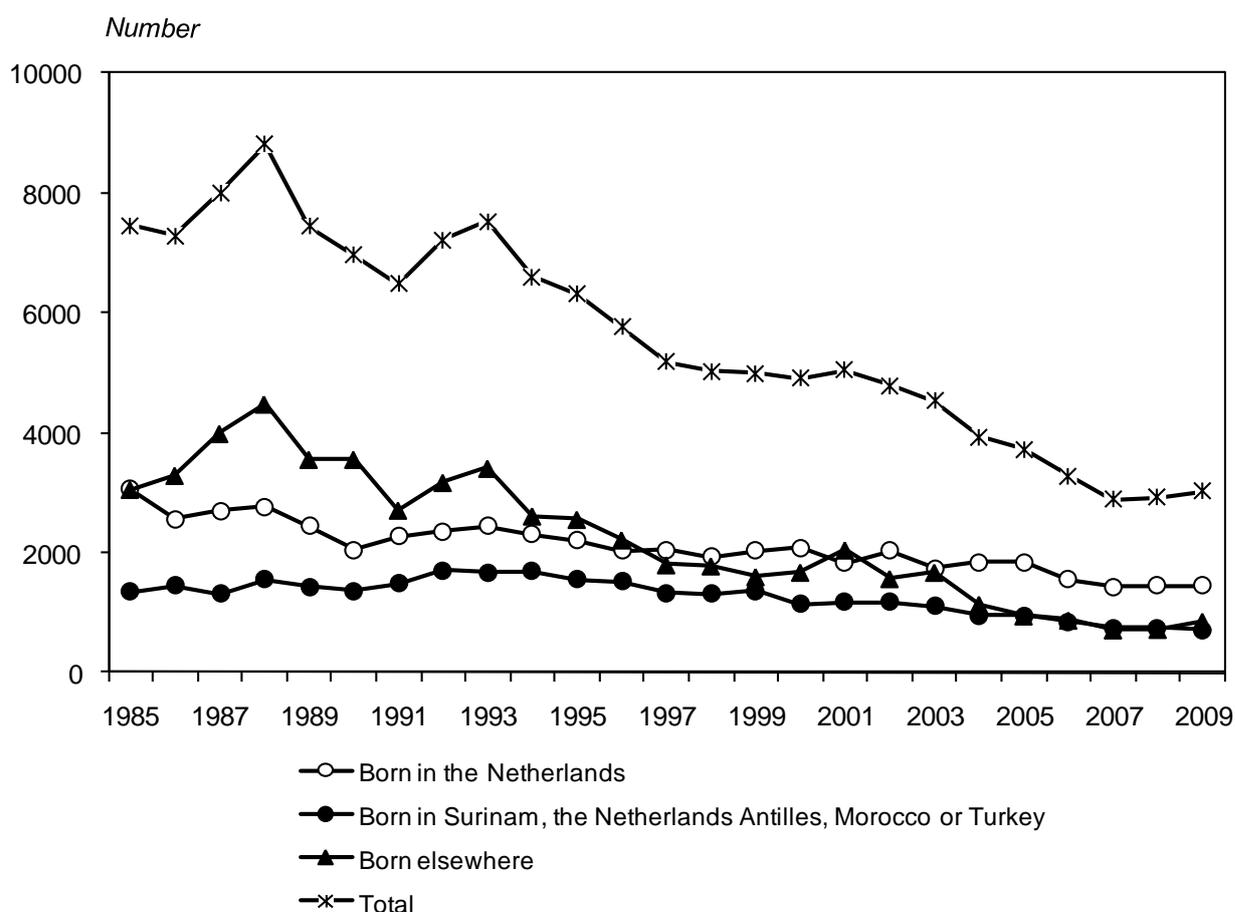
MIM=Multivariate (social) indicator method. *Mainly opiate users who also consume crack cocaine (and other substances). **Variable case definitions of local estimates (anchor points) used by MIM. Mainly problem opiate users, who usually also consume crack. Yet, some anchor points – especially of the latest estimates - also include small numbers of primary crack cocaine users who do not consume opiates. Treatment multiplier is based on opiate users only. ***The MIM and the multiple imputation were based on local estimates for the years 1998 - 2002. Therefore, in contrast to the multiplier method, this estimate does not accurately refer to '2001'.

4.1.2 Problem opiate users at local level: Amsterdam

Estimates for the number of problem opiate users in Amsterdam are available since 1985. Figure 4.1.1 shows the estimated numbers broken down by country of origin (ST7_2010_NL_04).

- With a minor fluctuation in the early nineties, the estimated number of problem opiate users has declined since 1988 and seems to be stabilizing since 2007. The largest decrease can be attributed to the group of foreign opiate users who are "born elsewhere", including Italy and Germany. Nonetheless, in the past years, the size of all groups has decreased.
- For 2009, the total number of problem opiate users in Amsterdam was estimated at 3,023 for a one-year observation period. From these problem opiate users 48% were born in the Netherlands, 24% in Surinam, the Netherlands Antilles, Morocco, or Turkey, and 28% were born elsewhere. Problem opiate users from the first and the second subgroup usually have a residence permit and maximum access to methadone treatment.

Figure 4.1.1: Estimated number of problem opiate users in Amsterdam by country of origin



Problem opiate users: those users who have medical and/or judicial problems and/or have difficulties controlling their addiction. The estimates are based on a 2-sample capture-recapture analysis applied to data from the Central Methadone Register (CMR). Source: Municipal Health Service Amsterdam.

4.2 Data on problem drug users from non-treatment sources

Paragraph 4.1 above already introduced the data base about a field sample of 572 socially marginalized problem hard drug users. This data base is officially called the "Data base problem hard drug users 2008" (in Dutch: "Database problematische harddrugsgebruikers 2008"). The data base is operated by the Trimbos Institute, and is a compilation of underlying data bases. The Municipal Health Service Amsterdam (GGD Amsterdam) supplied the data for the city of Amsterdam (Buster et al. 2009), the Addiction Research Institute Rotterdam (IVO) supplied the data for the cities of Rotterdam (Schoenmakers et al. 2009b) and The Hague (Schoenmakers et al. 2009a), and finally Bureau INTRAVAL delivered the data for the cities of Utrecht, Groningen, Enschede, Eindhoven, and Heerlen (Biesma et al. 2009).

It was found that from the 572 problem drug users, a majority of 441 problem drug users (77.1%) had been in treatment during the past year at an institute for addiction care that delivers data to the National Alcohol and Drugs Information System (LADIS). The remaining 131 problem hard drug users (22.9%) did not receive such addiction care during the past year. To avoid any misunderstanding, almost all these problem drug users will have received

some form of social relief at low-threshold services, but those services do not yet deliver data to the LADIS. Compared to the Treatment Demand Indicator (TDI), the data from these 131 problem drug users therewith offer additional data from a non-treatment source.

By means of variables like "substance", "gender", "age group", and so forth, different groups of problem drug users can be distinguished. For some different groups of drug users, table 4.2.1 gives the respective proportions that have received addiction care during the past year.

Table 4.2.1: Proportions among different groups of problem drug users having received addiction treatment during the past year

Variable	Groups of problem drug users	Proportion having received addiction treatment during the past year
<i>Substance</i>	Opiates (with or without crack) (N=443)	87%
	Crack (without opiates) (N=129)	41%
<i>Gender</i>	Male (N=488)	76%
	Female (N=084)	83%
<i>Age group</i>	Younger than 35 years (N=104)	67%
	35 Years and above (N=468)	79%
<i>Area of residence</i>	Inside the four largest cities* (N=373)	79%
	Outside the four largest cities* (N=199)	74%
<i>Country of birth</i>	The Netherlands (N=294)	78%
	Other European country (N=047)	77%
	Surinam and the Netherlands Antilles (N=141)	74%
	Morocco and Turkey (N=040)	88%
	Other (N=050)	72%
<i>Mother's country of birth</i>	The Netherlands (N=209)	80%
	Other European country (N=053)	81%
	Surinam and the Netherlands Antilles (N=114)	73%
	Morocco and Turkey (N=038)	79%
	Other (N=055)	69%
<i>Father's country of birth</i>	The Netherlands (N=258)	80%
	Other European country (N=055)	78%
	Surinam and the Netherlands Antilles (N=144)	73%
	Morocco and Turkey (N=049)	82%
	Other (N=062)	73%
<i>Housing situation</i>	Self-reliant, on rooms, parents, family (N=144)	73%
	Supported living (N=057)	86%
	Street, squat, social relief, unstable (N=361)	77%
<i>Source of income</i>	Benefit (N=469)	78%
	Legal work (N=154)	71%

Illegal activities (N=244)	74%
<i>Level of causing public nuisance</i>	
Low (N=189)	79%
Medium (N=197)	75%
High (N=180)	77%
<i>Level of psychiatric problems</i>	
Low (N=205)	81%
Medium (N=204)	73%
High (N=155)	77%

*The four largest cities of the Netherlands are: Amsterdam, Rotterdam, The Hague, and Utrecht, the so-called Great 4 (G4). Source: Database problematic hard drug user 2008. Property of the Trimbos Institute, Netherlands Institute of Mental Health and Addiction. Compiled by the Municipal Health Service Amsterdam (GGD Amsterdam), Bureau INTRAVAL, the Addiction Research Institute Rotterdam (IVO), and the Trimbos Institute, Netherlands Institute of Mental Health and Addiction.

The largest difference in the proportion having received addiction treatment has been found between the problem opiates users (87%) and the problem crack users (41%). Smaller differences, but still larger than 10%, have been found between problem drug users younger than 35 years (67%) and 35 years and above (79%); problem drug users born in Surinam and the Netherlands Antilles (74%) and born in Morocco and Turkey (88%); and between problem drug users living on their own or with family (73%) and in supported living (86%).

To explain that problem crack users are less often in treatment compared to problem opiates users, some hypotheses can be formulated:

- no substitution treatment is available yet for crack users, and therefore the addiction care has less to offer to this group;
- crack users are younger, have still less problems compared to the older opiates users and therefore feel less urge to seek treatment.

A logistic regression-analysis has been performed to test which factors predict whether or not a problem drug user received addiction treatment. In the logistic regression-analysis the following covariates were entered: "substance", "gender", "age", "living inside or outside the four largest cities", "country of birth", "mother's country of birth", "father's country of birth", "housing situation", "source of income", "level of causing public nuisance", and "level of psychiatric problems". It was found that, from all these covariates, only "substance" was a statistically significant predictor for being in treatment or not ($p=0.000$). "Age" was not statistically significant ($p=0.9$). These findings suggest that being younger is *not* the reason why crack users less often receive addiction care.

Given the large differences in the in-treatment rates between the problem opiates users and the problem crack users, it is interesting to have a closer look at the differences between these two groups. Apart from the difference in the in-treatment rates, table 4.2.2 shows some more differences between these two groups.

Table 4.2.2: Comparisons between problem opiates users and problem crack users within a field sample of problem hard drug users

Variable for comparison	Substance		
	Opiates with or without crack (N=443)	Crack without opiates (N=129)	
Having received addiction care during the past year?	Yes	87%	41%
	No	13%	59%
Gender	%Male	85%	87%
	%Female	15%	13%
Age group	Younger than 35 years	12%	35%
	35 Years and above	89%	65%
Country of birth	The Netherlands	51%	52%
	Other European country	09%	07%
	Surinam and the Netherlands Antilles	25%	25%
	Morocco and Turkey	08%	04%
	Other	08%	12%
Mother's country of birth	The Netherlands	45%	45%
	Other European country	12%	10%
	Surinam and the Netherlands Antilles	24%	26%
	Morocco and Turkey	09%	06%
	Other	11%	14%
Father's country of birth	The Netherlands	46%	43%
	Other European country	09%	12%
	Surinam and the Netherlands Antilles	25%	26%
	Morocco and Turkey	09%	06%
	Other	10%	13%
Housing situation	Self-reliant, on rooms, parents, family	25%	27%
	Supported living	11%	06%
	Street, squat, social relief, unstable	62%	66%
Source of income	Benefit	82%	81%
	Legal work	27%	28%
	Illegal activities	41%	50%
Level of causing public nuisance	Low	36%	23%
	Medium	33%	42%
	High	31%	34%
Level of psychiatric problems	Low	37%	35%
	Medium	35%	39%
	High	28%	26%

Source: Database problematic hard drug user 2008. Property of the Trimbos Institute, Netherlands Institute of Mental Health and Addiction. Compiled by the Municipal Health Service Amsterdam (GGD Amsterdam), Bureau INTRAVAL, the Addiction Research Institute Rotterdam (IVO), and the Trimbos Institute, Netherlands Institute of Mental Health and Addiction.

Logistic regression analysis showed that, as expected, the problem crack users were (significantly) younger than the problem opiates users, 35 percent of them are younger than

35 years, compared to only 12 percent of the problem opiates users. Another difference is that problem crack users more often show medium and high levels of public nuisance, 76 percent, compared to 64 percent among the problem opiates users. The crack users may cause more public nuisance because they are younger and therefore have more strength, and because stimulants like cocaine, crack, and amphetamines tend to evoke more aggression compared to opiates (Darke et al. 2010). Addictive cocaine use is associated with violent crimes like "verbal arguments", "violent arguments", "physical fights", "armed robbery", "robbery", "spousal abuse", "attempted murder", "child abuse", "rape", and "murder" (Tang et al. 2009).

Moreover, being older, but not 'opiates as the substance of abuse', significantly decreased the chance to cause public nuisance at a medium or high level (corrected for other factors).

All in all, the findings from the field sample of problem hard drug users confront the Dutch addiction care with the issue of how to better reach the new group of problem crack users who are younger, more often cause public nuisance and for whom no substitution treatment is available yet.

4.3 Intensive, frequent, long-term and other problematic forms of use

Cannabis

Data on the frequency and intensity of cannabis and cannabis use disorders in the general population and have been reported in § 2.1 and § 2.2.

In 2009 the Amsterdam Antenna monitor carried out a survey among *visitors of coffee shops* (Nabben et al., 2010; see also § 2.3).

- The data showed that 94% had used cannabis in the past month; of this group 76% uses cannabis (almost) daily, 15% uses cannabis weekly or only during the weekend and 9% uses cannabis only occasionally.
- About eight in ten (82%) of the current cannabis users was categorized as a *risky user*, which was defined as daily use, or consuming more than one joint on several days or more per week.
- Six in ten (62%) of the last month cannabis users now and then thought they smoked cannabis '*too much and/or too often*'. However, 'too much or often' is highly subjective and further questioning showed a wide variability in definitions. In general, respondents judged the use of about 6-8 joints per day as 'too much or often'.
- As indicated in § 2.3, this survey oversampled frequent cannabis users and the data are therefore not representative of the total population of cannabis users.

Cocaine, ecstasy and amphetamine

In the survey among visitors of clubs and large-scale parties described in § 2.3, indicators of problem use of ecstasy, amphetamine and cocaine have been included, which are based on the seven criteria for DSM IV substance dependence (see table 4.3.1). However, since the data were self-reported and not based on a clinical interview, we avoid the term 'dependence' and instead use the more general term 'problem use'. Moreover, given the selective recruitment of respondents in specific locations of the nightlife scene, the reported prevalence rates of problem use of ecstasy, cocaine and amphetamine cannot be extrapolated to the larger population of users of these drugs.

Symptoms of problem drug use were reported by 10% to 30% year of the last year users of ecstasy, cocaine and amphetamine (see table 4.3.1). If the criterion of 3 or more symptoms is taken to define problem use, the data showed that for party attendants the prevalence rate of problem use among last year users was 11.3% for ecstasy, 13.0% for cocaine and 19.4% for amphetamine. The respective rates among last year users in the sample of club visitors were quite similar: 12.8%, 12.8% and 21.4%. Whether market factors, like the reduced quality of ecstasy and amphetamine in 2008/2009 (see § 10.3), have influenced scores on the second criterion (i.e. more time spending to obtain the drug) is not known.

Table 4.3.1: Prevalence of symptoms of problem drug use among last year users of ecstasy, cocaine and amphetamine recruited at large-scale parties and in clubs (2008/2009)

	Parties			Clubs/discotheques		
	Ecstasy N=274	Cocaine N=162	Amphet amine N=98	Ecstasy N=306	Cocaine N=199	Amphet amine N=119
In the past 12 months, did you						
...continue use despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the drug?	22.5	22.4	30.6	23.7	23.5	25.2
...spent a great deal of time in activities necessary to obtain the drug, using it, or to recover from its effects?	20.5	10.3	23.2	18.5	11.3	22.9
...notice that you needed markedly increased amounts of the drug to achieve intoxication or desired effect?	20.4	13.4	16.2	15.4	18.6	21.9
... often took the drug in larger amounts or over a longer period than was intended?	14.7	21.8	22.2	18.3	15.5	17.4
...have a persistent desire or unsuccessful efforts to cut down or control use of the drug?	8.6	10.4	10.1	9.0	9.7	14.5
...give up, or reduce, important social, occupational, or recreational activities (e.g. sports, work, family, friends) because of the continued drug use?	6.5	5.5	8.1	5.0	7.5	12.1
... feel bad (ill) when ceasing or reducing the drug or did you use another substance to relieve or avoid these symptoms?	1.8	2.5	7.1	1.6	4.8	10.4

Source: Trimbos Institute/University of Amsterdam (Van der Poel et al., 2010)

5 Drug-related treatment: treatment demand and availability

5.1 Strategy/policy

In 2009, the addiction care in the Netherlands consolidated the developments that took place during the previous decades. The main historical developments were the professionalization of the addiction care, especially by means of the quality management program *Scoring Results*; and the mergers, often with mental health care, which have resulted in thirteen large regional organizations. New impulses during 2009 were given by a new Knowledge Centre for Care, a specialist study in addiction medicine and pilots with Routine Outcome Monitoring and performance indicators. Moreover, there have been improvements in care for chronic (complex) addicts, pilots for treating cocaine problems and increases in online therapy.

5.2 Treatment systems

5.2.1 Organisation

During the past decade, the number of organizations for addiction care has been reduced considerably. This is due to the many mergers that took place in the Dutch mental health care and addiction care for economic reasons. After some fluctuations, the 60 regular organizations that were present in 1993 were transformed into thirteen (mostly large) regional organizations in 2009.⁴ Additional organizations that take care of addicted persons are the municipal health services, general psychiatric hospitals, several religious organizations (e.g. the Foundation "De Hoop") and some ten private addiction clinics.⁵ One private clinic was opened in Spring 2010 in the Caribbean (JellinekRetreat).⁶ These clinics do not participate yet in public registration systems like the National Alcohol and Drugs Information System (LADIS). However, one clinic ("SolutionS") is now being evaluated on the effectiveness of its treatment, combining the Twelve Step Minnesota Model with cognitive-behavioural therapies.⁷

5.2.2 Quality assurance

The program Scoring Results

Already in several former national reports, the content and evaluation results of the program *Scoring Results* have been described. On November 25th 2009 a Jubilee Conference was held because of the 10-year anniversary of this programme. During this celebration, the Minister of Health, Welfare and Sport characterized the results of the programme as a milestone for the quality of the Dutch addiction care (Ooms et al. 2010). *Scoring Results* will be continued in a new Knowledge Institute (*kennisinstituut*) that will be hosted by the

⁴ See www.sivz.nl

⁵ See www.sivz.nl

⁶ Psy Nieuwsbrief, February 25th, 2009 (www.psy.nl); Schramade M., Het Parool October 10th 2009.

⁷ www.ivo.nl. This prospective evaluation (with a follow-up one year after finishing treatment) is focusing on patients with alcohol problems, if relevant combined with cocaine problems.

National Branch Organization for Mental Health Care and Addiction Services (GGZ Nederland).

Training and education

On December 3rd 2009, the first eighteen addiction physicians finished their two-year specialist study in addiction medicine at the Radboud University Nijmegen. The study includes a theoretical and a practical phase. A second year-group is currently following this post-doc training. This specialized academic discipline is a primer in Europe. It is foreseen that in September 2010, the third wave of new students will start their specialisation. At the same time, a new 1-year study has started for the additional professional training of addiction psychologists. In 2008, a national website was developed (www.verslavingskundeplein.nl) by a school for higher vocational education (InHolland). This website or portal was meant for information and education of students, teachers, professionals and researchers. The five clusters of the website included information, communication (e.g. a forum), knowledge, learning, and development. It was meant as a virtual meeting place for all professionals involved in drug prevention, treatment and care, and drug policy (Buisman 2009). The website has now been concluded, and part of it has been taken over by the website www.presentie.nl. Inter alia, this website gives information about how the "presentation approach" (Baart 2004) can be applied to addiction care. The starting point of the "presentation approach" is being there in an outreaching manner in the environment in which the addicts actually live.

Benchmarking and Routine Outcome Monitoring pilots

In Dutch addiction care there are three monitors that are also meant to support benchmarking:

- 1) a monitor of cognitive-behavioural lifestyle trainings, run by the Amsterdam Institute for Addiction Research, AIAR;
- 2) a monitor on inpatient motivation centres (see National Report 2007, par. 5.1);
- 3) a monitor on dual diagnosis treatment.

The last two monitors are conducted by the Nijmegen Institute for Scientist-Practitioners in Addiction (NISPA). Routine Outcome Monitoring (ROM) is tried out in the three monitors mentioned above, but also in dual diagnosis treatment and in detoxification units. An essential part of ROM is individual data collection on outcomes of treatment, whereas benchmarking may also collect these data on group level. The Netherlands Knowledge Centre for Care (*Kenniscentrum Zorg Nederland*) published standards for benchmarking for mental health care including addiction care.⁸

Applying ROM in treatment fits in well with the introduction of performance indicators (see later this chapter). Experiences with individual level ROM data in mental health care suggest that working with ROM on group level is helpful for outcome management (Ellwood 1988). During the past years, ROM and its measurement instruments have also been used for clinical management on individual level, that is for setting up and evaluating individual treatment plans (Andrews et al. 2005). In this sense, the use of ROM and its measurements are supporting decision making. Moreover, experiences have been reported with outcome measures on different measurement instruments for individual patients. For example, a case study shows that, while psychiatric symptoms decrease, the quality of life may also decrease due to setting higher goals (Keet 2010).

⁸ www.kenniscentrumzorgnederland.nl

National performance indicators

An improvement of the quality of addiction care has not only been activated by the program Scoring Results, but also by the introduction of performance indicators (see our former National Report). Monitoring the scores on performance indicators allows organizations (of health care in general) to reflect on the state of the art of their performances by comparing their scores with those of other organizations or with pre-determined normative values. Performance indicators are considered a systematic exercise in data collection that should result in a constant monitoring of transparent and reliable data in the longer run. A try out of a pre-constructed basic set of performance indicators for mental health care and addiction care has been published (Keulen et al. 2009). This 'visualization' is meant as a first impression of the effectiveness, safety and client-directedness of separate organisations in mental health care and addiction care. The draft data were published by Health Insurers Netherlands (*Zorgverzekeraars Nederland*) in collaboration with the Health Care Inspectorate (IGZ) and several umbrella organizations of professionals in this sector. Finally, 145 of the 228 organisations that were initially approached, delivered data to the central system, of which the data from 122 organisations were considered detailed enough to be published. Because of many flaws in the collection and correction of these data, and because these data are still incomplete and unreliable for comparative analysis, the report is considered unfit for use in decision making in mental health care. Future improvements should solve this problem.

A "mirror meeting"

The personal experiences that clients in addiction care have with professionals may serve as a mirror for these professionals, and are considered useful for improving daily treatment practices. Therefore, the Jellinek has put twelve clients in the spotlights who have followed a similar treatment type for a first mirror meeting.⁹ The clients are guided by an independent and trained person who asks their opinions about subjects concerning treatments, e.g. approach, communication style and perceived utility. The target is to make their experiences explicit to the professionals who are sitting in the meeting room as non-participating listeners. The pre-existent fear about the difficulties of chronic clients to reflect upon their experiences, appeared to be incorrect. Remarkable results were that clients preferred more information on treatment (modalities), that they had difficulties with frequent changes in case managers, and that the phrasing in written educational materials was often difficult to understand.

5.2.3 Drug-free treatment

In the Netherlands, 'drug-free treatment' is uncommon as an isolated treatment option for opiate addicts. Cannabis and stimulants problems are usually treatment with variations of cognitive behavioural treatment and motivational enhancement. In this paragraph we focus on recent developments in other and experimental therapies, including Multidimensional Family Therapy (MDFT); Assertive Community Treatment (ACT) and Function Assertive Community Treatment (FACT), which include intensive community-based treatment; Deep Brain Stimulation; Minnesota Model treatment; home-based treatment; and internet therapy.

⁹ www.psy.nl/psyme/psyme-nieuwsbericht

The International Cannabis Need of Treatment study (INCANT)

The first analysis of the INCANT study (see our former National Reports) has been published, showing the methods and several baseline data (Rigter et al. 2010). In this RCT (an open-label parallel group design) the effectiveness of Multidimensional Family Therapy (MDFT) was compared with treatment as usual (TAU) for adolescents with a cannabis use disorder. MDFT has been proven successful in different target groups, intensities and treatment delivery settings (Liddle et al. 2002; Liddle 2010). Eligible were adolescents from 13 through 18 years of age across sites in Brussels, Berlin, Paris, The Hague, and Geneva. Randomisation is concealed for analyst-researchers and stratified by dichotomised variables: gender, age (13-14 versus 15-18 years), and level of cannabis consumption during the past 90 days (74 or fewer days versus 75 or more). Assessments were made at baseline, and at 3, 6, and 12 months after randomisation. These assessments focus on substance use, mental functioning, behavioural problems, and functioning regarding the family, school, peers, and leisure time. Outcome analysis was done according to the intention-to-treat principle and was done with already existing and validated instruments. A total of 450 participants were included among which 110 participants from the Netherlands. TAU differs between participating countries, thus minimal requirements were set, e.g. similar session duration, drug education, and relapse prevention training. On the other hand any element of systems therapy involving the parent and other systems into treatment was excluded. MDFT therapists received a special training and boosters and treatment integrity was monitored. The results are refuting the initial doubts about the feasibility of an RCT in different treatments sectors and countries, some without any experience in RCTs.

(Function or Flexible) Assertive Community Treatment (ACT and FACT)

Compared to intensive community-based care, ACT and FACT are more active in their patient approach. During the past decade Assertive community Treatment (ACT) has been gradually adopted as a serious treatment model in the Netherlands (Van Veldhuizen 2007). ACT is one of the most intensive outpatient treatment types and it is generally used for people with chronic and serious mental health problems, often combined with substance abuse or dependence. Unlike case management it is characterized by a shared caseload, i.e. all professionals in an ACT-team have contacts with all patients. Allocation of specific professionals to specific patients is determined on a daily basis. ACT is a 24-hour type of care offered by a multidisciplinary team, e.g. a case manager, a psychiatrist, a psychiatric nurse, a psychologist, an addiction professional, a supported employment worker and sometimes also an (ex-)patient. ACT is outreach work, if necessary it is also done in the street. ACT-workers are active in case finding and case binding, and have a mean caseload of ten patients each (Van Veldhuizen et al. 2006). ACT is evidence-based (Marshall et al. 1998), but knowledge or evidence about effective ingredients of ACT is sparse, whereas variations of ACT have been proven effective (Burns et al. 2001). ACT is focusing on the most serious group (20%) among patients with chronic mental health and other problems. FACT is also meant for the other 80 percent and should thus be more flexible in order to cope with differences in seriousness of specific problems (Bak et al. 2007). Its advantages are an improved continuity of care, treatment and rehabilitation, more opportunities for an individual recovery-oriented approach, and more possibilities for social integration of the patients because the teams are district-oriented. The FACT model is flexible in terms of enabling variations in intensity of services depending on the patients needs. In this sense it is also a model for 'stepped care' for this target group (Van Veldhuizen 2007).

From May 2010 FACT will be offered for the first time to patients in three locations in the North-eastern part of the Netherlands and it is foreseen to spread FACT-methods over all locations in this region during the year.¹⁰

Intensive community-based treatment is considered a crucial element of Assertive Community Treatment. The occurrence and the goals of intensive community-based care for drug users with complex problems (*bemoeizorg*) has been described in our former National Report. Current activities are focused on extracting the elementary parts that are most effective (National Report 2009, par 5.2.3). Creating and maintaining personal contacts with the target group of ACT and intensive community-based care (people with complex problems who are in need of long-term care arrangements) is a necessary condition for success with seducing them into treatment or care (Cornet 2010; Sytema et al. 2007; Sytema et al. 2010).

The effectiveness of ACT, defined as a type of 'intensive outpatient community-based care', on mental health problems (in most cases schizophrenia or a related psychotic disorder) has been studied in an RCT and the results may also be relevant for patients with substance use disorder (Sytema et al. 2007). Among the participant group of treatment-refractory patients with complex and serious mental health problems (e.g. alcoholic drifters) the dropout rate among the ACT-group was significantly lower than in the control (treatment-as-usual) group. The ACT group was also on several items significantly more satisfied with the care offered than the control group. For the other outcome measures (number of days in hospital, psychosocial functioning, and quality-of-life) both groups did not differ significantly. The authors conclude that this resulted in a more stabilized situation, enabling efforts for social rehabilitation.

Deep Brain Stimulation

During the past decade Deep Brain Stimulation has been used for somatic, psychiatric and substance use disorders (Denys et al. 2010; Mantione et al. 2010). In this type of 'drug-free treatment', electrodes are planted in pre-selected parts of the brain and high- and low-frequency signals are used to limit or stimulate neuron activity. In the Amsterdam Medical Centre experiments are currently running with Deep Brain Stimulation for treatment-refractory patients with serious cocaine and heroin addiction. These pre-experimental, trial and error treatments are meant to explore the effects and side-effects of this method among 4-5 persons with cocaine addiction and another 4-5 persons with heroin addiction. It takes 3-6 months to determine optimal adjustment of the implants (Evenblij 2009).

Minnesota Model treatment

Elements of the Minnesota Model of treatment of drug dependence are used in some treatment units of organizations of addiction care, but until now a wider dissemination and acceptance of this kind of treatment is hindered in the Netherlands. This is probably due to the lack of sufficient scientific evidence for effectiveness of self help, an important element of the Minnesota Model. Still, it appears to attract many clients. Some feel themselves easier with this type of treatment and others feel easier with, for instance, cognitive-behavioural treatment principles.

Drug-dependent people are inclined to search for treatment on the internet and follow their own preferences.¹¹ A first measurement of a six-month old national Minnesota Model

¹⁰ www.vnn.nl/index.cfm?pid=4&itemid=207&contentItemID=1634&method=display

¹¹ <http://www.e-hulp.nl/nieuws/verslaafden-orieumInteren-zich-op-internet-voor-behandeling/546>

treatment programme, conducted by JellinekMinnesota in Amsterdam, shows that more than 200 clients have entered via the internet, of whom more than 85% came from regions outside Amsterdam. Amongst the inscriptions were 33% women, while national statistics shows a 22% participation rate. Based on these statistics, the Jellinek recently started the first special clinic for female clients for this treatment.¹² Notwithstanding the apparent enthusiasm for this treatment, the amount of evidence for the effectiveness of this treatment model is still considered troublesome (Cook 1988; Slaymaker et al. 2008).

Home-based treatment

In two locations of a regional organization of addiction care in the North-eastern part of the Netherlands, facilities have been created for home-based treatment. The target is to reduce relapses by offering crisis intervention and after care. A team of 11 professionals has been set up for treating a group of patients during crisis situations or when considered appropriate for other reasons. This team includes a medical doctor, a nurse, and a psychologist or a psychiatrist. Home-based treatment services will be expanded to other locations in the future.¹³

Online therapy

Similar to mental health care via the internet, (self-help) treatment programs for addiction care are offered more and more via the internet by four regional organizations. This is done without mutual cooperation and in different ways.¹⁴ Clients can choose for online treatment according to their own preferences. The effectiveness of these online treatment programmes in most cases is not or not sufficiently reported yet, but by offering these online treatment programmes, treatment centres react on hidden needs among those with problems due to substance use. Nonetheless, effect studies on the treatment of alcohol and drug problems via the internet are forthcoming.

More recently the number of interactive internet therapies ('therapy online') has been increasing. This type of online treatment offers personal feedback and direct contact with a therapist, for example via a chat service. Currently the effectiveness of these variants is being explored in a 3-group RCT, comparing online self help, online interactive treatment and no treatment (waiting list group). The ultimate question is whether interaction with a therapist is more effective. Chat data are collected in order to enable analysis of the therapeutic contacts. The around 200 treatment seekers with alcohol problems are pre-tested, and post-tested via a 6-months follow-up (Blankers et al. 2007). The results of this study may be useful for treating problems with the use of illicit drugs.

From 14 to 16 October 2009, the First International E-Mental Health Summit was held in Amsterdam (Trimbos Institute 2009). At this Summit, "experts presented the results of the most recent evidence-based developments, research studies and implementation projects". Some highlights from the Summit are the following:

- At the institute for addiction care *Brijder*, already 15% of the new clients receive on-line treatment (Meijnckens et al. 2009).
- Internet-based self-help for problem cannabis use does reduce the consumption of cannabis, but the effect is small. The intervention modules require more diversity (Blankers 2009).

¹² www.jellinekminnesota.nl

¹³ www.vnn.nl

¹⁴ See www.cannabisenik.nl; www.webzorg.nl; www.benzodebaas.nl; cannabisondercontrole.nl; www.watwiljijmetwiet.nl; drugsondercontrole.nl; JellinekLive; www.webzorg.nl

- The self-help website addressing the question *What do you want with weed?* (www.watwiljijmetwiet.nl) qualifies as an evidence-based intervention for adolescents using cannabis, it is developed by using target group information, scientific literature, theories and methods (Ter Huurne 2009).

5.2.4 Withdrawal treatment

Ultra rapid detoxification

The EDOGRA project concerns ultra-rapid detoxification with naltrexone. The project consists of two phases. In the first phase, which ran from 1999 to 2003, high abstinence rates and improved health conditions were found compared with traditional methadone withdrawal treatment. It also appeared that adding general anaesthesia to this treatment was not only expensive but ineffective and dangerous. In the first phase a follow-up treatment strategy (the Community Reinforcement Approach) was added to maintain abstinence (see also our National Report 2007, par. 5.3). The second phase targeted a replication of this withdrawal treatment option in a non-experimental context and a check on the implementation of this treatment (Dijkstra et al. 2009). The questions to be answered in the second phase were directed at the clinical relevance of the outcomes and whether the outcomes could be generalized. That means, is ultra-rapid detoxification also effective in regular Dutch addiction care and is implementation feasible?

Comparison of the results of the second with the first phase revealed that both at post-test and one-month after the end of detoxification, the abstinence rates did not differ significantly (62% versus 59% respectively) The same conclusion could be drawn for other outcomes, e.g. craving, withdrawal symptoms, psychological condition, and quality of life. However, there were fewer patients in the second phase that completed this treatment (87% versus 100%) and patients were also more difficult to reach for a follow-up test (63% versus 87%). The authors claim that these differences were probably due to the experimental conditions in the first phase, i.e. more strict controls and corrections of irregularities that were less easily applicable in the second phase. For instance, in the second phase, the Community Reinforcement Approach as a fixed follow-up treatment strategy was changed in regular follow-up treatment (as usual) and follow-up measurements were restricted to one-month after detoxification only.

Several interventions were realized to support implementation, e.g. information of patients, relatives and professionals caring for diagnosis-based treatment allocation; training professionals in this treatment technique; taking care of necessary additional conditions (e.g. extra beds, a camera monitoring system and of additional materials and medication. In the first phase of this project professionals were trained in a special diagnosis-based treatment allocation procedure, while in the second phase the professionals were only informed how to refer patients to this treatment. The other implementation interventions for both phases did not differ.

In total 135 of the 297 eligible patients were included in the first phase of the project, and 121 in the second phase. During the treatment-allocation phase (*intakefase*) no researchers were involved and no dropout rates could be determined. It is remarkable that in the second phase fewer patients were included in treatment and that smaller numbers completed this treatment compared to the first phase (105 versus 135), while the duration of the second phase was longer (40 versus 27 months respectively). Factors that may have caused the lower implementation success of the second phase are for instance the use of a regular treatment allocation procedure with longer waiting periods before treatment, and a non-

continuous treatment supply (due to shortage of professionals and money). Treatment need and treatment supply did not fit. The abstinence rates among the participant patients however, did not differ significantly. The authors conclude that it is feasible to implement ultra-rapid detoxification in the Dutch addiction care, but that special attention should be paid to the continuity of treatment supply and patient compliance.

Treating cocaine problems

A preliminary test is being done of the effectiveness of varenicline among 20 patients with cocaine dependence. It is hypothesised that this drug increases the number of dopamine receptors in the brain, thus reducing the risk of relapse among this target group. Pre- and post-tests (after 3 weeks) with SPECT- and MRI-scanners will be carried out. If the hypotheses are confirmed, a larger scale clinical study will be considered (Crunelle et al. 2009; Evenblij 2010)

A detoxification clinic for people with mental retardation

People with mental retardation are extra vulnerable for drug use and there is an increase in alcohol and drug problems and a need for treatment among this target group. One regional organization of addiction care is starting a detoxification clinic for this target group. A special method will be developed for this vulnerable low-IQ-target group.¹⁵

GHB

Following the increase in the number of clients in addiction care with serious GHB dependence problem, addiction care organisation Novadic-Kentron started a study to establish a guideline for GHB detoxification with medical GHB (see § 11.2.10).

5.2.5 Substitution treatment

Feasibility study of treating crack users

During the past decade, tens of millions of dollars have been spent on experiments with medical-assisted treatments for crack dependent people in the United States. However, this did not result in effective treatment options. The time may have come to turn to maintenance treatment of this group of multi-problem drug users. This may improve the quality of life of this target group, but it may also reduce the harm related to this drug use in their environment. In 2009 a three-fold experimental study on three separate locations of one organisation of addiction care was started. This study is funded by the Netherlands Organisation for Health Research and Development (ZonMw). The target is to investigate the feasibility of giving cognitive-behavioural maintenance treatment combined with either topiramate, modafinil and dex-amphetamine to Dutch crack users. Outcome measurement will be focused on treatment acceptance, patient compliance, duration of patient participation, potential effectiveness, medication safety, and patient satisfaction.¹⁶ Diverse measurement instruments will be used at pre-test and one, two and three months later for the experimental groups. Control groups will be approached at pre-test and three months later (Evenblij 2009). The duration of this feasibility study is 4-5 years (2009-2013).

¹⁵ www.zorgwelzijn.nl/web/Actueel/Nieuws; www.psy.nl

¹⁶ Personal communication from Vincent Hendriks, v.hendriks@parnassia.nl

5.2.6 Heroin-assisted treatment (HAT)

In the Netherlands, some of the chronic and treatment-resistant heroin addicts have qualified to receive heroin-assisted treatment (HAT). On August 2009, there were a total of 715 HAT clients in the Netherlands (Annard 2010). At that reference date, the HAT clients received treatment in Amsterdam (145 clients), Rotterdam (140 clients), The Hague (75 clients), Utrecht (45 clients), Groningen (50 clients), Leeuwarden (25 clients), Enschede (30 clients), Apeldoorn (30 clients), Deventer (25 clients), Arnhem (25 clients), Den Bosch (20 clients), Tilburg (20 clients), Eindhoven (25 clients), Maastricht (25 clients), and Heerlen (35 clients) (ST24_2010_NL_02).

Recently, the 4-year treatment retention and treatment response of HAT have been reported (Blanken et al. 2010). HAT is applied in an outpatient setting "in specialized heroin treatment centres in six cities in the Netherlands, with methadone plus injectable or inhalable heroin offered 7 days per week, three times per day", a treatment which is "supplemented with individually tailored psychosocial and medical support". It was found that, during the four years of the observational cohort study, "HAT is associated with stable physical, mental and social health and with absence of illicit heroin use and substantial reductions in cocaine use". The authors therefore conclude that medical heroin prescription to this selected group of opiate dependent people "should be continued as long as there is no compelling reason to stop this kind of treatment".

Nonetheless, a counterargument has it that although "HAT has been proposed largely as a treatment modality for those individuals who fail to benefit from conventional substitution treatment", "HAT was continued only for those patients who 'did well'". Consequently, "HAT was withdrawn from the 'difficult-to-treat' patient, who was returned to methadone treatment" (Lintzeris 2010). This author argues that it has not been proven yet that prescribed heroin can achieve what methadone cannot achieve in the difficult to reach target group.

5.2.7 Research

From 1997 to 2009 the Netherlands Organisation for Health Research and Development (ZonMw) has funded two research programmes in the domain of addiction. The second program runs from 2006-2010. In 2009, ZonMw published a summary book with brief descriptions of 38 projects (funded with a total of ten million Euro). The summary book presents the latest results of these two programmes and shows that knowledge about the causes of addiction and about risk factors related to this phenomenon has increased considerably (Evenblij 2009). However, the progress in knowledge on effective treatment and even more so on drug prevention was less striking. Although the scientific base is broadened by these research results, the use of results concerning drug prevention and treatment of addiction remains problematic. This is partly due to the existence (still) of a multitude of prevention and treatment approaches and schools with their diverse therapy types. Due to the activities of the programme Scoring Results, this proliferation of variations in prevention and treatment gradually starts to be streamlined based on the principles of evidence-based medicine and due to increased pressure of the policy measures mentioned in § 5.1.2.

5.3 Clients in treatment

5.3.1 Specialised addiction treatment

The National Alcohol and Drugs Information System (LADIS) is the most comprehensive information system in the Netherlands about clients in addiction treatment. The LADIS contains data from the regular drug treatment services, including probation services, and has nation-wide coverage. During the past years, most regular organisations for outpatient treatment merged with the regular organisations for inpatient treatment within their region. As a result of these mergers, the majority of clients are now registered at a central intake location. Some private clinics, those institutes for mental health care that have not yet merged with an organisation for addiction treatment, and the addiction units in general psychiatric hospitals are not yet represented in the LADIS.

The data in this paragraph are based on the protocol for the Treatment Demand Indicator (TDI) as established by the EMCDDA (Standard Tables TDI_2009_NL_03 and TDI_2010_NL_01). This means that only those clients who have had at least a second face-to-face contact with an addiction counsellor are included. Moreover, the main part of the TDI only includes clients who subscribed in the year of registration. This main part of the TDI does not include subscriptions from a previous year that were continued in the registration year. Subscriptions within the registration year include clients that subscribed for the first time in their life for a drug problem (first treatments), as well as clients that resubscribed in the registration year. The TDI controls for double counting of persons. These criteria are more restrictive than the criteria applied by the holder of the LADIS, the Organization Care Information Systems (IVZ), to assess the annual LADIS Key Figures (Ouwehand et al. 2010). The figures presented here will therefore deviate from the figures reported elsewhere. The LADIS Key Figures are also reported in the EMCDDA Standard Table 24 (ST24_2010_NL_02).

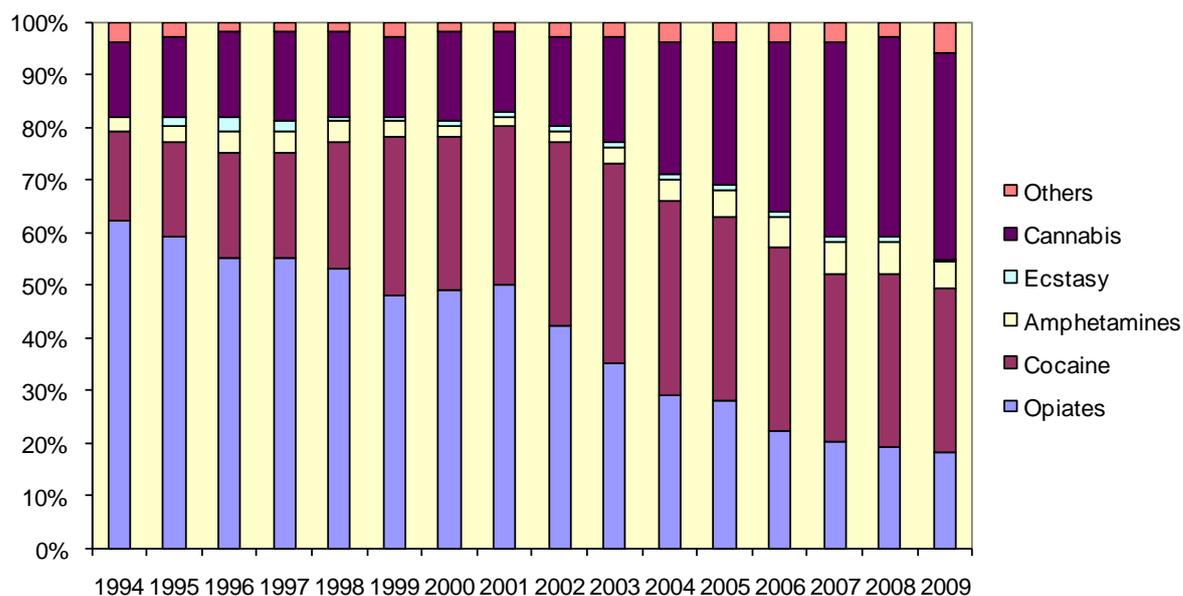
Some further observations should be made:

- Data will be reported from 1994 onwards, since this is the first year for which IVZ is able to control for double counting.
- The coverage of the system in terms of participating services has improved over the years. The small relative increase in opiate clients from 2000 to 2001 is mainly due to the participation of the Municipal Health Service Amsterdam (GGD Amsterdam) in the LADIS since 2001.
- "Cocaine" refers to both "cocaine HCL" and "crack cocaine".
- For 2008, the data have been extrapolated for four missing institutes that were not able yet to deliver data to the LADIS.

Trends

Between 1994 and 2009, the annual number of new clients applying for help at the drug treatment services varied between eight and eleven thousand, with no clear trend over the past years. Figure 5.3.1 shows the distribution of the new clients from 1994 to 2009 for the drug that was the primary problem for these clients.

Figure 5.3.1: Distribution of new clients recorded from 1994 to 2009 at institutes for addiction treatment by primary drug*



* Selection of clients based on the EMCDDA TDI protocol. Source: LADIS, IVZ.

Figure 5.3.1 shows the following:

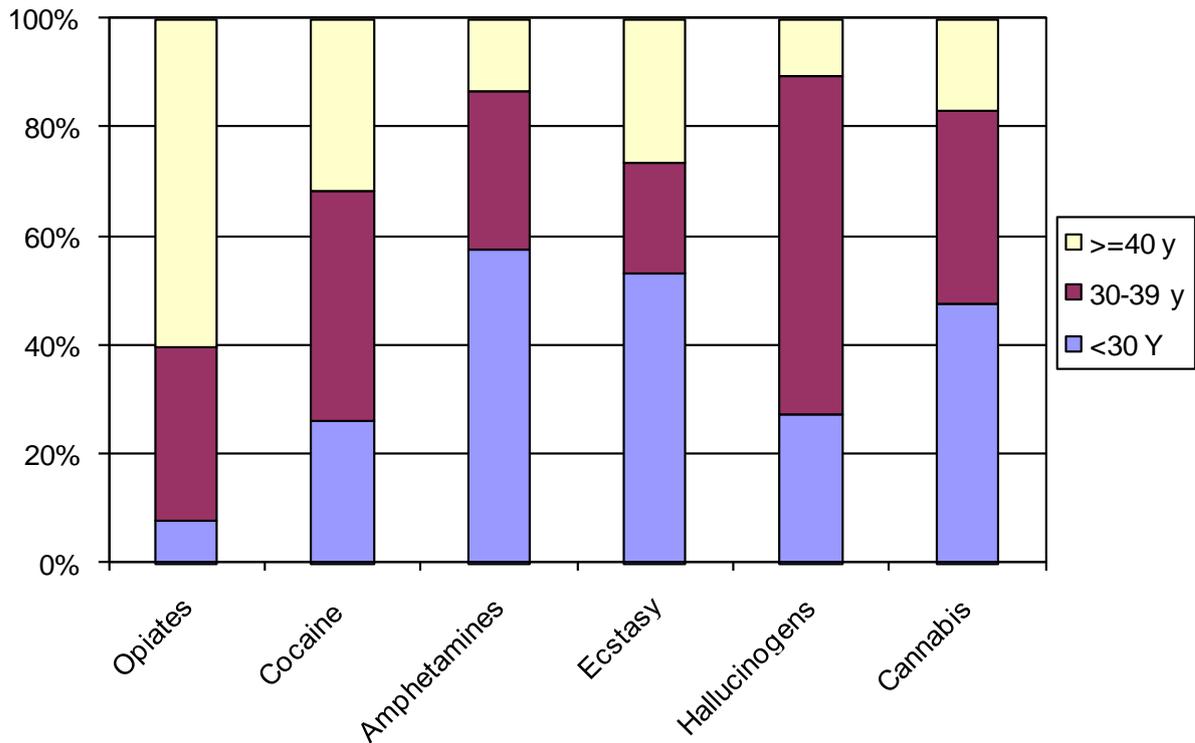
- The percentage of opiate clients among new drug clients decreased from 62% in 1994 to only 19% in 2008 and 18% in 2009. The percentage of cocaine clients increased from 17% in 1994 to 38% in 2003, and declined slightly thereafter to 33% in 2008 and 31% in 2009.
- Since 2003, the proportion of cocaine clients exceeds the proportion of opiate clients.
- The proportion of cannabis clients increased from 14% in 1994 to 38% in 2008 and 39% in 2009.
- When taken separately, the ecstasy and amphetamine clients never accounted for more than 6% of the new drug clients. However, the proportion of amphetamine clients increased over the past years, from 1.5% in 2001 to 6% in 2008 and 5% in 2009.

The shift in ratios among the primary drugs is even more visible in clients who have entered treatment for the first time. These first treatments reflect the incidence of drug users seeking help, and may be a better indicator of recent developments in problem use. Among the first treatments in 2009, the proportion of opiate clients was only 8% compared to 26% for cocaine clients and 51% for cannabis clients. The proportion of first treatments for amphetamines was 6%.

Age

For the different drugs, figure 5.3.2 shows the distribution over the age groups of the clients in 2009. Clients seeking treatment for problem use of opiates, are on average the oldest (42 years). Clients who have a primary problem with amphetamines (30 years), ecstasy (31 years), or cannabis (31 years) are on average the youngest.

Figure 5.3.2: Clients recorded in 2009 at addiction treatment centres by primary drug and age group*

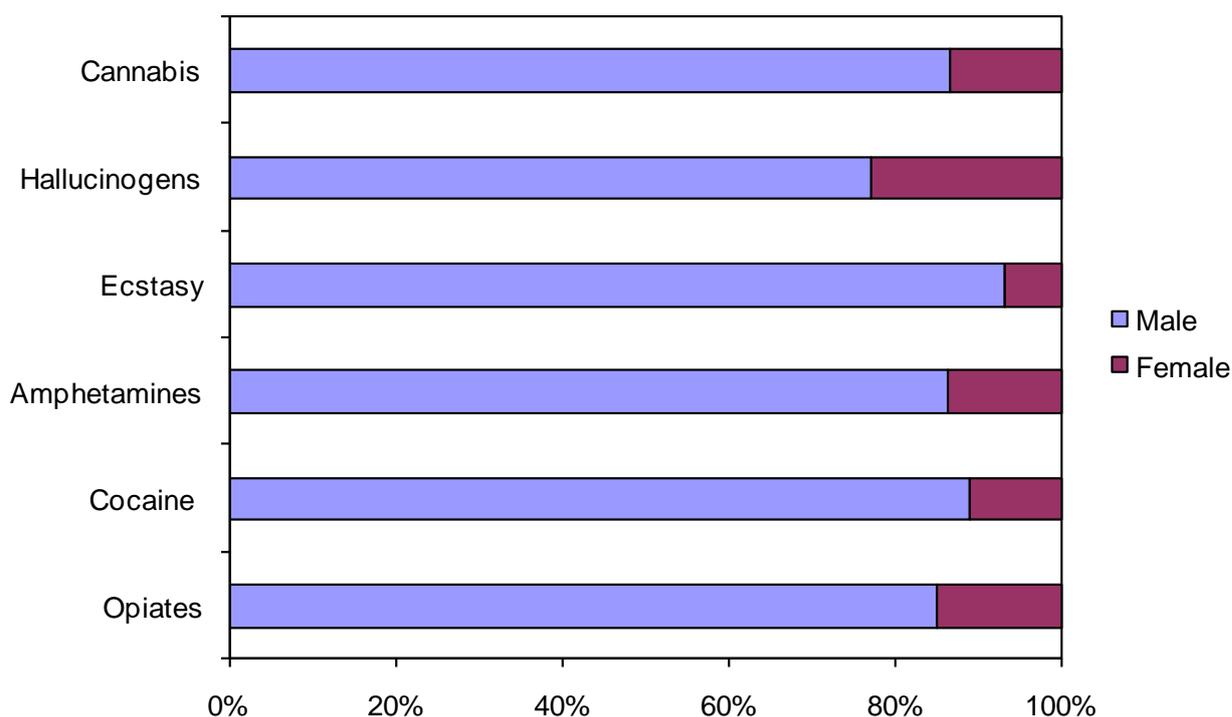


* Selection of clients based on the EMCDDA TDI protocol. Source: LADIS, IVZ.

Gender

The percentage of females among all the new drug clients has varied over the years between 16% and 20%. Figure 5.3.3 shows the gender distribution by primary drug in 2009. The proportion of females was the highest among the hallucinogen clients (23%), and the lowest among the ecstasy clients (7%). The proportion of females was more or less similar for opiates clients (15%), amphetamine clients (14%), cannabis clients (13%), and cocaine (11%) clients.

Figure 5.3.3: Gender distribution by primary drug of clients recorded in 2009 at centres for addiction treatment*



* Selection of clients based on the TDI protocol. Source: LADIS, IVZ.

Route of administration

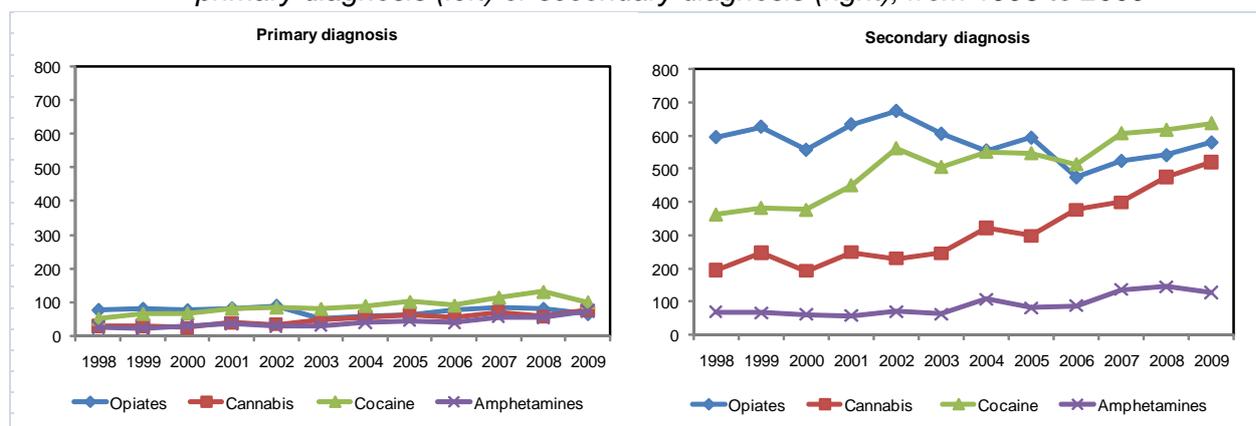
According to the TDI (LADIS, IVZ), injecting drug use among all the new primary drug clients strongly declined from 12% in 1994 to 2% in 2009. Among opiate clients a decrease was found from 16% in 1994 to 6% in 2009. The main route of administration for opiates in 2009 was smoking or inhaling (78%). Of the cocaine clients, 59% smoked or inhaled and 40% sniffed the drug. Cannabis is mainly smoked (99%), while amphetamines are sniffed (69%) as well as swallowed (22%).

5.3.2 General hospital admissions

Admissions to a general hospital in the Netherlands are recorded via the Dutch Hospital Data (DHD) held by Kiwa Prismant. Figure 5.3.4 shows the number of clinical admissions to a general hospital because of drug dependence or abuse as a primary or a secondary diagnosis for opiates, cannabis, cocaine, and amphetamines.

- In 2009, the DHD recorded a total of 1,914,849 clinical hospital admissions. In that year drug dependence and drug abuse were recorded only 608 times as a primary diagnosis and 2,140 times as a secondary diagnosis (ICD-9 codes 304 and 305.2-9).
- Within the category of admissions related to drug abuse and dependence, opiates made up 11% of the primary and 27% of the secondary diagnoses. Cocaine made up 16% of the primary and 30% of the secondary diagnoses. Cannabis made up 12% of the primary and 24% of the secondary diagnoses. Amphetamines made up 12% of the primary and 6% of the secondary diagnoses. Finally, medicines made up 19% of the primary diagnoses.

Figure 5.3.4: Number of admissions to general hospitals related to dependence on, or nondependent abuse of, opiates, cannabis, cocaine, and amphetamines, as primary diagnosis (left) or secondary diagnosis (right), from 1998 to 2009



Source: Dutch Hospital Data (DHD), LMR; Kiwa Prismant.

Trends

The number of admissions related to drug abuse or dependence as a primary diagnosis remained rather low over the past years. Minor increases were seen for cannabis (from 57 in 2008 to 75 in 2009) and amphetamines (54 in 2008 and 73 in 2009). A stronger increase was observed for the number of admissions with drugs as a *secondary* diagnosis. Between 2006 and 2009 the number of admissions increased from 514 to 637 for cocaine, from 476 to 580 for opiates, from 377 to 520 for cannabis, and from 88 to 127 admissions for amphetamines.

Table 5.3.1 gives some more details about hospital admissions related to the main drugs of abuse.

- In accordance with the data from the addiction treatment services, the average age of the hospital patients was the highest for the opiates patients and the lowest for the cannabis and the amphetamines patients.
- For the primary diagnoses, the average number of days for staying in the hospital was the highest for opiates, followed by cannabis, cocaine, and amphetamines. For the secondary diagnoses, cannabis was clearly in the lead for the average number of days in the hospital, followed by opiates, amphetamines, and cocaine. No explanation has been found yet for this pattern that has re-occurred over the past years. All in all, most days in hospital have been spent on cannabis patients (8,072 days), followed by the opiates patients (6,519 days), cocaine patients (5,785 days), and amphetamines patients (1,311 days).

Table 5.3.1: *Clinical admissions to general hospitals in 2009 related to abuse of and dependence on cannabis, cocaine, opiates, and amphetamines**

	Cannabis	Cocaine	Opiates	Amphetamines
Primary diagnoses				
Number of diagnoses	75	100	65	73
Average number of days	6.4	3.7	6.6	3.0
Secondary diagnoses				
Number	520	637	580	127
Average number of days	14.6	8.5	10.5	8.6
Total number of persons**	559	658	547	190
Average age (years)	31 years	37 years	44 years	29 years
Percentage male	78%	78%	73%	73%

*ICD-9 codes: cannabis: 304.3, 305.2; cocaine: 304.2, 305.6; opiates: 304.0, 304.7, 305.5; amphetamines: 304.4, 305.7. These ICD-9 codes are not 100% specific with regard to the drugs in question. Clinical admissions do not include one-day admissions. **After correction for double counting: number of persons who were admitted at least once because of a drug-related disorder assigned as a primary or secondary diagnosis. Source: Dutch Hospital Data (DHD), LMR; Kiwa Prismant.

6 Health correlates and consequences

6.1 Drug-related infectious diseases

The most important drug-related infectious diseases include HIV/ AIDS, and hepatitis B and C. They are transmissible through sexual contact (HIV, hepatitis B) and blood (hepatitis C, HIV and hepatitis B). Infectious diseases associated with poor living conditions (such as hepatitis A and tuberculosis) may also have higher incidence and prevalence rates among drug users. The overall conclusion of the data presented here is that the number of new diagnoses of HIV, and hepatitis B and C among injecting drug users is low. However, there are still indications that the number of chronically infected drug users, and thereby the burden of these diseases, is higher, especially for hepatitis C.

6.1.1 HIV

For many years, the main source of information in the Netherlands on the prevalence of HIV and hepatitis B and C has been the (HIV) sentinel surveillance system among (ever) injecting drug users (IDUs) of the National Institute of Public Health and the Environment (RIVM). However, as regards the risk group of drug users, this surveillance system has been discontinued in 2003. For the historical data collected as part of this surveillance system we refer to previous National Reports. Despite the discontinuation of the surveillance system for IDUs, the RIVM conducted a new serosurvey in the South of the Netherlands in 2010, in response to an observed increase in HIV prevalence in the street surveys from 11% in 1994 to 22% in 1999 among IDUs in this region. The recruitment and sampling methods have changed however, as the 2010 study took place in a prison population. The results may therefore give an indication but are not comparable with the previous findings.

In this report we will describe the results from four data sources providing information on HIV and hepatitis infections among (injecting) drug users: the national HIV/ AIDS registry, the cross-sectional serosurvey in a prison population the South of the Netherlands, the Amsterdam Cohort Studies among drug users and regular screening data from drug treatment centres. We do no longer report data from a fifth source, the 8 regional STI centres from the sexually transmitted infections (STI) sentinel surveillance, as this source does not report separately on infections in IDUs anymore due to the low numbers observed.

a. The national HIV/ AIDS registration of the HIV Monitoring Foundation (SHM) was appointed by the Dutch Ministry of Health Welfare and Sport as the executive organisation for the monitoring of HIV in the Netherlands in 2002. This registration contains data on HIV-infected patients who are seen regularly by HIV/ AIDS treating physicians in one of the 25 collaborative HIV treatment centres throughout the country. It also includes data from a prior project on HIV positive patients treated between 1998 and 2001 (the AIDS Therapy Evaluation Netherlands, or ATHENA, cohort). The longitudinal, anonymous data are used to monitor changes in the HIV epidemic, the natural history of HIV and the effects of treatment (www.hiv-monitoring.nl).

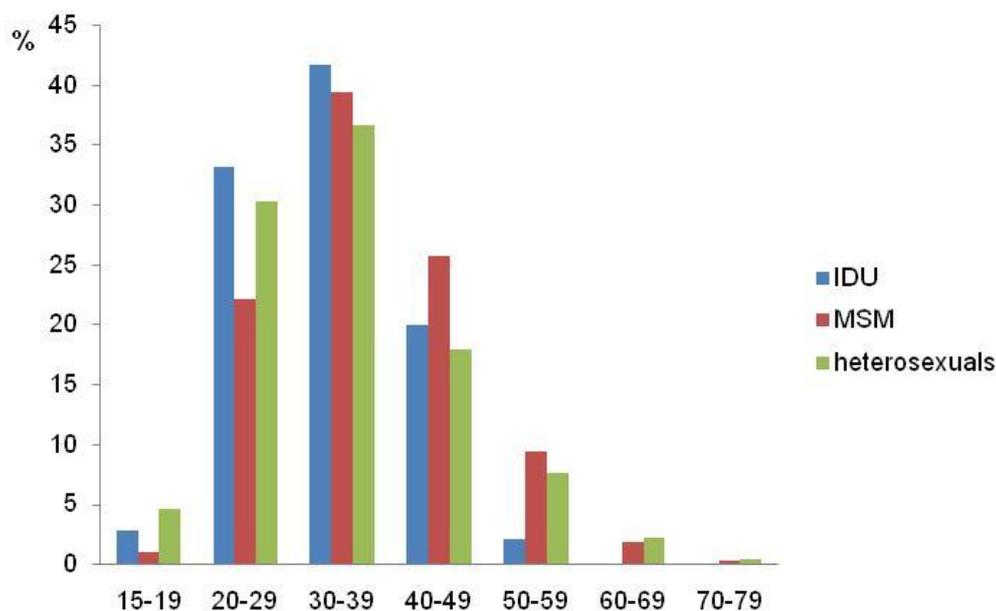
- In 2009, 692 new HIV diagnoses were reported in the treatment centres. In 1 male and 0 women (0.1%) injecting drug use was the most likely route of transmission (table 6.1) (Vriend et al., 2010).
- Up to December 2009 a cumulative total of 16,555 HIV-infected individuals were registered by the treatment centres and the HIV Monitoring Foundation (Vriend et al., 2010). The percentage of patients infected with HIV through injecting drug use is 4% (675 patients). The main route of HIV-transmission in the Netherlands is sexual: through MSM contact in 55% of cases and through heterosexual contact in 32%.
- 42% of all injecting drug users were diagnosed with HIV at an age between 30 and 39 years. IDUs were on average younger than MSM and heterosexuals: the diagnosis was made before 39 years of age in 78% of IDUs, against only 63% of the diagnoses in MSM and 72% of heterosexuals diagnosed before this age (Vriend et al., 2010) (Figure 6.1).
- Of the registered HIV positive injecting drug users, almost three quarters originated from the Netherlands and 22% from other Western European countries. This is in sharp contrast to HIV-positives infected through heterosexual contact, of whom only one third had a Dutch origin and almost half originated from Sub-Saharan Africa (table 6.1) (Vriend et al., 2010).

Table 6.1.1: Number and characteristics of recorded HIV infections by route of transmission

Transmission group	Number and percentage of HIV cases diagnosed in 2009	Cumulative number and percentage of HIV cases	Gender: percentage males (of cumulative number in transmission group)	Region of origin: percentage from the Netherlands (of cumulative number)
MSM	534 (66%)	9,132 (55%)	100%	84%
Heterosexual contact	223 (28%)	5,294 (32%)	43%	34%
Injecting drug use	1 (0.1%)	675 (4%)	73%	72%
Blood (products)*	2 (0.2%)	229 (1%)	64%	56%
Mother to child	4 (0.5%)	183 (1%)	52%	57%
Other/ unknown	48 (6%)	1,042 (6%)	83%	54%
Total	812(100%)	16,555 (100%)	79%	65%

* Including needle stick injuries. Figures are adjusted constantly because of reporting delays. Source: RIVM (Vriend et al., 2010).

Figure 6.1.1 Age distribution at HIV diagnosis in IDUs compared to MSM and heterosexuals, up to 2009



Source: RIVM (Vriend et al., 2010).

b. A cross sectional serosurvey in male detainees in the South of the Netherlands. This study aimed to ascertain the seroprevalence of and risk behaviour for HIV, hepatitis B and C among detainees (Schreuder and Van Veen, 2010; Schreuder et al. 2010). It was the second step to describe the local situation in the South of the Netherlands with regard to the prevalence of drug related infectious diseases among IDUs. The first step had been an inventory of treatment data from the local addiction care institute (Mondriaan), which has been described in the previous National Report. In summary, based on the (incomplete) treatment data available for 197 injecting and non-injecting drug users since 2003, the HIV prevalence among drug users in treatment was estimated at 9%. To gain insight in the population not in treatment (second step), it was thought most feasible to study a prison population. From previous surveys it was known that the majority of drug users ever was imprisoned (88% of drug users participating in the Rotterdam survey 2002/2003 and 75% of drug users in the Heerlen survey 1999).

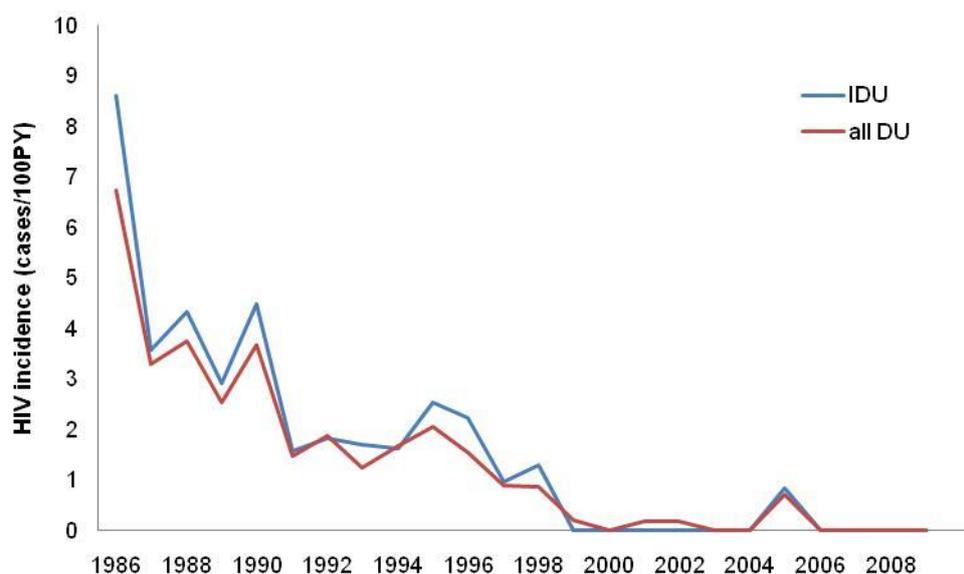
- In total 229 male prisoners were included (78% of the total prison population). The study questionnaire was filled in by 226 persons. The median age of the study population was 31 years and 78% of the respondents were 40 years of age or younger (note that in the Netherlands the (I)DU population is aging and many are around the age of 40 years).
- Hard drugs were ever used by 123 detainees (54%) and 36% of the respondents also had used drugs during this stay in prison, but this was mainly marihuana. Ever using methadone was reported by 37 persons and 29 used methadone in the past 12 months, either prescribed from the medical service in prison (19 of 29) and/or from the addiction care (12 of 29).
- Injecting drugs was rare in this sample, as only 19 detainees (8%) reported that they had ever done so. The mean age of first injecting was 21 years. Four drug users reported injecting in the last year. Receptive needle or syringe sharing was reported by 7 drug users. Injecting in prison was very rare.

- Other risk behaviour included tattooing (55% of the respondents had at least one tattoo, of whom 27% (33/124) had the tattoo made in prison) and a high number of sexual partners. More than 20 sex partners in life were reported by 41% of the respondents. Only 4 respondents reported MSM contact, of whom 2 also had ever injected drugs. There were no reports of sexual contact between detainees.
- None of the 229 respondents had a positive anti-HIV test result. For the results on hepatitis B and C and a discussion of the results, see the section “hepatitis B and C: treatment data and other sources”.

c. The prospective Amsterdam Cohort Studies (ACS) is part of the HIV Monitoring Foundation and a collaboration between the Amsterdam Health Service, the Academic Medical Centre of Amsterdam, the Sanquin Blood Supply Foundation and the University Medical Centre Utrecht (www.amsterdamcohortstudies.org). The ACS has been carried out since 1984 among homosexual men and since 1985 among drug users. Since 2000, only young drug users (aged <30 years) are allowed to enter the cohort (YODAM). From July 2009 on, also recent injecting drug users (irrespective of their age) are invited to participate. Drug users are recruited at methadone posts, the STD-clinic for drug-using prostitutes and by word of mouth. The enrolment and follow-up (every four to six months) are facilitated by the well organised health care system for drug users in Amsterdam (Amsterdam Cohort Studies, 2009). Research in the ACS ranges from epidemiology and social science to virology, immunology and clinical medicine.

- HIV incidence rates among ever-injectors dropped from 8.6/ 100 person-years in 1986 to virtually 0 since 2000, with a slight increase to 0.85/ 100 person-years in 2005, when 2 HIV-cases were found (van den Berg et al. 2007) (Figure 6.1.2). In 2006-2009, no new HIV infections were diagnosed in drugs users (injecting and non-injecting) (www.amsterdamcohortstudies.org) (Vriend et al, 2010).
- The reduction in HIV transmission in IDUs can be partly explained by the decline in injecting and needle sharing (see also § 7.2), although sexual risk behaviour is still occurring. The decline in HIV incidence among DU is in contrast to the slight increase in HIV incidence in MSM in the ACS. In MSM sexual risk behaviour is still increasing (Amsterdam Cohort Studies 2009).

Figure 6.1.2 Yearly HIV-incidence of injecting drug users (IDU) and all drug users (DU) included in the Amsterdam Cohort Studies, 1985-2009



Source: Amsterdam Cohort Studies (Amsterdam Cohort Studies 2009; Vriend et al 2010)

d. Regular screening of infectious diseases among drug users in treatment settings and collecting these data for surveillance practices is not common practice in the Netherlands.

- In Amsterdam, the Municipal Health Services (GGD) runs most of the methadone treatment locations. As part of the treatment, patients are tested regularly for drug related infectious diseases. For the methodology used, see Standard Table 09 (ST09). In 2009, 46 IDUs were tested for HIV antibodies; none had a positive test result.
- In Rotterdam the project “Active Testing” was piloted in 2007 and 2008. The project aims to offer and actively support the whole chain from counselling and testing to treatment completion for problematic drug users and homeless people. In 2009 the project was in a transitional phase towards regular imbedding in addiction care facilities in Rotterdam. Due to this transition, there are no new data available for the year 2009.

6.1.2 AIDS

Until 2001, AIDS cases meeting WHO criteria were registered in the national Information System on AIDS Statistics, maintained by the Health Care Inspectorate (IGZ). In 2002 this AIDS registration was replaced by the HIV/ AIDS registration of the SHM mentioned above. As the IGZ data appeared to be incomplete since 2000, the data below are based on the IGZ registration until 1999 and the SHM data from 2000 onwards. The year of AIDS diagnosis refers to the date of the first CDC-C diagnosis (classification C according to the Centres for Disease Control).

- Up to December 2009, the cumulative total of reported AIDS diagnoses was 8,059 and 4,947 HIV infected individuals had died (Vriend et al., 2010). The annual number of new AIDS diagnoses peaked in the first half of the nineties (around 500 cases per year) and then gradually dropped, to 168 cases in 2009 (Vriend et al., 2010). The observed decrease since 1996 is related to the availability of HAART, which slowed progression from HIV to AIDS.

- Of the 168 new AIDS diagnoses in 2009, 6 (3.6%) were among injecting drug users (table 6.2). In the same year, 109 AIDS patients died, among whom were 12 (11%) injecting drug users. Note that these numbers are subject to change due to reporting delay (Vriend et al., 2010).
- Up until December 2009, 693 registered AIDS patients (8.6% of the total AIDS diagnoses) belonged to the transmission risk group of injecting drug users. The number of AIDS cases related to injecting drug use peaked in 1995 (74), but remained below 20 cases per year since 1999 (see table 6.1.2).
- Note that the percentage of IDUs among the total population of AIDS patients (8.6% over all years) is higher than the percentage of IDUs in the total population of HIV patients (4%), but that the percentage of IDUs among the AIDS deaths is even higher: 11% or over since 2005. This indicates that the disease course in injecting drug users is less favourable than in other risk groups.

Table 6.1.2: Number and percentage of recorded AIDS patients, by year of diagnosis and by route of transmission

Transmission group	<=2005	2006	2007	2008	2009
MSM	4,357 43%	118 42%	129 47%	120 50%	83 49%
Heterosexual contact	1,553 39%	110 39%	103 37%	87 36%	64 38%
Injecting drug use	658 5%	11 4%	12 4%	6 3%	6 4%
Blood (contacts)	161 1%	4 1%	3 1%	6 3%	1 1%
Mother to child	63 0.6%	0 0%	1 0%	0 0%	0 0%
Other/unknown	302 10%	36 13%	28 10%	23 10%	14 8%
Total	7,094	279	276	242	168

AIDS cases were registered by the Health Inspectorate before 1999 and from 1999-2007 by the HIV Monitoring Foundation. Figures are adjusted constantly because of reporting delays. Source: RIVM (Vriend et al., 2010).

6.1.3 Hepatitis B and C

Notification data

Notification data are reported by the municipal health services to the National Institute of Public Health and the Environment (RIVM). It is of note that estimating the incidence of hepatitis B and C based on notification data of acute cases will give an underestimation, as a large percentage of new infections remain asymptomatic. However, they may (in the long run) give indications of trends on the incidence of these infectious diseases.

Since 1976 acute hepatitis B infections have to be notified to the Health Care Inspectorate (IGZ). In April 1999, newly diagnosed chronic and subclinical HBV infections also became notifiable diseases. The data show that from 1976 to 1981 the incidence of hepatitis B in the population increased (probably due to the introduction of the obligation to notify the disease, the large-scale availability of serological tests and the screening programs among blood donors). Since 1981 the incidence has decreased again, which can be attributed to the

availability of a vaccine and the decrease in sexual risk behaviour as a reaction to the aids-epidemic (Rijlaarsdam 1999). In 1995, the number of acute hepatitis B cases among people with injecting drug use peaked with 24 cases, but a sharp decrease has taken place since then. In recent years, injecting drug use plays only a marginal role in newly diagnosed acute and chronic hepatitis B infections.

- In 2009, 201 acute cases of hepatitis B infection were notified (see also [ST09 part 4](#)). In the 159 cases with known route of infection, unprotected sexual contact was found to be still the most important risk factor. There were no notifications of acute hepatitis B in injecting drug users in 2009. In 2005 and 2008 acute hepatitis B infections were also not reported among injecting drug users, while the numbers reported in 2006 (1 case) and 2007 (2 cases) were only very small (source: RIVM).
- Chronic infections with hepatitis B were reported in 1,756 cases in 2009. In 6 of the 1,251 chronic infections with known route of infection injecting drug use was regarded as the vector, which is only slightly more than the 3 out of 1,108 cases with known route of infection from 2008 (source: RIVM).

Hepatitis C is a notifiable disease since April 1999. Until October 2003 both chronic and recent HCV infections had to be reported to the Health Care Inspectorate within 24 hours after the diagnosis (positive test for HCV or HCV-RNA-PCR, with or without clinical symptoms). Since October 2003, this procedure only applies to (suspected) acute or recent infections. As acute infections are often asymptomatic, an unknown rate of missed diagnosing and underreporting is possible. There is a recent decline in notified cases of acute hepatitis C among injecting drug users.

- In 2009, 47 cases of acute hepatitis C infection were notified. The transmission route of 38 of these 47 cases was reported; in 3 cases (8%) injecting drug use was the likely route of transmission (see [ST09](#)), which is only slightly more than the 1 out of 39 cases with known route of transmission in 2008 (source: RIVM).

Treatment data and other sources

Screening of drug users in drug treatment on infectious diseases is no routine procedure and data are only available for a few treatment centres. There are however quite some data available on hepatitis infections in the (former) IDUs in the database of the national HIV/AIDS registration of the HIV Monitoring Foundation (SHM). In total 13,056 HIV-infected patients, aged 18 years or over and on combination antiretroviral therapy (cART), were tested for both HBV and HCV (Gras et al., 2009).

- 664 IDUs were included in the analyses, of whom 37 were not screened on HBV and/ or HCV. Of the remaining 627, 51 (8%) were positive for only HIV. For comparison: in MSM, 85% of 8203 tested were only infected with HIV, and 89% of heterosexuals.
- Co-infection with HCV was the most prevalent in IDUs: 570 of 627 (91%) HIV-positive IDUs were HCV-infected, of whom 63 (10% of total IDUs tested) were also infected with HBV. In MSM, 7% were infected with HCV (with or without HBV); in heterosexuals 4% had also an infection with HCV (with or without an HBV infection).
- Only 6 IDUs (1%) were infected with HBV and HIV.
- Multivariate analyses showed that injecting drug use was by far the largest risk factor for hepatitis co-infection (multivariate odds ratio 86.9, 95% CI 59.0-128.0) (Gras et al., 2009).

The Municipal Health Service (GGD) of Amsterdam collects information on hepatitis B and C infections in methadone clients participating in low threshold services. Patients are tested exhaustive, but not every year. A selection bias in those being tested is certainly the case, e.g., because testing is voluntary and only patients are tested with unknown test result. The data presented for 2009 are small and have to be interpreted with caution.

- In 2009, HBsAg was not found in any of the 22 IDUs tested (all aged >34 years). In 16 IDUs tested, 5 (31%) were positive for antiHBc. AntiHBs was found in 8 of 14 tested (57%) (see also [ST09](#)).
- HCV antibodies were detected in 19 of 35 (54%) tested ever injecting drug users; 18 of them were older than 34 years (see also [ST09](#)).
- The RIVM compiled data from the regular infectious disease screening program in the municipal health service in Amsterdam. 2,566 drug users were registered in methadone care at the municipal health service between 2004 and 2008 (Schreuder et al., submitted).
 - Between 2006 and 2008, 34% (680/2024) drug users were screened for HBV. Antibodies against HBV (anti-HBc) were found in 225 of 680 screened drug users (33%). The estimated vaccination coverage (full or partial vaccination) among drug users in Amsterdam from 2006-2008 however was 92%.
 - Between 2004 and 2008, 53% (1359/2566) drug users were screened for HCV. Antibodies against HCV were found in 350 of 1359 screened drug users (26%). In 2008, 53 (15%) of those with an HCV infection started treatment.

Also historical data from the addiction care in Heerlen were compiled by the RIVM:

- 287 drug users were in care from 2003-2008 (Schreuder et al., submitted).
 - In this period, 69% (197/287) of drug users were screened for HBV and 93 (48%) were anti-HBc positive, while 45% (130/287) completed a vaccination course for hepatitis B.
 - 66% (190/287) were screened for HCV and 115 (61%) persons had a positive test result. Of these, 55 (48%) have started treatment.
- The higher prevalence of (HIV), hepatitis B and C in Heerlen compared to Amsterdam may be explained by the ongoing higher level of injecting drug use and related risk behaviours, combined with an influx of drug users from adjacent countries. However, the data presented are cumulative over a couple of years and the collection period in Heerlen is longer, which may also contribute to the higher prevalence levels.

The open and ongoing Amsterdam Cohort Studies (ACS) among drug users (see above) focuses among others on hepatitis C. The study generates a wealth of information, which is also described in the previous National Reports.

- In 2009, data of the Amsterdam Cohort Studies and the Academic Medical Centre Amsterdam (AMC) were used to study the spread of HCV genotype 4 (HCV-4) in the Netherlands by using a molecular epidemiological approach (De Bruijne et al., 2009). The study population consisted of 133 patients infected with HCV-4, of whom injecting drug use was the predominant underlying risk factor in 32%. Two subtypes, HCV-4a and HCV-4d, accounted for 93% of the infections. Evolutionary analysis of the HCV-4d infections in Amsterdam indicated that HCV-4d entered the European population of IDUs around 1954 and spread effectively in the Amsterdam area since the sixties, thereby following a similar pattern as the HCV-1a and HCV-3a genotypes, which are traditionally

associated with IDU. Only 3 of 42 splits in the phylogenetic tree occurred after 1980, indicating a withdrawing epidemic of HCV transmission among IDUs.

- The temporal trend shown here is in line with the previous observation in the Amsterdam Cohort Studies showing that the incidence of HCV infections among IDUs in Amsterdam has sharply declined, from 27.5/100 person years in the late eighties to 2/100 person years after 2000 (Van den Berg et al., 2007).

The cross sectional serosurvey among male detainees (see also before) found a prevalence of hepatitis B and C in this prison population lower than was expected from the literature (Schreuder and Van Veen, 2010; Schreuder et al., 2010).

- Nineteen of 229 participants (8.5%) were anti-HBc positive (implying chronic or acute infection) and in three persons (1.3%, all three had ever used hard drugs and one of them had ever injected) anti-HBsAg was found (in combination with anti-HBc indicative for acute infection) (table 6.3). None of these three were aware of being currently infectious (table 6.4).
- Persons who had ever injected drugs were significantly more often (ever) infected with the hepatitis B virus than detainees who had never injected drugs (42% versus 5%, $p < 0.001$). In the univariate regression model age, tattooing in prison, MSM contacts, co-infection with hepatitis C and injecting drugs were all identified as significant risk factors. In the multivariate model (correcting for the all above variables), injecting remained as the only significant factor determining the risk of hepatitis B infection.
- There were also 50 participants (22%) anti-HBs positive, either after vaccination (70%) or after a previous infection (30%). Prisoners that were anti-HBs negative (and thus still susceptible for infection) showed high risk behaviour: 54% had ever used hard drugs, 14% had used hard drugs in the last year, 2% had ever injected drugs and 18% had received methadone in the last 12 months. These data also show that only a minority of prisoners was immune to hepatitis B, indicating that vaccination coverage in this prison population should be enhanced.
- In seventeen participants (7.4%) HCV antibodies were found (anti-HCV positive, indicative of ever or currently infected), of whom two third (11/17) reported ever injecting drug use and four also injected last year (table 6.1.3). In 11 detainees (4.8%) an active hepatitis C infection was found (HCV-RNA), ten of them being ever hard drug users and six ever injectors.
- Injecting drug users were significantly more often infected with the hepatitis C virus than non-injectors (58% versus 3%, $p < 0.001$). Also here, the univariate regression model identified age, tattooing in prison, MSM contacts, co-infection with hepatitis B and injecting drugs as significant risk factors, but in the multivariate model only injecting and age above 40 years remained significant.
- In only a limited number of detainees the HBV or HCV infection was previously diagnosed (self-reported data, table 6.1.4), which underscores the need for active testing. Of those detainees that were aware of their hepatitis C infection, none had started treatment.
- The prevalence of hepatitis C, and to a lesser account B, found among the imprisoned drug users is relatively low compared to other studies in prison, for which several explanations are possible. First, the percentage of drug users in this prison is low (8% ever injectors and only 2% ever injected in prison). Second, all prisoners were male, while prevalence of HIV, hepatitis B and hepatitis C has been described to be higher in females. However, the data are in line with the prevalence data found at the local

addiction care centre (hepatitis B infection in 49% of drug users in treatment and hepatitis C infection in 61%; see also above) (Schreuder et al., submitted).

Table 6.1.3 Markers for hepatitis B and C infections in 229 detainees in the South of the Netherlands

	All detainees	Ever hard drug using detainees	Ever drug injecting detainees
Anti HBc	19	14	8
Anti HBsAg	3	3	1
Anti HCV	17	15	11
HCV RNA	11	10	6

Source: RIVM (Schreuder and Van Veen 2010)

Table 6.1.4 Previous diagnosis of hepatitis B or C in detainees with positive test result (self report data)

	Positive tests	Ever being diagnosed
Anti HBc	19	3 (16%)
Anti HBsAg	3	0
Anti HCV	17	6 (47%)
HCV-RNA	11	5 (45%)

Source: RIVM (Schreuder and Van Veen 2010)

The hepatitis C prevalence data from this prison study are in accordance with another recent Dutch study estimating the hepatitis C prevalence in prison (Leemrijse et al., 2010). This study searched the medical files of a sample of 3360 detainees drawn from 11 (of a total of 56) penitentiary institutions. The sample comprised 8% women and the mean age for both genders was 35 years.

- For 814 detainees a test result for antibodies against HCV was present in the medical file, of whom 82 were positive (10%). HCV-RNA results (indicating an active infection) were available for 24 persons and 18 (75%) were positive. As the medical files are incomplete, it was not possible to make an exact estimation of the yearly HCV prevalence. Instead, the prevalence of hepatitis C infection in the sample was roughly estimated, somewhere between 2.0% and 10.7%.
- For most risk factors, details were lacking in the patient files. Nevertheless, injecting drug use was identified as a significant risk factor ($p < 0.0001$). For 645 persons data on injecting drug use and presence of antibodies against HCV were available (table 6.1.5). Of the 61 patients with antibodies against hepatitis C, 77% had ever injected drugs. In contrast, of the 584 hepatitis C free detainees, only 12% ever injected drugs. Among the detainees with an hepatitis C infection were relatively more women and hepatitis C carriers were on average 7 years older.

Table 6.1.5 Antibody test results collected from medical files of 645 detainees with data available on injecting drug use (IDU)

	Antibodies for hepatitis C		No antibodies for hepatitis C	
	N	%	N	%
Ever IDU	47	40.5	69	59.5
Not registered as IDU	14	2.6	515	97.4

Source: NIVEL/ WODC (Leemrijse et al., 2010).

In November 2002, the national hepatitis B vaccination campaign targeted at behavioural risk groups started, after a pilot period in Amsterdam since 1998 (see also §7.2). In 2010, the 100.000th person has been included in the program.

- The campaign consists of three vaccinations per participant, at month 0, 1 and 6. In month 0 also the anti-HBc and HBsAg titres are determined. If a person is immune, than the vaccinations of months 1 and 6 are not given; if the person is carrier, he is referred to a medical specialist. Since the campaign aims to reach a group immunity and is not primarily concerned with individual care, the post vaccination titre is not measured.
- For the drug users targeted in the campaign, several definitions have been made. The Health Council advised to include all intravenous drug users. In the campaign itself, however, the following practical definition was employed: “drug users who currently use hard drugs or did so in the past (especially those with intravenous drug use), and who are using low threshold facilities of addiction care”. This definition takes into account that some drug users only inject occasionally, that some are not very eager on admitting injecting drugs and that apart from injecting, also other lifestyle factors may increase the risk on hepatitis B transmission, such as sexual risk behaviour or the sharing of drug paraphernalia other than needles. On the other hand, this definition limits the target group to those that are in active contact with an addiction care institution.
- The campaign for drug users is carried out by addiction care institutions and municipal health services (often outreaching) and the division of work between these two differs locally, e.g., depending on the ability of addiction care workers to draw blood. In some institutions hepatitis vaccination is by now fully integrated in daily practice, while in others integration plans are being developed or may be developed in the future.
- Until the end of 2009, a total of 17,119 drug users received a first vaccination (including the 1,125 participants in the pilot phase) (Haverkate 2010). Until the end of August 2010, another 627 received a first vaccination.
 - Of the 17,119 drug users included up until December 2009, 11.6% were found to be immune: 28.7 % of the participants in the pilot project and 10.4% in the national campaign (Haverkate 2010). Although this is high compared to the general population (in the population-based Pienter-2 study the prevalence of anti-HBc is 3.4% (Hahné 2010)), the percentage of participants that are immune is decreasing since 2006, from around 12% to less than 3% in 2009. An explanation for this decrease may be that in previous years already the highest risk individuals were included in the campaign. On the other hand, drug users who state that they were previously infected with hepatitis B are not tested or vaccinated and therefore not included in these figures.
 - Chronic carriership was found in 0.6% of individuals (1.2 % in the pilot and 0.6% in the national campaign) (Haverkate 2010). This is also higher than in the general population (0.2% carriership) (Hahné 2010).

- In total 8,242 drug users received three (or more) vaccinations. Sixty % of the people who have received a first vaccination are thus no longer susceptible (defined as having had 3 vaccinations, already immune after a previous infection, or chronic carrier).
- Depending on the definition of the target population the vaccination coverage can be determined. Here, vaccination coverage is defined as the number of third vaccinations compared to the number of susceptibles (target population minus those with a past infection and the carriers) (Haverkate 2010). Following the definition of the Health Council, the target population consists of 7,520 persons (injecting drug users), leading to a vaccination coverage of 152%. According to the definition used in the campaign (all drug users with current or past hard drug (especially injectors) who are client of the addiction care or low threshold facilities), the target population consists of 31,803 persons leading to a vaccination coverage of 38%.
- In 2009, the mean age of the vaccinated drug users was 36 years and 24% was vaccinated in prison settings (data provided by Marlies van Dam, National Institute for Public Health and the Environment).

6.2 Other drug-related morbidity

In this paragraph data will be presented on drug-related emergencies based on various sources: i) a newly developed drug-related emergencies monitor covering several regions of the country, ii) emergency department data (national estimates, based on sample data); iii) ambulance transportation data in Amsterdam (trends), and finally, iv) requests for information on drug intoxications at the National Poisons Information Centre. Finally, information will be given on driving under the influence of drugs and research on psychiatric co-morbidity.

6.2.1 Drug-related emergencies

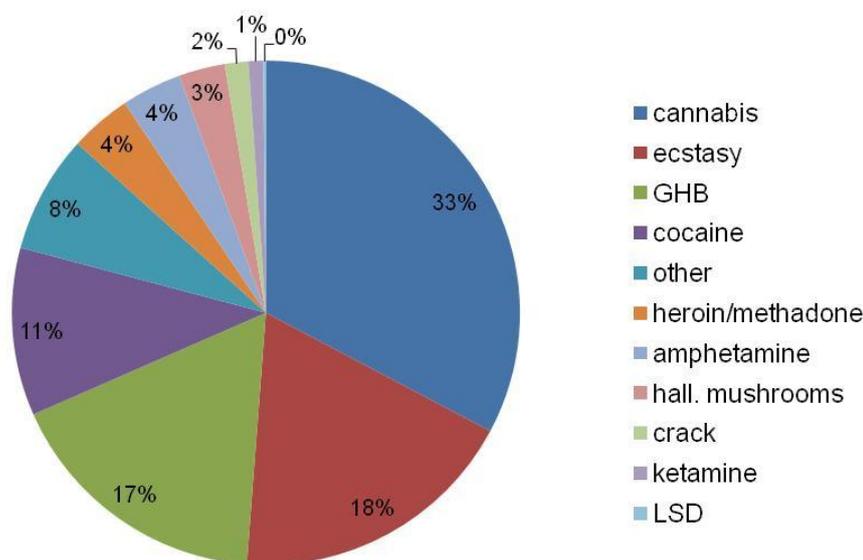
Monitor drug-related emergencies

In 2009 a monitor on drug-related emergencies collecting data from four regions of the country (Amsterdam, Enschede, Groningen and Nijmegen) and emergency departments on dance events became operational (see also chapter 5). Cases were reported by the police, ambulance transportation services, hospitals and two organisations on first aid at dance parties. In 2009 a total of 2,525 incidents were reported, of which only 3 cases were fatal.

- Most of the emergencies involved men (75%) and young adults between 18-24 years (39%).
- Figure 6.2.1 shows that cannabis was involved in one-third of the emergencies (33%), followed by ecstasy (18%), and GHB (17%), cocaine (11%), amphetamine (4%), heroin/methadone (4%), mushrooms (3%), crack cocaine (2%), ketamine (1%) and other substances (8%). In 15% of the emergencies a combination of drugs was involved and half of the patients had also consumed alcohol.

- The degree of intoxication was in 60% of the cases evaluated to be mild, in 28% moderate and in 12% of the cases severe.
- Most of the intoxications due to cannabis were light, only 4% of these intoxications were classified as severe. A salient proportion of the cannabis-intoxications took place among tourists.
- From the ecstasy-intoxications, a salient proportion (40%) took place among females. In case only ecstasy had been used, a majority of 86% of the cases were classified as a light intoxication.
- Compared to other drugs, intoxications by GHB were more often severe and occurred within a broad age range (4 to 75 years).
- A salient proportion of the emergencies related to cocaine were reported by police doctors, and the intoxications due to cocaine were more often moderate or severe.

Figure 6.2.1 Drug-related emergencies by type of drug (in 2009)



Source: Trimbos institute (Vogels et al., 2009)

Emergency departments in hospitals

The injury information system (Letsel Informatie Systeem, LIS) of the Consumer Safety Institute gives information on the number of people treated annually at the emergency departments of hospitals. These data are derived from a representative selection of hospitals and are extrapolated to yield national estimates. Because of the estimation method and associated error margin data are averaged over five years. For GHB cases, a separate trend analysis has been conducted.

According to the LIS, it is estimated that 3,500 people are treated annually at a hospital emergency department following an accident, violent incident or self-mutilation related to drug use (cp. 15,000 on account of alcohol).

- Forty-three percent are aged between 20 and 29 years and 73% are male.
- The proportion of drug-related emergencies requiring hospitalisation is relatively high (36%; cf. 18% for traffic accidents or 11% for private accidents).

- Poisoning is the most frequent cause of emergency (74%); 12% of all cases is due to complications of body-packing.
- Cocaine is the most frequently cited drug (32%); cannabis is involved in 17% of the cases with a known substance. Lower ratios are found for ecstasy (10%), heroin (4%), and hallucinogenic mushrooms (4%). Note, however that it was not possible to specify a drug in 36% of the cases, however, a later analysis suggests that the majority of them concerned GHB intoxications (see below).
- These figures are likely to be an underestimate of the true number of emergencies related to drugs due to underreporting.

GHB

Due to signals of an increasing (problem) use of GHB (and signals of a normalisation of 'going out' among users), the Consumer Safety Institute carried out a special analysis of GHB emergencies at hospitals (Stolte 2010).

- There was an estimated fourfold increase in GHB emergencies between 2004 and 2009, reaching a level of 1,200 emergencies in 2009. This amounts to about 23 victims per week.
- 69% of the victims were male; 53% was between 20 and 20 years old.
- In one-third (34%) of the cases alcohol use was also involved and 19% had also used another drug.
- In 40% of the cases hospitalisation was required; half of these cases were directly sent to intensive care.
- Some 59% of the emergencies occurred during weekend days.

Drug-related non-fatal emergencies in Amsterdam

The Municipal Health Service Amsterdam (GGD Amsterdam) keeps a record of non-fatal emergencies brought to its attention by the Central Post for Ambulance Transports. The more serious emergencies require transportation to the hospital by ambulance. The link with drug use has been based on case history and circumstantial data; there is no toxicological confirmation. Table 6.2.1 gives the annual number of emergencies per drug from 2001 to 2009.

- The total number of drug-related requests for emergency assistance remained at about the same level between 2006 and 2009 (over 1,000 but always less than 1,100).
- Most drug-related emergencies are related to the use of cannabis (45%), followed by heroin/cocaine (18%) and GHB (16%). LSD and amphetamine related emergencies are relatively rare.
- The proportion of cases requiring transportation to a hospital (a proxy measure for the seriousness of the emergency) were 39% for cannabis, 52% for hallucinogenic mushrooms, 66% for opiates/cocaine, 50% for amphetamine, 70% for ecstasy and 80% for GHB. This latter substance is difficult to dose because of the small safety margin, which may result in loss of consciousness. This risk is increased with concomitant use of alcohol.
- The most important trends in 2009 were a decrease in hallucinogenic mushroom emergencies and an increase in cannabis-related emergencies. The first trend probably relates to the ban on hallucinogenic mushrooms that was effectuated on December 1, 2008¹⁷. Since then it is forbidden to sell these mushrooms in smart shops. The

¹⁷ Dried hallucinogenic mushrooms or other preparations were already legislated for under the Opium Act.

decreased number of emergencies in 2009 suggests that exposure to hallucinogenic mushrooms has been reduced, at least in Amsterdam. The increase in GHB emergencies (33% between 2008 and 2009) is consistent with the signals for an increased popularity of this drug in some populations.

Table 6.2.1: Number of non-fatal emergencies due to hard drugs and recreational drugs recorded by the Amsterdam Municipal Health Service

	2001	2002	2003	2004	2005	2006	2007	2008	2009
Opiates/cocaine	208	216	257	239	230	238	220	221	197
Cannabis	289	285	257	320	242	464	444	381	484
Mushrooms	49	50	60	55	70	124	149	125	53
Ecstasy	42	39	39	59	63	53	67	43	55
Amphetamine	6	5	7	8	3	13	17	14	8
LSD	3	1	1	4	1	1	4	4	4
GHB	69	67	74	98	76	110	110	128	170
Unknown/other	37	38	29	54	89	46	54	115	111
<i>Total</i>	<i>703</i>	<i>701</i>	<i>724</i>	<i>837</i>	<i>774</i>	<i>1049</i>	<i>1065</i>	<i>1031</i>	<i>1082</i>

Source: Municipal Health Service Amsterdam (GGD Amsterdam).

Information requests on acute intoxications

Another source of information on trends in emergencies is the number of information requests (by telephone) from physicians, health authorities and others on acute intoxications recorded by the National Poisons Information Centre (NVIC) of the RIVM (Van Velzen et al., 2010). Note, however, that these data are just indicative and do not reliably represent the actual number of acute intoxications. Since 2008 the numbers include also information requests that were sent through the internet.

- Table 6.2.2 shows that the total number of information requests related to drugs sharply increased between 2000 and 2005 but slightly dropped in 2006. A possible explanation for the reduction is that physicians have become more familiar with recognising and treating problems related to (specific) drugs, especially if they have been on the market for some time (e.g. ecstasy), which reduces the need to consult the NVIC for information.
- In 2009, most information requests were related to cocaine and GHB/GBL, followed by ecstasy and cannabis.
- The most important changes in 2009 concern an increase in requests for GHB/GBL and reduction in requests related to hallucinogenic mushrooms, which is consistent with the previously mentioned trends in emergencies in Amsterdam (table 6.2.1).
- After the ban on hallucinogenic mushrooms, it was questioned whether there would be a shift towards other hallucinogens. This potential 'waterbed effect' was not observed in the data, except for an increase in the number of information requests for intoxications with nutmeg (1 in 2007, 2 in 2008, 10 in 2009), which has hallucinogenic effects.

Table 6.2.2: Information requests related to drugs at the National Poisons Information Centre

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Ecstasy	164	194	184	208	246	217	183	171	185	140
(meth)amphetamines	42	39	39	47	51	128	106	94	125	106
Cocaine	150	184	217	247	227	254	211	231	255	238
Cannabis	71	129	141	144	191	202	186	178	168	204
GHB/GBL	91	174	194	212	190	241	203	202	218	273
Opiates*	51	42	95	112	112	129	32	47	74	52
Ephedra	16	28	61	110	127	67	55	26	28	24
Hall.mushrooms	34	58	49	65	52	62	67	68	62	19
Other (smart shop) products	37	56	43	65	89	83	103	103	97	102
Total drugs	656	904	1,023	1,210	1,285	1,383	1,146	1,120	1,212	1,158

*Due to a change in registration: since 2006 methadone is not counted in the group of illicit drugs but in the group of medicines. Source: NVIC, RIVM (Van Velzen et al., 2010).

6.2.2 Drugs and driving

In previous national reports, findings from experimental studies on the effects of drugs on driving performance and epidemiological studies on drugs and accident risk have been described. In 2008/2009 a pilot has been conducted by the police to test the feasibility of using saliva drug tests as a (pre)selection device in the criminal investigation of driving under the influence of drugs (Kuijten 2009). Four types of saliva tests, which were proposed by the DRUID project, were tested. During the pilot, cannabis was the predominant drug detected; other drugs like amphetamine, cocaine, opiates and benzodiazepines, were hardly found. In general, false positives were rare, but false negative findings were more common (comparing either saliva screener/saliva laboratory analysis or saliva screener/blood analysis). It was nonetheless concluded that the predictive value of these screening devices in detecting driving under the influence of drugs was acceptable and the procedure was deemed feasible.

At the same time a committee has given advice on the cut-off levels of illegal drugs in blood, above which it could be reasonably assumed that driving performance would be impaired (in non-tolerant subjects) (Adviescommissie Grenswaarden voor drugs, 2010).

Following the pilot study and advice the Ministers of Security and Justice and Transport have prepared an amendment to the road Traffic Act (see § 1.1).

6.2.3 Psychiatric co-morbidity

As described in previous National reports drug use disorders are commonly associated with other mental health disorders. Research in the past years focused on cannabis and mental health.

Findings from an analysis of data from a continuous general population survey by Statistics Netherlands (CBS) suggested an association between using cannabis and having psychological problems (Knoops 2010). For the period 2007-2009, it was found that 4% from the population aging 15 through 64 years had used cannabis during the past month. Mental health was assessed by means of the Mental Health Inventory 5 (MHI-5). When having used cannabis during the past month, the chance to have psychological problems was twice as high. Among males, it was found that almost 20% of the current cannabis users reported psychological complaints, compared to only 10% among the non users. Among females, 28% of the current cannabis users reported psychological complaints, compared to only 14% among the non users. These associations remained significant after correcting for demographic variables. There was no control for the use of other substances.

In the past decade, various studies, both Dutch and international, have reported associations between cannabis use and psychotic outcomes, ranging from subclinical symptoms to a full blown diagnosis of schizophrenia. In 2010 several Dutch studies on cannabis and psychosis and one on cannabis use and depression spells were published.

Schubart et al. (2010) showed that in a large (convenience) sample of nearly 18 thousand adolescents (mean age 21.6 years), only *early onset* of cannabis use (age 12 or younger) was strongly associated with a top 10 score on subclinical positive psychotic experiences and to a lesser degree with negative symptoms. Moreover, the investigators found a dose-response relationship as expressed by the amount of money weekly spent on buying cannabis.

Bossong & Niessink (2010) have postulated a causal mechanism explaining the link between cannabis use during adolescence and psychosis. They argue that exogenous cannabis (THC) administration interferes with normal brain development during adolescence, by disrupting the process of strengthening and pruning of synaptic connections in the prefrontal cortex regulated by the glutaminergic system.

Machielsen et al. (2010) revealed that 45% of a sample of 169 patients psychotic disorder had a comorbid cannabis use disorder, and this group experienced higher levels of positive symptoms, compared to psychotic patients without cannabis use disorder (excluding those with another drug uses disorder).

Finally, a patient-sibling and sibling-control study in the Netherlands and Flanders found that a genetic risk for psychosis is associated with an increased sensitivity to the psychotomimetic effects of cannabis (Genetic Risk and Outcome in Psychosis (GROUP) investigators, 2010). This differential sensitivity to cannabis was demonstrated in the form of greater response to *recent* (rather than lifetime) cannabis use in individuals at higher-than-average risk for psychotic disorder and related disorders

As described in § 10.3, the balance between THC and the cannabinoid CBD may be crucial in determining the psychotomimetic and possibly addictive effects of cannabis (e.g. Henquet, 2010). Dutch marihuana contains very low levels of CBD compared to THC. Consequently, it is possible that certain health effects are more likely with this type of cannabis compared to certain (imported) varieties of hashish, that have a lower THC/CBD ratio.

In one cross-sectional study, based on the World Mental Health Surveys covering 50 thousand respondents in 17 countries (including the Netherlands), associations were found between early onset cannabis use (< 17 years) and later onset of depression spells (RR 1.5; De Graaf et al., 2010). This association remained unchanged after controlling for a variety of confounder, but dropped to non-significance after controlling for childhood conduct

problems. Probably, propensity for norm violating behavior in youth may predispose both to later cannabis use and depression.

6.3 Drug-related deaths and mortality among drug users

In the Netherlands, statistics on drug-related deaths, among others, are available from the General Mortality Register (GMR), or Causes of Death Statistics, held by Statistics Netherlands (CBS). In this register the causes of death are classified according to the International Classification of Diseases, Injuries and Causes of Death (ICD). The 10th edition of the ICD has been in use since 1996. The register has national coverage, but in standard form only includes deceased residents of the Netherlands who were registered at a municipal register. However, data on drug-related deaths among non-residents are available from an additional database.

The General Mortality Register (GMR) specifically provides data on acute mortality due to drug use, that is poisoning by drugs, or drug 'overdose'. These are the cases in which death is directly related to drugs. The GMR data do not make a distinction between experimental and habitual drug users, and are not suitable for tracing deaths due to rare toxicological substances like various synthetic drugs. Nonetheless, the registered cases can be selected according to the EMCDDA standard definition of acute drug-related death (EMCDDA 2009), as reported for the Netherlands in the Standard Tables ST5_2010_NL_01 and ST6_2010_NL_01. Information on drug-related mortality from other sources is given in chapter 12.

Overall trend

Figure 6.3.1 shows the number of cases recorded from 1996 through 2009 according to the EMCDDA selection of ICD-codes. The figure only includes cases from residents that were registered at a municipal register. Among non-residents, an additional 28 cases were registered in 2009 in a separate archive (Van Zeijl, Statistics Netherlands (CBS), personal communication, 10-08-2010). The total number of recorded drug-related deaths among residents increased between 1996 and 2001, thereafter showed a rather whimsical trend, but in 2009 almost returned at the level of 2001. The total number decreased in 2002 and 2003, rose in 2004, declined until 2007, and finally rose again between 2007 and 2009.

Of the 139 cases in 2009, a total of 51 cases were coded to unspecified substances, compared to 58 cases in the 2008 registration year. Although the specific substances are not known in these cases, a previous inquiry at Statistics Netherlands (CBS) revealed that these cases are mostly related to hard drugs and to polydrugs, and are therefore rightly included in the group of drug-related deaths. From 1996 up to including 2009, the number of unspecified cases ranged from 18 in 1996 to 58 in 2008.

Despite fluctuations over the years, the total number of drug-related deaths in the Netherlands has remained relatively low. This might be explained by a low number of problem drug users, prevention measures among the drug users, and protective factors, such as the nationwide availability of methadone-maintenance treatment and the low rate of injecting drug use (Van Laar et al. 2006). There are, however, some indications that not all cases of drug-related deaths are recognised in the Dutch GMR (De Zwart et al. 2001), although the level of underreporting is probably rather low (Cruts et al. 2008).

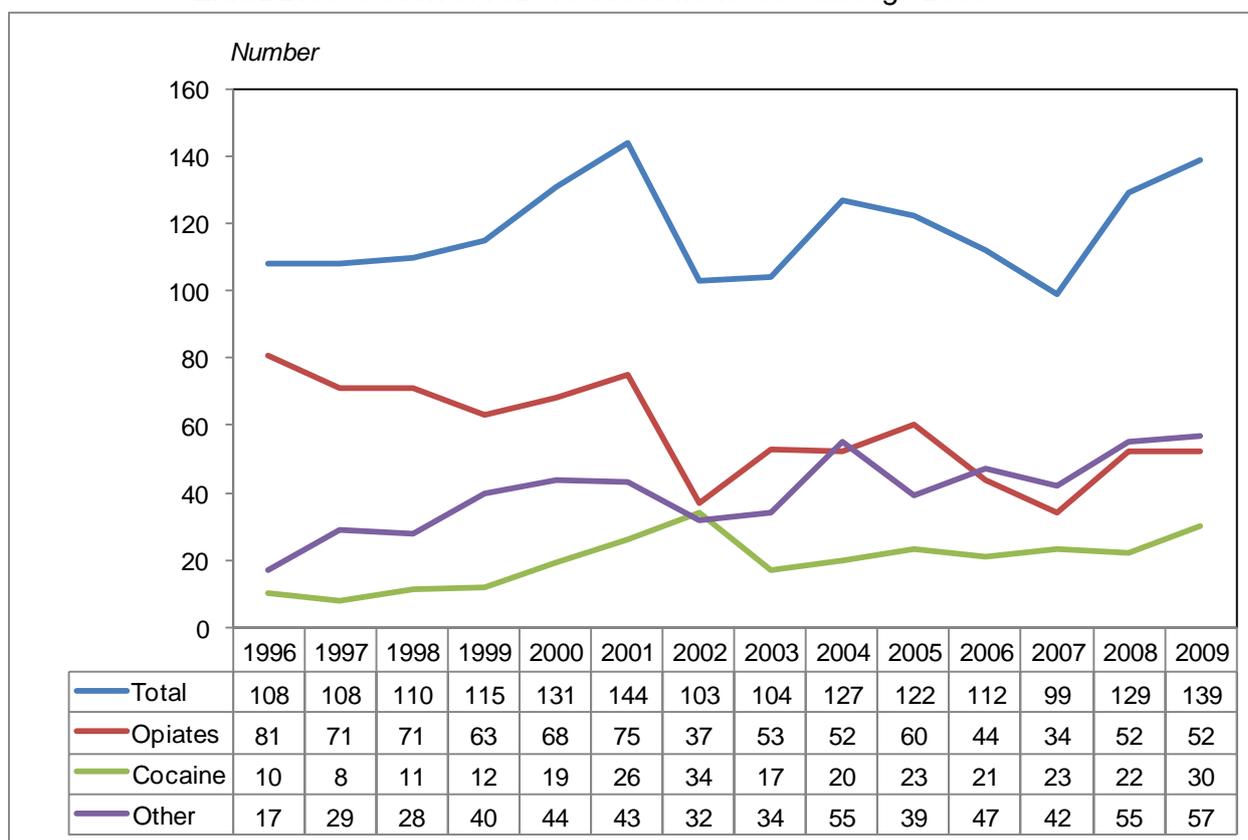
Opiates and cocaine

Cases of "opiates" and "cocaine" refer to cases in which these substances were explicitly stated as the primary cause of death on the death certificate. Between 1996 and 2001, opiate intoxications were the most common causes of drug-related death recorded among Dutch residents. In this period, the casualty rate fluctuated between 81 and 75 cases. In 2002, the number of opiate deaths decreased and reached about the same level as the number of acute cocaine deaths, which had slowly increased since the late nineties. Since 2003, these trends have diverged.

Psychostimulants

In 2009, there were only four cases that were coded to poisoning by psychostimulants, compared to only two cases in 2008, and just one case in 2007. Whether these fatal intoxications concerned amphetamines, MDMA, or other psychostimulants is not known.

Figure 6.3.1: Number of acute drug-related deaths in the Netherlands according to the EMCDDA selection of ICD-10 codes from 1996 through 2009*



*Only residents that were registered at a municipal register in the Netherlands are included. Among non-residents, an additional 28 cases of acute drug-related deaths were registered in 2009. EMCDDA selection of ICD-10 codes: F11-F12, F14, F16, F19; and X42, X41, X62, X61, Y12, Y11 (selected in combination with T40.0-9 or T43.6). Source: Causes of Death Statistics, Statistics Netherlands (CBS).

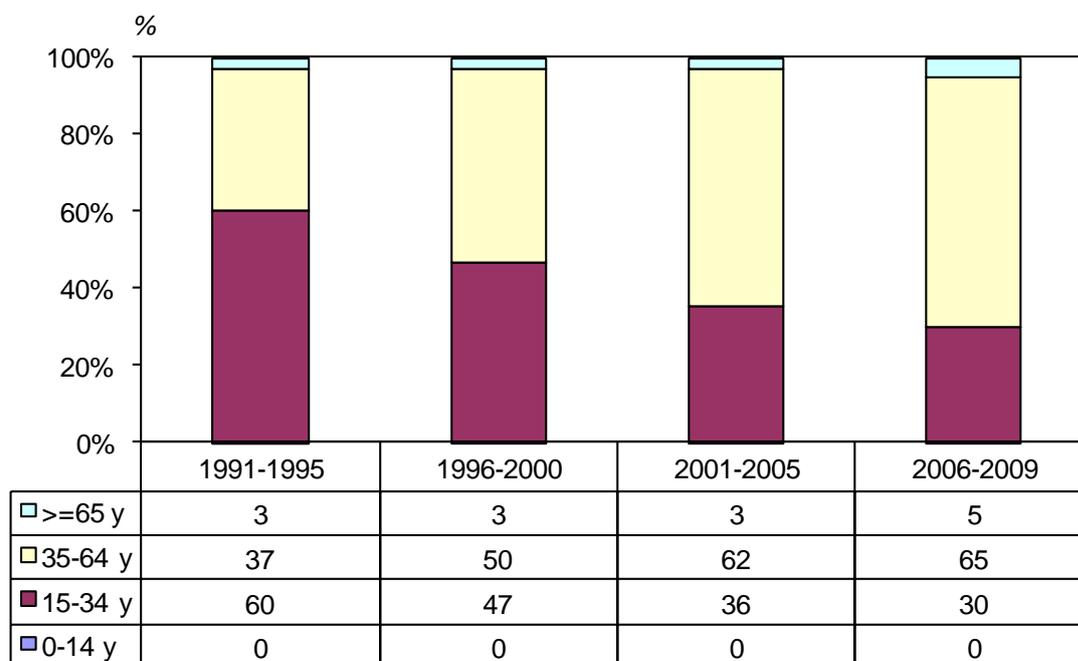
Age and gender

The population of problem drug users is ageing, and this trend is reflected in the increasing age of drug users that have died from drugs. Figure 6.3.2 shows that the percentage of

deceased aged 35 years and above increased from 40% during the period 1991 through 1995 to 70% during the period 2006 through 2009.

Between 1996 and 2009, the percentage of female cases varied from 15 to 28% per year, without showing a clear trend.

Figure 6.3.2: Trends in age distribution of cases of acute drug-related deaths in the Netherlands, according to the EMCDDA definition



Source: Causes of Death Statistics, Statistics Netherlands (CBS).

7 Responses to health correlates and consequences

7.1 Prevention of drug-related emergencies and reduction of drug-related deaths

Drug-related emergencies

In 2008, the "Monitor drug-related emergencies" (Monitor drugsincidenten) was developed, which was piloted in the first half of 2009. The monitor aims to identify, on an actual basis, trends in drug-related health incidents (via a basic registration), and simultaneously intends to pick up acute life-threatening situations (via case reports). The findings will be used as direct input for preventive measures, both directed at drug users and health care workers, as well as to policy makers. Healthcare workers can report drug-related emergencies online at the website www.drugsincidenten.nl. The emergencies are registered as light, moderate, and severe intoxications.

The results for 2009 have now been reported (Vogels 2010), see § 6.2.

Drug-related deaths

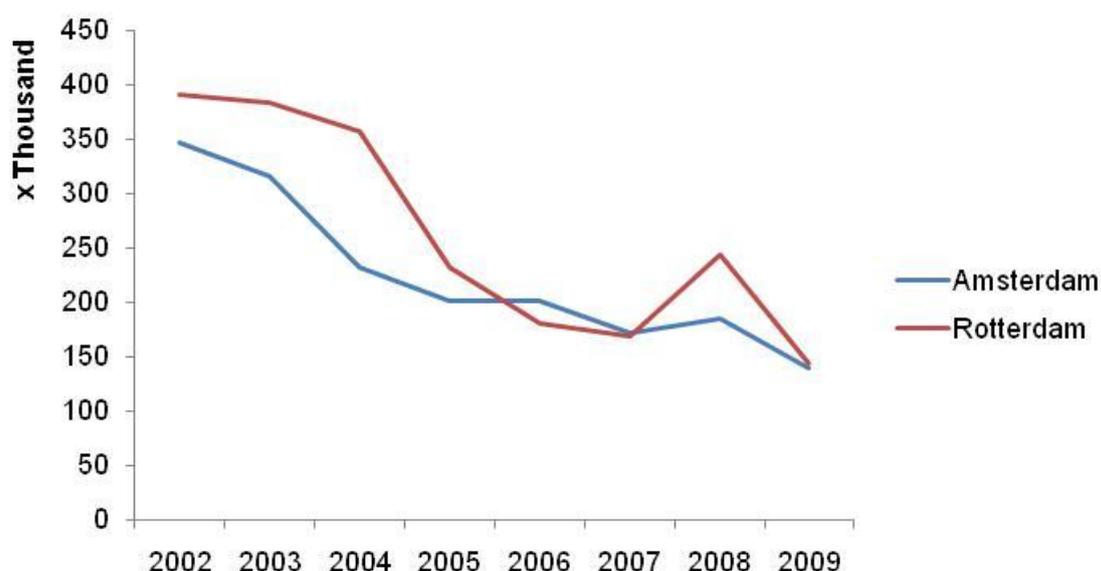
Within the framework of its harm reduction policy, the Netherlands has consolidated in 2009 the prevailing practices to prevent drug-related deaths. There is no specific new information available in addition to the prevention measures that have been reported already in the previous national reports.

7.2 Prevention and treatment of drug-related infectious diseases

7.2.1 Needle/syringe exchange

Estimates from Mainline (a grassroots organisation for drug users in Amsterdam) and the Trimbos Institute suggest that there are approximately 150 needle/syringe exchange programs in the Netherlands. This is a rough estimate because for some cities it has been reported that pharmacists are also exchanging syringes. In Amsterdam and Rotterdam trend data on the numbers of syringes that were exchanged are available. In both cities, a decreasing trend in the number of exchanged syringes is observed (see figure 7.2.1).

Figure 7.2.1 Number of syringes exchanged in Amsterdam and Rotterdam 2002-2009



Source: GGD Amsterdam and GGD Rotterdam.

The small and unexplained increase observed in 2008 was not continued in 2009. In Amsterdam, figures are available since 1990. After a steady increase until 1993 (1,082,880 syringes were exchanged in that year), the number of exchanged syringes declined to 139,400 in 2009 (source: GGD Amsterdam). In Rotterdam, figures are available since 2000. The number of syringes ordered by the local distribution centres was reduced between 2000 and 2009 from 422,000 to 143,300 (source: GGD Rotterdam). Based on the number of syringes distributed and assuming that the average IDU in Rotterdam uses 10 syringes per week, it has been estimated that the number of IDUs in Rotterdam has declined from 812 in 2000 to 275 in 2009. Apart from figures on needles and syringes, the municipal health centre Rotterdam Rijnmond (GGD Rotterdam) also keeps track of the number of condoms, personal pocket containers for the safe disposal of used needles and stericups which are distributed to drug users. From 2004 to 2009, the number of distributed condoms declined from 212,500 to 54,000. Pocket containers are distributed since 2006; the yearly numbers fluctuate but are on average 1,900 per year. The distribution of stericups has increased from 5,850 in 2006 to 14,758 in 2009. It is noteworthy that in Rotterdam during evening and nightly hours drug users can exchange needles and syringes at several police stations. The decline during many years in the number of syringes exchanged can be explained by several factors: a reduction of injecting heroin users in general; a reduction of drug users from neighbouring countries, often injectors; a reduced popularity of injecting resulting from experienced health problems, in combination with an increase in the use of crack; and mortality among injectors.

7.2.2 Drug consumption rooms

A recent inventory (mid 2010) among a network of infectious disease experts in all addiction care institutions in the Netherlands identified 37 drug consumption rooms operating in the Netherlands. Though being present in smaller cities as well, most of these harm reduction facilities are concentrated in bigger cities. Not all drug consumption rooms are for injecting.

Some are targeted at 'smokers', others are established exclusively for using alcohol and some are mixed and not dedicated to any special type of consumption or drug.

7.2.3 National hepatitis B vaccination campaign

See also § 6.1. The Netherlands is a low hepatitis B endemic country (estimated HBsAG prevalence 0.3-0.5%) with higher prevalence in specific risk groups. The discussion on hepatitis B vaccination is ongoing for decades. Because of the recent decision to start with universal vaccination (the Netherlands has been one of the last countries that used a risk group vaccination strategy), we provide a short historical overview:

- In 1983 the Health Council advised to vaccinate two categories of individuals:
 - a. All patients who, as part of their disease, had a higher risk of hepatitis B virus transmission (such as hemodialysis patients, haemophiliacs and mentally disabled persons)
 - b. Healthy individuals with an increased risk due to work or lifestyle (medical professionals, IDUs, men having sex with men (MSM), prostitutes). Following this advice the vaccination of the behavioural risk groups started, but was not implemented on a large scale.
- In 1996 the Health Council gave a second advice, again advocating vaccination of risk groups, but also arguing to study the feasibility of universal vaccination. This advice resulted among others in the national hepatitis B vaccination campaign for risk groups (MSM, commercial sex workers, hard drug users and heterosexuals with multiple sex partners) (for the results: see § 6.1).
- In 2009, the Health Council gave a third advice on hepatitis B vaccination. This time they argued for universal vaccination, for all newborns and a catch-up campaign for 12 year old children, with the necessity to continue the risk group vaccination strategy for many years. The minister of Health decided that from January 1, 2012 hepatitis B vaccination will be part of the universal vaccination program for children in the Netherlands, but decided not to implement the vaccination for 12 year old children as this would be logistically very challenging.
- In 2002, the national hepatitis B vaccination campaign targeting at risk groups (MSM, drug users, prostitutes, heterosexuals with high risk behaviour) started. The heterosexuals have been removed from the target group; the necessity to keep the drug users in the campaign has been discussed for years.

The discussion on the necessity of the hepatitis B campaign *among drug users* has been intensified in the current reporting year. The direct reason was the observation that the number of vaccinations given each year to drug users is diminishing.

- An advisory report concluded that the vaccination coverage will decrease with the current strategy. It therefore advocated intensifying the program, both through a better integration of hepatitis B vaccination in the daily work in addiction care institutions and municipal health services, and increased attention for compliance issues in the target population (Haverkate, 2010).
- The question on the best strategy in hepatitis B vaccination in drug users was further discussed during an expert meeting in September 2010. The expert group advised to shift the focus from campaign-wise to integrated care, thereby still not relying totally on the capacity of the addiction care institutions.

- The expert group also discussed the issue of the “isolated” anti-HBc. In the campaign, presence of anti-HBc is interpreted as evidence of a hepatitis B infection in the past. These individuals are further tested for presence of HBsAg, to exclude active hepatitis B infection, and don't receive further vaccinations, as immunity is assumed. A re-analysis of 1000 anti-HBc positive blood samples from the vaccination program showed that 14.7% of confirmed anti-HBc lacked anti-HBs, indicating that these individuals are said to be immune but actually don't have additional evidence of immunity (Koene et al., 2009). The prevalence of isolated anti-HBc was significantly higher among drug users (51/228; 22.4%) than among the other risk groups (MSM: 6.3%, commercial sex workers 15.8%). After correction by other indicators for hepatitis B in serum and extrapolation it turned out that 12.5% of drug users lacked evidence of immunity. The expert group advised to expand the screening for drug users, both to continue finding hepatitis B carriers, but also to incorporate hepatitis C and HIV screening during the intake procedure in addiction care. The advice to expand current practice of infectious disease screening has been offered to the minister of health.

7.2.4 Hepatitis C information campaign

From May 2009, the national information campaign for risk groups was developed and executed from September 2009 to February 2010. The campaign aimed to increase knowledge on HCV among the general public, and to raise awareness and increase information seeking behaviour among risk groups. The second aim was to enhance awareness among professionals in the field. Secondary objectives were to increase the number of diagnosed HCV cases and to structurally embed the attention for HCV in protocols and daily practice. As risk groups in this campaign were considered: recipients of blood products before 1992, drug users and migrants from high endemic countries. For the three risk groups different campaign strategies were developed, which were first tested in a pilot phase. The campaign used among others mass-media activities, an online hepatitis C risk assessment test (www.hebikhepatitis.nl), and flyers.

The target group ‘drug users’ was defined as all drug users, especially injecting drug users, even if only occasionally, and other drug users borrowing paraphernalia. All eleven addiction care institutions in the Netherlands participated. Professionals (nurses, doctors) received a training for hepatitis C counselling; counselling talks were actively offered to the target group; the drug users also received information materials; grass root organisation Mainline supported the addiction care institutions with field work, among others by using a game named “Russian Roulette”.

All participating institutions drafted an implementation plan during the preparation phase. However, at the start of the campaign, in September 2009, only four were ready to start; some institutions started only in summer 2010 (officially after the campaign had ended), but all have the intention to continue with counselling and testing for HCV. The campaign was executed in a limited number of locations, some restricted the campaign to methadone posts, others also executed the campaign in drug consumption rooms, medical heroin units, prostitute zones, reception centres, or in labour-yards. In total 173 professionals were trained in counselling; they had a counselling talk with almost 1300 drug users, of whom just over half were tested for HCV; 25% was found positive and of these, one third (62 persons) started treatment. Note that the number of registered opiate clients is over 12,000. The results are preliminary (personal communication Clary van der Veen, Trimbos Institute).

The level of implementation of the campaign differed substantially between institutions, but on average the implementation has not been optimal. A study on the promoting and impeding factors in the implementation of the hepatitis C information campaign targeted at drug users is currently being performed. Also a study on the effectiveness of such a campaign is ongoing and results of both projects will be described in the next National Report.

In the wake of the hepatitis C information campaign, a new guideline will be prepared covering information, screening and treatment of hepatitis C in penitentiary institutions. The need for this guideline was realized in 2008 because of the, at that time, upcoming launch of the national information campaign on hepatitis C, the increasing number of HCV patients imprisoned while in treatment and the aim to guard against interruption of HCV treatment. The guideline also aims to collect information on organizational, personal and financial consequences of HCV treatment for prisoners. The guideline is currently still in concept.

7.2.5 Other prevention activities

For the Ministry of Health, Welfare, and Sport (VWS), the prevention and combat of infectious diseases among drug users is one of its priorities. Therefore, the Ministry finances the program Infectious Diseases and Drug Use, a collaborative project of the grassroots organization Mainline Foundation and the National Support Function Prevention in Mental health and addiction care (Dutch abbreviation: LSP) of the Trimbos Institute. The focus of the program is on education and implementation of harm reduction measures. The program is in close contact with the functionaries at the addiction care institutions whose task is dedicated to infectious diseases. These functionaries, usually nurses, assemble every two months in a network to exchange information.

In 2009, among others, an inventory on depression and depression prevention in hepatitis C positive drug users was made (Dijkstra and Van der Poel, 2009). The inventory concluded that, while around 1/3 of methadone patients is suffering from depression and little is known on the level of depression before, at the time of and after HCV treatment, the prevalence of depression in patients around HCV treatment is not strikingly high. Although at the start of the project it was the intention to write a specific and standardised depression prevention module for drug users in treatment of HCV, it was concluded that professionals in addiction care do not seem to be in need of such a module.

The LSP also published a guidance document on care after HCV treatment (De Jong et al., 2009). It was born out of the observation that during HCV treatment many drug users experience a positive behavioural change, which is quickly fading away after the weekly contacts with the HCV-nurse are ended. The guidance document aims to give directions to perpetuate the positive behavioural changes, which should be continued two years after finishing HCV treatment. In 2010, a magazine-like booklet (entitled: A good story; in Dutch: Goed Verhaal) was published containing interviews with eight drug users successfully treated for HCV. The booklet aims to encourage HCV positive drug users to start treatment.

Several initiatives of the addiction care organisation Iriszorg (Eastern part of the Netherlands) are worth mentioning:

- This organisation introduced a disposable “sniffing straw”, for users of cocaine, heroin or speed. The straw is meant to be used only once and aims to prevent transmission of infectious diseases.
- a weekly consultation hour for drug users on STDs was launched.
- Iriszorg is further experimenting with a voucher system to support hepatitis C patients in finishing their hepatitis C treatment.

Other activities

There are several activities ongoing which are not restricted to drug users but open for all patients with hepatitis. A complete description of these activities is beyond the scope of this report, therefore only a selection is presented here. The list aims to show that there is increasing attention for hepatitis in the Netherlands.

- In the first half of 2010, there are several clinical studies ongoing regarding treatment options for patients with hepatitis B or C (source: National Hepatitis Centre):
 - ARES study (ErasmusMC Rotterdam and AMC Amsterdam): studying the effect of entecavir plus temporary peginterferon (compared to entecavir alone) on the duration of sustained viral suppression in patients with chronic hepatitis B
 - Tenofovir study (ErasmusMC Rotterdam): studying the effect of treatment with tenofovir on the defense mechanism in chronic hepatitis B patients
 - PADD study (ErasmusMC): studies whether the addition of peginterferon to the usual treatment with virus inhibitors gives a permanent suppression of the hepatitis B virus, even after discontinuation of treatment
 - VIRID study (ErasmusMC and UMC Radboud Nijmegen): compares the effect of a double dosage of ribavirine with standard treatment in patients with hepatitis C genotypes 1 and 4 (which have lower treatment results than genotypes 2 and 3).
 - ENABLE study (ErasmusMC, AMC, VUmc Amsterdam): studies the effect of eltrombopag in HCV patients with a low level of platelets (a sign of serious liver damage) to increase the platelet count and subsequently start standard treatment.
 - NS5A inhibitor study (AMC), a placebo controlled study in which the effect of NS5A inhibitor on the replication of HCV (genotype 1B) is assessed.
- Every year, the National Hepatitis Centre organizes a national hepatitis week. In January 2010, the sixth event took place, with the central theme “medical and social aspects of hepatitis”, handling the long duration and resulting social burden of treatment. The week is targeted both at professionals and patients.
- In June 2010, the Federation of Medical Scientific Associations (in Dutch: FMWV), an interdisciplinary collaboration of medical-scientific and health care researchers, organised their yearly Scientific Day around the theme: “Hepatitis: new knowledge, new opportunities”. This day has traditionally two programs, one for professionals and another for the general public and patients.
- In 2010, the Health Council has assessed the potential toxic effects of ribavirine (antiviral medication, among others used in the treatment of hepatitis C) on the reproduction and unborn child. They concluded that there is reason for concern, although toxicity was not sufficiently proven.

7.3 Responses to other health correlates among drug users

7.3.1 Psychiatric comorbidity

Results of research on psychiatric comorbidity and the treatment of dual diagnosis patients have attracted professional attention for already many years (see our former National Reports, and § 6.2)). As a consequence, the number of treatment units for comorbidity has increased substantially. In 2006, research was conducted among 35 facilities for the treatment of comorbidity in institutes for mental health care, addiction care, and supported living (Planije et al. 2006). It was found that, from these 35 facilities, a majority of 26 facilities were founded between 2003 and 2006.

Since 2009, a national centre for expertise and implementation has been in operation which offers basic and follow-up training courses in professional development and in-depth courses. The national centre boosts on specific aspects of integrated treatment, and offers advice and coaching on implementation on-the-spot. The centre is called *Landelijk Expertisecentrum Dubbele Diagnose* (LEDD), which can be translated as: *National Centre of Expertise on Double Diagnosis*.¹⁸

The centre offers, for example, modules on motivational interview techniques, phase-specific treatment, and group treatment for double diagnosis patients. Moreover, the centre has installed a Platform Double Diagnosis that initiates meetings on specific topics concerning the treatment of double diagnosis. It also offers a down-loadable toolkit on interventions and methods for counseling and treating double diagnosis patients, and a down-loadable working book on integrated treatment for patients with psychiatric and substance use problems.

A further target of the LEDD is to reduce the lack of coordination in the approach and treatment of patients having a double diagnosis. Consequently, initiatives have been taken for constructing guidelines for treatment of specific double diagnosis patients, for example anxiety problems in combination with substance abuse (Snoek et al. 2009).

7.3.2 People with mild or borderline intellectual disabilities

Our former National Report (Van Laar et al. 2010) already mentioned interventions for professionals who work with people with mild or borderline intellectual disabilities (In Dutch: *Licht Verstandelijk Gehandicapt*). The aim of the interventions is to prevent problem drug use among this vulnerable group. For young people from 12 through 23 years with mild or borderline intellectual disabilities, a special intervention program has now been developed, of which a pilot implementation has been evaluated (Hilderink et al. 2010). Development, pilot implementation, and evaluation took place from 2008 up to including 2010. Four regions participated. In each region, the prevention department of the institute for addiction care worked together with the associated institute for care for people with mild or borderline intellectual disabilities.

From the pilot implementation it is concluded that standardization of the intervention program has been reached, and that participants have received the program positively. However, the program can still be improved by adding information and working methods that are more focused on people with mild or borderline intellectual disabilities. Moreover, attention should be paid to giving information about more drugs and about a better policy of

¹⁸ www.ledd.nl; see also the 2009 National Report.

the care institutes with regard to drugs. After these adaptations, the program can be implemented at national level (Hilderink et al. 2010).

In line with the national policy that targets organised crime and public nuisance, the ministry of Security and Justice has funded an exploratory quick scan on the group with triple problems, that is psychiatric problems, substance use problems, and intellectual disabilities (Kaal et al. 2009). This study collected several data, namely the (Dutch) literature on this target group, a secondary analysis on existing statistical databases, a telephone survey, a simultaneous collection of existent documents on the care currently offered for this target group, and an expert meeting on the most appropriate care to be offered for this group. The results point at the current difficulty of estimating the number of people with triple diagnosis. Specifically people with mental retardation that have contacts with the police or the judiciary are not registered. It is estimated that between 920 and 4,300 people with triple diagnosis enter the judicial system on an annual basis. The study also shows that the current care that is offered to this target group is insufficiently registered and is expected to be inadequate.

7.3.3 People with ADHD and substance abuse

Among patients at the institute for addiction care *Novadic-Kentron* the relation has been investigated between attention deficit hyperactivity disorder (ADHD) and addiction severity and other comorbid psychopathology (Carpentier et al. 2011). The research was conducted among a total of 193 patients in long-term methadone maintenance treatment (MMT). A total of 68 patients (35%) were diagnosed for having had childhood ADHD. In this group 48 patients had persistent ADHD and 19 patients no longer had significant ADHD as adults. It was found that "ADHD in MMT patients is characterized by greater addiction severity and more comorbid psychopathology". A greater addiction severity was found "in terms of Legal Status, Relationships, and Psychiatric Status".

The International Collaboration on ADHD and Substance Abuse (ICASA) co-ordinates research on the relation between ADHD and substance use disorder (SUD) (ICASA 2010). ICASA's mission statement says: "ICASA aims to contribute to a substantial decrease in the proportion of ADHD patients developing SUD and to substantially improve the detection, diagnosis and treatment of patients having both ADHD and SUD." The office of ICASA is currently located in Utrecht, the Netherlands, at the Trimbos Institute.

ICASA currently investigates the prevalence rates of ADHD in treatment seeking patients with substance use disorders. It also investigates differences and similarities between countries and between different substances and treatment settings. The data are collected in nine European countries, the USA, and Australia. The nine European countries participating in ICASA are Belgium, Bulgaria, France, Hungary, the Netherlands, Norway, Spain, Sweden, and Switzerland. The data collection will run until June 2011, and the first results are expected in 2012.

8 Social correlates and social reintegration

8.1 Social exclusion

General trend in the Netherlands

The Netherlands Institute for Social Research (SCP) monitors the general trends in social cohesion, social exclusion, and poverty. In 2010, the SCP published *The social state of the Netherlands 2009* which addressed the central question: "How is the Dutch population faring?" (Bijl et al. 2010). For the last ten years, the SCP monitored the trends in the political, the socioeconomic, and the socio-cultural domain. With regard to social cohesion, respectively social exclusion, the main findings for the Netherlands are as follows:

- "In 2008, the Netherlands achieved the lowest score on the 'misery index'. Both unemployment and inflation were among the lowest in Europe, as was the budget deficit."
- "People have become slightly more tolerant of minorities in recent years, and also slightly less rigid in their views about the issuing of residence permits."
- "Satisfaction with the government increased between 2006 and 2008 and, following the sharp dip in 2002 and 2004, was almost back to its 1998 level, at 76%. Public satisfaction with the government fell again slightly after November 2008, however."
- "The Dutch are the least satisfied with health care policy, as borne out by the earlier finding that the Dutch feel that the government should spend more on care".
- "Also of particular interest is the group of citizens who, although they are satisfied with (or neutral about) their own lives, have little or no trust in politics. This is a sizeable group, which is not easily classified according to socio-demographic or traditional political characteristics".
- "The overall education level of the Dutch population is rising, including among immigrants."
- "Income inequality and the share of total income taken by the better off have remained fairly stable since 1997. The poverty rate has declined slightly."
- "The labour force participation rate in the Netherlands has grown in the past decade, especially among women, older people and members of non-Western ethnic minorities."
- "There are wide socioeconomic differences in health status. People with lower socioeconomic status have less healthy lifestyles, live shorter lives and enjoy less good health than those with a higher status."
- "Members of non-Western ethnic minorities are generally less healthy (overweight, inactivity, child mortality, diabetes), though some groups are healthier in some respects than the indigenous population (smoking among Moroccan women, mortality risks of middle-aged women, cardiovascular disease among Moroccans)."
- "Both political interest and trust in fellow citizens are high in the Netherlands compared with other countries." "Organised social participation", however, "is substantially lower among Dutch citizens of Turkish and Moroccan origin than among the indigenous Dutch".
- "The perception of safety by Dutch citizens has been improving for several years, and there were again fewer people in 2008 who sometimes feel unsafe (20%). On the other hand, the group of people who often feel unsafe has not reduced (3%)."

- "The proportions of non-Western ethnic minorities, single persons, older people and crime suspects are greater in the disadvantaged neighbourhoods than in neighbourhoods from the 1960s and 70s."
- "The differences in life situation between those with high and low incomes, high and low education levels, those in work and those not in work are narrowing."

All in all, with regard to the social cohesion for the Netherlands in general, the SCP concludes: "The life situation of the Dutch has improved over the last ten years and progress has been made in key social domains. Disadvantage has been reduced, oppositions have abated." Nonetheless, a serious problem has remained: "There have for some time been a number of groups in the population who remain stubbornly distanced from society", indicated by the fact "that 'cumulative non-participation' affects 7% of the population". "Among these non-participants there is an overrepresentation of people with a low income, a low education level, members of ethnic minorities, older people and people with an impairment or disability."

Drug use among socially excluded groups

There is a clear link between social exclusion and the use of illegal drugs. Since 2002, the Netherlands Court of Audit (Algemene Rekenkamer) monitors the social relief of young homeless people (Algemene Rekenkamer 2009). Between 2002 and 2009 the number of centre municipalities (centrumgemeenten) organizing specialized social relief for young drifters increased from 9 to 23. However, according to key informants, it seems that the problems among the homeless youth have increased due to heavier use of alcohol and drugs and more psychiatric problems. Within the framework of the European research project *Combating Youth Homelessness* the Netherlands centre for social development, MOVISIE, has studied the social exclusion of young homeless people (Van Deth et al. 2009). As a special risk factor for social exclusion, key informants mention that some young homeless people are not able to manage the use of "soft drugs", or come from a social environment in which it is considered rather normal to earn money by selling drugs.

Social exclusion among drug users

A bad housing situation counts as a form of social exclusion. This form of social exclusion occurs in different gradations. A drug user who, in wintertime, must spend a night in an emergency social relief to avoid freezing to death, is more socially excluded than a drug user living in a hostel. The emergency social relief during winter time has been investigated in the city of Amsterdam (Buster et al. 2010), and the hostels have been investigated in the city of Utrecht (Wolf et al. 2010).

During the winter-cold regulation (winterkouderegeling) in Amsterdam, all homeless people who report themselves to the emergency social relief, receive a free place to sleep. By means of outreaching care, the homeless are even actively traced and guided to the social relief. This way, also the most socially excluded homeless become visible (Buster et al. 2010). During the winter of 2009-2010, a total of 1,033 persons (corrected for double counting) were reached by the winter-cold regulation. Between winter 2005-2006 and winter 2009-2010, the proportion of homeless people from eastern Europe increased from 3% to 24%. From the homeless who were reached during the winter-cold regulation, 34% were not

registered at the Amsterdam municipal register. On the 12th of February 2010, a total of 225 homeless people made use of the winter-cold regulation, of whom 105 were interviewed. It was found that 24% of them had used opiates or cocaine during the past month, compared to 45% during the winter of 2005-2006. Among the homeless, less drug users will have been found due the successful efforts that have been made to arrange better housing for this group.

In case a drug user is promoted from social relief to a hostel, that drug user may experience less social exclusion with regard to the housing situation. Nonetheless, some experience of social exclusion may still remain on other domains. Research has been conducted in July and August 2009 among a total of 109 inhabitants (response 77%) of six hostels in the city of Utrecht (Wolf et al. 2010). Almost daily substance use was found for methadone (67%), cocaine (51%), heroin (28%), and prescribed heroin (13%), which makes 84% of the hostel inhabitants a harddrug user. From the hostel inhabitants, 72% had no fixed daily activities. Other indications of social exclusion were given by the fact that 14% had no contact with family, and 18% had no contact with friends. Moreover, 40% had been arrested during the past year and 38% had been a victim of crime. Furthermore, issues for which the inhabitants were in need of help but declared not to receive that help were found with regard to housing (35%), finding work (20%), physical health (17%), dental care (13%), daily activities (13%), and taking care of oneself (12%).

Besides a bad housing situation, having less access to health care also counts as a form of social exclusion. This aspect of social exclusion has been signaled recently among Moroccan drug users. On behalf of the Mainline Foundation (Stichting Mainline), field researchers conducted structured in-depth interviews between October 2006 and February 2007 among 23 Moroccan drug users. During the past three years, these drug users had used cocaine, heroin, or methadone at least three days a week, and had not completed an inpatient drug treatment during the past year (Voets 2008). Their average age was 40.4 years (range 20-57 years) and they had come from Morocco to the Netherlands between 1956 and 1994. Cocaine was used the most, followed by heroin and methadone. It was found that most "Moroccan drug users do use general food and accommodation services and, to a lesser extent, public medical services". However, nearly "none of them made use of drug treatment clinics". "They were not interested in the assistance of these clinics. They said they were not ready to quit drugs, or thought that they could kick the habit without professional support." It appeared that the Moroccan drug users are more in need of practical care with regard to issues like housing, daily activities and aftercare after detoxification. They do not expect the treatment clinics to offer this kind of practical care.

Baza and Sabir have interviewed Moroccan drug addicts from the city of Utrecht (Baza et al. 2010). According to these researchers, there is a high threshold in this group to seek treatment and more dropout during treatment due to former negative experience with treatment, a negative image of counselors, not feeling understood with regard to cultural background, rules maintained by the institutes, and not being ready yet for treatment. Baza and Sabir therefore recommend that counselors do not primarily focus on abstinence, but first take care about housing, benefits, and daily activities. This way addicts can come to grips again with their life.

In the Netherlands, the pragmatic policy used to be to avoid, as much as possible, the social exclusion of people who only use drugs, but do not produce, transport, or deal drugs. However, there is a narrow border between only using drugs and dealing drugs. It is common practice within a group of drug users that one of the users buys the drugs for the whole group. The buyer then shares the drugs within the group.

In previous years, such a "sharing provider" was only seen as a user, but since 2008 the police and the public prosecutor in some jurisdictions have changed their policy. At certain public parties, a "sharing provider" is now seen and treated as a drug dealer. The latest Trendwatch, for example, describes a telling case of a generous user who wanted to share ecstasy, GHB, and speed, just to celebrate his birthday (Doekhie et al. 2010). Having been arrested by an undercover agent, and having made a settlement with the public prosecutor, this celebrating drug user now has a criminal record. Moreover, within the framework of the new local zerotolerance policies that are spreading throughout the whole country (in Dutch: nultolerantiebeleid), the General Public Prosecutor's Office has officially confirmed that, at dance parties, detection is no longer restricted to dealers. Police detection now targets "all possessors of drugs". With regard to the issue of social exclusion, the change in the Dutch prosecution policy implies that, since 2008, certain drug users in the Netherlands have come at a greater risk to experience social exclusion. Finally, with regard to the rather sensitive issue of undercover operations, the opportunities and risks of this precarious method to detect the illegal possession of illegal drugs have been evaluated (Kruisbergen et al. 2010).

8.2 Social reintegration

Many chronic drug users also have other problems, for instance problems due to causing public nuisance or conducting criminal behaviour, financial problems, or having no housing or work. Although the vulnerable group with multiple problems also includes people who do not use drugs, a considerable overlap exists with the group of problem drug users.

In February 2006, the national government and the municipalities of the four largest cities of the Netherlands signed and funded the "Strategy Plan for Social Relief" for the group with complex and persistent problems (Plan van Aanpak Maatschappelijke Opvang). From 2006 up to including 2009, in the four largest cities Amsterdam, Rotterdam, The Hague, and Utrecht, the Great 4 (G4), a total of 9,786 homeless people were picked off from the streets and were taken into social relief. This was only the first phase of the Strategy Plan for Social Relief. On the 9th of February 2010, the second phase of the plan was launched (GGZ Nederland 2010;Maas et al. 2010). In this second phase of the plan, apart from the G4, the remaining 39 centre municipalities started implementing the plan. Including the G4, there are a total of 43 centre municipalities in the Netherlands. Moreover, apart from taking care for the homeless, measures will be taken to prevent homelessness in the first place among vulnerable people who are at risk to become homeless. The second phase of the plan will run until February 2014.

Programs advertised in annual reports

As a reflection of the social relief strategy, institutes for addiction care can be found to advertise in their annual social reports special programs that aim at the social reintegration of drug users. Moreover, on the 21st of May 2010, the customer councils and 15 institutes for addiction care signed the Charter of Maastricht (Handvest van Maastricht). According to this

charter, social reintegration will become the guiding principle in the addiction care (Oude Bos et al. 2010). Table 8.2.1 reviews the social-reintegration programs as advertised in the annual reports. All care institutions in the Netherlands are legally obliged to prepare a social report each year, on behalf of the Admittance of Care Institutions Act (in Dutch: Wet Toelating Zorginstellingen, WTZi). In case an institute for addiction care does not pay special attention to a certain rehabilitation program in its annual social report, this does not mean that the institute has no such program at all. An institute does mention a program in its social annual report in case it has made special efforts to set up or to expand such a program.

Table 8.2.1: Programs for social reintegration advertised in the annual social reports of the main regular institutes for addiction care in the Netherlands

Institute, residence, year reported	Program for social reintegration
Arkin, Amsterdam, 2008	<ul style="list-style-type: none"> • Explicit ambition for being the regional director of the other institutes giving care to people with chronic problems • Innovative Assertive Community Treatment (ACT) • Two pilots Supported Living • Evidence-based Integrated Dual Disorder Treatment (IDDT) • Applying expertise by experience • Expert group for social rehabilitation • Taking over Roadshelpt Ltd. to produce social rehabilitation • Start of a Time-Out Service • Participating in Field Work Foundation Amsterdam
Bouman GGZ, Rotterdam, 2008	<ul style="list-style-type: none"> • Start of a forensic poli-clinic to give judicial care to prevent recidivism, including 10 extra units for Supported Living
Parnassia Groep, including Brijder Verslavingszorg, The Hague, 2008	<ul style="list-style-type: none"> • 7 Teams for Assertive Community Treatment (ACT) with structural monitoring of outcomes at individual and team level • ACT Youth teams • Start of Supported Living for older drug users called "Woodstock" • Integrated Dual Disorder Treatment (IDDT) within special clinic and outpatient teams • Development of the project "Clean River", in which addicts work as cleaners, into a separate department
Centrum Maliebaan, Utrecht, 2008	<ul style="list-style-type: none"> • Project "Parachute" for realizing a new social position • Municipal reintegration projects • Schooling projects
Verslavingszorg Noord Nederland, Groningen, 2008	<ul style="list-style-type: none"> • Start of 2 locations for Supported Living • Structural co-ordination between probation and treatment
Tactus Verslavingszorg, Deventer, 2008	<ul style="list-style-type: none"> • Start in 3 cities of service for prescribed heroin • Clinic for dual disorders • Start of small scale Supported Living in 2 cities
IrisZorg, Arnhem, 2008	<ul style="list-style-type: none"> • Community Reinforcement Approach (CRA) as the general approach behind all forms of care and treatment • Social relief and supervised living • Rehabilitation courses by activation, education, and work projects
Emergis, Goes, 2008	<ul style="list-style-type: none"> • Social relief • Employment of Experts By Experience • Rehabilitation policy
De Hoop, Dordrecht, 2008	<ul style="list-style-type: none"> • Preparation of clinic for clients with dual diagnosis • Department for social relief • Department for Supported Living • Community for activation "Horeb" • Work projects at the Foundation for Reintegration

(Continued)

Table 8.2.1 (Continued)

Institute, residence, year reported	Program for social reintegration
Novadic-Kentron, Vught, 2008	<ul style="list-style-type: none"> • Social approach towards addiction • Supervised living • Community Reinforcement Approach (CRA) • Multi Dimensional Family Treatment (MDFT)
GGZ-groep Noord- en Midden-Limburg, Venray, 2008	<ul style="list-style-type: none"> • Development of the Division Long-Term Complex Care (housing, care, and daily activities) into outpatient Supported Living • Department for daily activities • Department for work rehabilitation • Outreaching treatment
Mondriaan Zorggroep, Heerlen, 2008	<ul style="list-style-type: none"> • Intensive community care within the framework of the Function Assertive Community Treatment (FACT) • Recovery by expertise by experience

Source: <http://www.jaarverslagenzorg.nl>.

From the twelve main institutes in table 8.2.1, five institutes mention to have given special attention to forms of Assertive Community Treatment (ACT), Community Reinforcement Approach (CRA), or support of the social environment. In a review study, Community Reinforcement and Family Training (CRAFT) "has been found to be superior in engaging treatment-resistant substance-abusing individuals compared with the traditional programmes" (Roozen et al. 2010). Supervised living is mentioned by eight institutes. "Experts By Experience" (in Dutch: ervaringsdeskundigen) are former addicts who have been trained as care givers in such a way that they can apply their lived experiences as former addicts when giving help to current addicts. Appointing Experts By Experience can be seen as a form of two-sided social rehabilitation. On the one hand it promotes the rehabilitation of the former addict and on the other hand it serves to promote the rehabilitation of the still addicted client. Putting in Experts By Experience, or expertise by experience, is mentioned explicitly by three institutes. Other reintegration projects set up by the institutes for addiction care target at daily activities, schooling, or work, and are mentioned by six institutes.

International Remembrance Day

Social exclusion is not restricted to a (problem) drug user's lifetime. It even extends beyond death and beyond the grave. If, after death, a person only ends up as an anonymous number, and is no longer remembered as a person having had a name, that counts as a form of 'post-mortem social exclusion'. As a way to socially reintegrate the deadly victims of drugs into the community of past ones who are remembered as named human beings, the 21st of July has been declared "International Remembrance Day" (<http://inpuud.wordpress.com/>).

In the Netherlands, International Remembrance Day was held first in 2009 in Amsterdam, and was held for the second time in 2010 in The Hague. This year's solemn ceremony was conducted by the street pastors from the Street Pastoral Care The Hague (Straatpastoraat Den Haag) (Brekelmans et al. 2010). The moving ceremony was opened to the general public, and surviving relative drug users played an active role, especially in taking care of the memorial music, and reviving anonymous numbers into personal names.

Evaluation research

For the city of Rotterdam, Van der Poel has evaluated the effects of policy measures on the living conditions of drug users in 2007 compared to 2003, the role of low-threshold care agencies, and the effects of drug consumption rooms (Van der Poel 2009). First of all, with regard to the process of social exclusion, among thirty current and former crack users aged 16 through 24 years, it was found that "the use of crack accelerated the process of marginalization", because crack users "experience a shrinking social network that developed around other users, and because they performed illegal activities to buy crack". Moreover, it was found that "homelessness and crack use are intertwined". The young crack users "have moved from a marginal position in society to a marginal position within the drug scene". With regard to the process of social reintegration it was found that "former crack-using youngsters appreciated the youth rehabilitation clinic, especially because it enabled them to regain social contact with non-using peers". With regard to the effects of policy measures, it was found that the "combination of repressive (punitive and judicial) measures and care (housing and other assistance) measures seem to have positive effects on the living conditions of the target groups".

Among 1,181 patients of the Street General Practice in Rotterdam it was found that, apart from giving medical care, this practice "may play an important role in discontinuing the process of marginalization and possibly even start a process of socialization for homeless people". All in all, Van der Poel concludes that low-threshold facilities can function in three ways, as a "broom wagon" (keeping drug users off the streets), as a "safety net" (providing minimal care) and as a "springboard" (providing socialisation).

The role of good medical care in socialization is underscored by research among the homeless in Amsterdam conducted by street doctor Van Laere. This researcher has made a plea for integrated social and medical care (Van Laere 2009). The Municipal Health Service Amsterdam (GGD Amsterdam) operates the "Dr Valckenier Outreach Practice for Homeless People", which offers "a shelter-based convalescence program for ill homeless adults in Amsterdam". A seven-year period of the program, running from January 2001 up to October 2007, has now been evaluated for 25 convalescence care beds run by the Salvation Army at the Gastenburgh (Van Laere et al. 2009). There were a total of 889 admissions from 629 unduplicated individuals, the majority being admitted once (75%) or twice (18%); 83% was male, and the mean age was 45 years. From these care users 41% were addicted to heroin (with or without cocaine) and 18% were addicted to cocaine (without heroin). The mortality rate was 13.2%, seven and a half times as high as among the peer group in the general population. All in all, the authors conclude that the "community services have been able to cater for more marginalized people", and that the "convalescence facility has been flexible and responsive to the needs of the users and services available".

As mentioned above, the social reintegration of homeless addicts in the 43 centre municipalities is embedded within the Strategy Plan for Social Relief. This Plan targets all homeless people as well as people at risk to become homeless, whether or not they have an addiction problem. The results of the Plan are monitored by the Strategy Plan for Social Relief Monitor, which is part of the National Monitor on Homelessness (MMO). Recently, the Strategy Plan for Social Relief Monitor has evaluated the results of the Plan by the end of 2009 (Maas et al. 2010).

Starting in 2006, intakes and individual trajectories were drawn up by the end of 2009 for 3,814 homeless in Amsterdam, 2,989 homeless in Rotterdam, 1,833 homeless in The Hague, and 1,150 homeless in Utrecht. In all municipalities, a total of 9,786 clients were included in the program. An individual reintegration trajectory was considered successful in case a "stable mix" had been reached. Criteria for a stable mix were stable housing, income, and being in contact with treatment for at least three months. By the end of 2009 there were 2,679 stable mixes in Amsterdam, 1,771 in Rotterdam, 1,008 in The Hague, and 471 stable mixes in Utrecht. Compared to the total number of intakes and individual trajectories, this amounts to 70% stable mixes in Amsterdam, 59% stable mixes in Rotterdam, 55% stable mixes in The Hague, and 41% stable mixes in Utrecht. The results are summarized in table 8.2.2. From the total of 9,786 intakes in the four main cities, a total of 5,929 stable mixes had been achieved by the end of 2009, amounting to an achievement of 61%.

Table 8.2.2: Number of intakes among homeless people, achieved stable mixes, and percentage of stable mixes from the number of intakes by the end of 2009 in the four largest cities of the Netherlands, G4

City of the G4	Intakes	Stable mixes*	%
Amsterdam	3,814	2,679	70
Rotterdam	2,989	1,771	59
The Hague	1,833	1,008	55
Utrecht	1,150	471	41
Total	9,786	5,929	61

*A stable mix requires stable housing, income, and being in contact with treatment for at least three months. Source: Strategy Plan for Social Relief Monitor, National Monitor on Homelessness (MMO), (Maas et al., 2010).

As already mentioned above, in February 2010 the Strategy Plan for Social Relief, in its second phase, was launched in the remaining 39 centre municipalities. These municipalities are monitored by the Municipal Compass Monitor (Monitor Stedelijk Kompas), which is also part of the National Monitor on Homelessness (MMO). The state of affairs has been evaluated until the end of 2009, which counts as a zero measurement (Planije et al. 2010). Inter alia, the following bottlenecks have been identified already: addicted homeless people show severe problems and are difficult to place, regions for social relief may not overlap smoothly with regions for the police or the addiction care, and changes in financial flows may lead to actual cuts for a municipality. The zero measurement further shows the following:

- 37 from the 39 municipalities have a picture of the number of homeless people in their municipality;
- 33 from the 39 municipalities have an indication of the number of people in their municipality who are at risk to become homeless;
- 32 from the 39 municipalities have an indication of the number of homeless youth in their municipality.

The Strategy Plan for Social Relief was developed first in the city of Utrecht and was implemented next in the other cities. A special evaluation has been conducted for Utrecht for the period from 2000 to 2010 (Reinking et al. 2010) and for the situation in 2009 (Wolf et al. 2010).

Between 2000 and 2010, the Community Health Service Utrecht (GG&GD Utrecht) developed two temporary and eight permanent hostels for a total of 183 addicted homeless people (Reinking et al. 2010). Research among inhabitants of the hostels in 2005 and 2009 has found that hostels roll back social isolation, provide rest, day structure, and safety. Moreover, staying in a hostel decreases drug use, public nuisance, and criminal activities. Police data show that, between 2002 and 2006, the drug-related public nuisance in the centre of Utrecht decreased with 40 percent. However, success of a hostel requires persistent communication with the local residents and the neighbourhood, prolonged negotiations with all stakeholders, tolerating drug use in the hostel, and leadership of the municipality.

During July and August 2009, interviews were held with a total of 109 addicted inhabitants in six hostels in Utrecht (Wolf et al. 2010). The majority was male (78%), the mean age was 45 years, the age range running from 30 to 63 years. The educational level was low. On average during their lifetime, the hostel inhabitants had been homeless for eight years. It was found that the inhabitants experienced their physical health in between neutral and reasonable, that they experienced their psychological health as reasonable, and that they experienced their quality of life as reasonable. A majority of the inhabitants (84%) almost daily uses hard drugs like methadone (67%), cocaine (51%), heroin (28%), and heroin on prescription (13%). However, notwithstanding the continued use of drugs, it was found that, due to the hostel, a majority of the inhabitants had experienced an improvement in their housing situation (70%), daily activities (59%), household (54%), and safety (52%). Unfortunately, a paradoxical side-effect of coming to rest in a hostel is that it makes the inhabitants more aware of their unfavourable situation. Nonetheless, the authors all in all conclude that the hostels did succeed in stabilizing the situation of the formerly homeless chronic drug addicts.

9 Drug related crime, prevention of drug related crime and prison

9.1 Drug related crime

9.1.1 Drug law offences

The most important law with regards to drug offences is the Opium Act, in which trafficking, production and cultivation, dealing and possession of drugs are defined as criminal acts. This paragraph will report about Opium Act offences, including organised crime in relation to drugs. The figures cover offences that are registered by police and law enforcement agencies or have been reported in scientific research.

Not all Opium Act offences result in custody or prosecution. If the offence concerns possession of small amounts for own use of a hard drug, the drugs will be seized, but normally there will be no custody, and in the event of prosecution, this should only aim at diversion to care. Small amounts of a hard drug are defined as one tablet, ample, wrapple or ball of the drug and in any case an amount of no more than 0,5 grams (Openbaar Ministerie 2010). If the offence concerns small amounts of cannabis (no more than 5 grams, no more than 5 plants), the drugs will also be seized, but a dismissal by the police is the normal reaction; there will be no custody and no prosecution (Openbaar Ministerie 2010).

Drug *use* is not defined as a criminal offence in the Opium Act. Local acts, however, may include bans of blowing of cannabis in the public domain and there can be zero-tolerance of drug use at certain dance-events (see Chapter 1).

In the next paragraphs registration data are presented from (National) Police Forces and the Public Prosecutor. It should be noted that these data always depend for a certain part on the activities, priorities and skills of law enforcement agencies. Also, databases are often adapted and improved in the course of time and figures are cleaned and adapted every year. As a consequence, later versions may differ from former ones. We have to deal with 'living systems'. Due to recent major changes in information systems and underlying databases in the criminal justice chain, especially the most recent data of 2009 have a preliminary character. Figures and trends should therefore be interpreted with caution. We present the current updates.

The Opium Act distinguishes between soft drugs (like cannabis or hallucinogenic mushrooms – dried as well as fresh ones) and hard drugs (like heroin, cocaine, ecstasy, amphetamines). The figures include this distinction whenever possible.

With regards to activities and priorities of law enforcement, it is important to note that the programme 'Strengthening of approaches against organised crime' is running since 2007 (T.K.29911-10). The organised crime in relation to heroin, cocaine, synthetic drugs, and the organised large scale cultivation of cannabis are priority areas for police and prosecution in the period 2008-2012 (Boerman et al. 2008, T.K.29911-17). The approaches contain a combination of administrative and preventive measures, criminal justice approaches and international co-operation. There is a close link with activities against money laundering and other financial-economic crime. There is a substantial decentralisation of approaches to the local level.

Several law enforcement activities were carried out in 2009 and 2010:

- The Public Prosecutor, who plays a key role, developed a 'programmatic approach' with co-operation and information-exchange between prosecution, other investigation forces and other parties like tax authorities, electricity companies or insurance companies, and in which local authorities are committed. An important part of the approach is to identify and apply barriers or thresholds for organised crime groups.
- A pilot started in 2009 in which the 'programmatic approach' against organised crime in cannabis cultivation was implemented. A first evaluation report is expected in December 2010.
- Regional Information and Expertise Centres (*RIECs*) were set up in order to support municipalities in their fight against organised crime. They should ensure the connection between administrative and judicial measures. A total of 11 centres were implemented in 2009 (RIEC 2009, RIEC 2010, T.K.29911-42). Public administration, police, Public Prosecutor, special investigation forces and Tax Authorities co-operate in these Centres. They play an important role in the above mentioned 'programmatic approach' on a regional level.

Besides these activities, which focus on organised crime, the intensification of law enforcement on cannabis cultivation – not in relation to organised crime - which was launched in April 2004, is still running. Here also, law enforcement consists of an integrated approach with administrative and criminal law approaches and co-operation between public and private partners.

These developments in law enforcement policies and priorities are mentioned here because they are relevant for the interpretation of registration data about drug law offences.

Criminal investigations into organised drug related crime (table 9.1.1)

Figures on investigations into organised crime come from the Information Services of the National Police Forces. They make an annual inventory for Europol, in the framework of European Organised Crime Threat Assessment ('OCTA').

In general, there is a trend towards a decreasing proportion of cases with hard drugs and an increasing proportion of cases with soft drugs. In cases with hard drugs, the proportion of cases with cocaine is increasing, while heroin-related cases are decreasing.

- There is a decrease in the absolute number of drug cases. In percentages, the investigations into drug cases increased in 2009 compared to 2008. Drug cases are the majority, like in the years before.
- 72% of the drug cases involve hard drugs, 67% of the cases involve soft drugs. Hard drug cases show a general declining trend; cases with soft drugs stayed more or less the same in the last years.
- Hard drug cases concern mostly cocaine. The second important types of hard drugs are synthetic drugs; these cases decreased. Heroin comes in the third place. The percentage increased in 2009 compared to 2008.
- In cases with soft drugs, the drug is mostly 'nederwiet' (Dutch home grown cannabis; 80% of the cases with soft drugs). Second is hashish (28%) and least frequent is marihuana (4%) (not in table).
- The cases with only hard drugs may include more than one type of hard drug. Generally, (in 68%) there is one type of hard drug involved, predominantly cocaine. In 21% two different types of hard drugs are involved, mostly a combination of cocaine and heroin/synthetic drugs. In 11% there are three different types of hard drugs involved: heroin, cocaine and synthetic drugs (source: National Police Forces 2010, not in table).

Table 9.1.1: *Investigations into more serious forms of organised crime, percentage of drug cases and type of drug involved, 2001-2009¹*

	2002	(II)	2003	2004	(III)	2005	(IV)	2006	2007	2008	2009
Total number of investigations:	100%	...	100%	100%	...	100%	...	100%	100%	100%	100%
<i>N total</i>	185	...	221	289	...	176	...	333	328	352	272
- Targeting drugs	63%	...	66%	69%	...	72%	...	75%	72%	70%	75%
<i>N targeting drugs</i>	117	...	146	200	...	127	...	250	235	247	203
- cases with hard drugs	83%	...	83%	84%	...	85%	...	79%	83%	76%	72%
- cases with soft drugs	45%	...	39%	27%	...	41%	...	60%	67%	65%	67%
- only hard drugs	55%	...	61%	69%	...	59%	...	40%	36%	35%	33%
- only soft drugs	17%	...	17%	11%	...	15%	...	21%	20%	24%	28%
- hard and soft drugs	28%	...	22%	16%	...	26%	...	39%	47%	41%	40%
<i>N targeting hard drugs</i>	97	...	121	168	...	108	...	198	194	188	147
- Cocaine		...	60%	57%	...	54%	...	68%	77%	76%	78%
- Synthetic drugs		...	54%	39%	...	44%	...	43%	40%	46%	41%
- Heroin		...	17%	18%	...	29%	...	29%	20%	22%	25%

I. Investigations may involve trafficking or production of several drug types, therefore the numbers in the table categories cannot be added up. II. Since 2002 a new format is used; data from 2002 are not fully comparable to later data. III. Data from 2005 concern only the period January-November. IV. In 2006 a larger scope of selection was implemented; as a consequence the number of investigations is substantially higher than in the years before; in particular the number of soft drugs trafficking investigations is concerned; therefore the 2006 data can not be compared to the data of the years before. Source: KLPD-DNRI, 2010.

Opium Act offences registered by the Police Forces (table 9.1.2)

In general, there appears to be a trend towards less numbers of cases, a decrease in the proportion of hard drug cases and an increase in the proportion of soft drug cases.

- The absolute number of Opium Act offences reported by the Police Forces decreased substantially in 2009. There were less than 17 thousand police reports of Opium Act offences. It should be noted, however, that these data are preliminary and that the decline in 2009 might be partially due to registration artefacts.
- The decrease in 2009 concerns especially hard drugs - which are no longer the majority in 2009 – as well as cases of hard drugs in combination with soft drugs.
- A slight majority of the reports in 2009 concern a soft drug. A minority (10%) concerns cases in which combinations of hard and soft drugs.
- In 2009 the preliminary Opium Act reports form 6.5% of the total number of reports, which is a bit less than the 6.8% in 2008. This means that Opium Act reports are more or less in line with the general trend in recorded crimes in the Netherlands.

- Most arrestees for Opium Act offences are male. Most of the arrestees have more than one criminal report. For 43%, the 2009 offence is the first registered offence (not in table).

Table 9.1.2: *Opium Act offences recorded by the Police Forces by drug type (hard-soft), 2002-2009^{I,II}*

	2002	2003	2004	2005	2006	2007	2008	2009
Hard drugs	9,338	10,843	12,035	11,084	10,978	10,682	9,524	7,400
Soft drugs	4,593	5,912	7,433	8,274	7,973	7,860	7,555	7,544
Hard and soft	1,222	1,389	2,105	2,157	2,708	2,801	2,717	1,717
Other/unknown	637	733	696	380	349	93	56	7
Total	15,790	18,877	22,269	21,895	22,008	21,436	19,852	16,668
Hard drugs	59%	57%	54%	51%	50%	50%	48%	44%
Soft drugs	29%	31%	33%	38%	36%	37%	38%	45%
Hard and soft	8%	7%	9%	10%	12%	13%	14%	10%
Other/unknown	4%	4%	3%	2%	2%	0%	0%	0%
Total ^I	100%	100%	100%	100%	100%	99%	100%	100%
% drug related of total number of offences	6,3%	6,8%	7,5%	7,3%	7,3%	6,9%	6,8%	6,5%

I. More than one case may be recorded per suspect; percentages do not always add up to 100%. II. Due to changes in information systems and underlying databases data 2009 have a preliminary character. Source: HKS, KLPD, 2010.

Opium Act offences registered by the Public Prosecutor (table 9.1.3)

The next phase in the criminal justice chain is the Public Prosecutor. The general trend here appears to be one of decreasing absolute numbers of drug law offences, decreasing percentages of hard drug cases and increasing percentages of soft drug cases.

- The Public Prosecutor handled more than 17 thousand Opium Act cases in 2009, which is less than in 2008 – this conclusion is tentative because of the preliminary character of the data.
- The percentage of Opium Act cases of all offences is 7% in 2009. This fraction did not change much in the last years, which means that trends in Opium Act offences follow the general trends in offences in the Netherlands.
- The decrease in drug cases in 2009 appears to be especially true for hard drug cases. Soft drug cases or hard and soft drugs cases combined decreased to a lesser extent.
- The percentage of hard drug cases is lower than that of soft drug cases in 2009. Soft drugs cases now form the majority.
- The majority of all drug law offences (60%) concerns production, trafficking or dealing of drugs, while 40% concerns possession of drugs (not in table). It is not known from the figures how much of a drug was involved in the cases of 'possession of drugs'. The general guideline for prosecution tells that, if possession concerns small amounts, which are considered as meant for own use, police dismissal or prosecution aimed at diversion to care can follow (see above). The drug will be seized. But if someone possesses more

of a drug than the small amount that is considered 'for own use' – and which might be meant for dealing - or if there is also another, more serious offence involved, arrest and prosecution are the rule. The available data do not allow a distinction between quantities.

- In cases of soft drugs, 70% concerns production or trafficking and 30% possession. In cases of hard drugs, the fractions are different: 51% concerns production or trafficking and almost the same fraction (49%) concerns possession of hard drugs (not in table).

Table 9.1.3: Opium Act cases registered by the Public Prosecutor by drug type (hard-soft), 2002-2009^{I,II}

	2002	2003	2004	2005	2006	2007	2008	2009
Hard drugs	9,502	10,307	11,972	9,922	9,909	9,471	9,083	7,426
Soft drugs	6,613	7,283	9,248	9,497	9,543	9,197	9,040	8,920
Hard and soft	455	612	695	716	822	678	671	632
Other/unknown	47	31	32	60	35	53	55	54
Total	16,617	18,233	21,947	20,195	20,309	19,399	18,849	17,032
Hard drugs	57%	57%	55%	49%	49%	49%	48%	44%
Soft drugs	40%	40%	42%	47%	47%	47%	48%	52%
Hard and soft	3%	3%	3%	4%	4%	3%	4%	4%
Other/unknown	0%	0%	0%	0%	0%	0%	0%	0%
Total ^I	100%	100%	100%	100%	100%	99%	100%	100%
% drug related of total number of cases	7%	7%	8%	8%	8%	7%	7%	7%

I. More than one case may be recorded per suspect; percentages do not always add up to 100. II. Due to changes in information systems and underlying databases, the data for 2009 have a preliminary character. Source: OMDATA, WODC, 2010.

Decisions made by Public Prosecutor in Opium Act cases (table 9.1.4)

In general, a trend becomes visible of a declining proportion of submissions to court and an increase in transactions by the Public Prosecutor. The majority of cases, though, still are submitted to court. The trend is clearest in cases with soft drugs: the proportion of cases submitted to court decreased from 63% in 2008 to 58% in 2009 (not in table). Cases with hard drugs or with a combination of hard and soft drugs stayed more or less constant in this respect.

- However, the proportion of hard drug cases submitted to court is higher than that of soft drugs cases (67% against 58%). If both hard and soft drugs are involved, the chance of being submitted to court is highest (81%; not in table).
- Transactions include community service orders by the Public Prosecution and financial transactions. The median amount of money in financial transactions of the Public Prosecutor fluctuates between 220 and 270 euros; 2009 appears to be no exception (250 euros; not in table).
- Relatively small fractions are dismissed for policy or technical reasons, The percentage of dismissals for policy reasons was high in 2004 because many cases were dismissed as a policy in cases of hard drug trafficking at Schiphol Airport by drug couriers. Non-prosecution was a policy decision and part of the temporary drug oriented approach of drug couriers at Schiphol. Since 2007, all of these types of cases are prosecuted again.

- The other cases ended with joinder of charges, were dismissed for administrative reasons or transferred to another court (last two types not in table).

Table 9.1.4: Decisions by the Public Prosecution in Opium Act cases (2002-2009)^I

	2002	2003	2004	2005	2006	2007	2008	2009
Submitted to court	70%	72%	61%	65%	66%	66%	62%	63%
Transaction	19%	18%	20%	19%	21%	22%	24%	23%
Case dismissal for policy reasons	3%	3%	10%	8%	6%	5%	6%	6%
Case dismissal for technical reasons	5%	5%	7%	6%	5%	5%	6%	7%
Joinder of charges	3%	3%	2%	2%	2%	2%	2%	2%

I. Due to changes in information systems and underlying databases, the for data 2009 have a preliminary character. Source: OMDATA, WODC, 2010.

Court sentences for Opium Act offences (table 9.1.5)

The general trend in court sentences in Opium Act cases is – again - one of a declining number of cases, a decrease in the proportion of hard drug cases and an increase in that of soft drug cases, according to the preliminary data. This trend is the same like the one at the Police and the Public Prosecutor.

- In 2009, the court handled more than 10 thousand Opium Act cases.
- Most of the court cases concern hard drugs, but there is a considerable fraction of soft drugs.
- The percentage of Opium Act cases of the total number of cases handled by the court decreased, namely to 7,6%. In 2008 this was 8.2%. This means that also in a relative sense, there is a decline of Opium Act cases.

Table 9.1.5: Number of court sentences for Opium Act cases by drug type, 2002-2009^{I,II}

	2002	2003	2004	2005	2006	2007	2008	2009
Type of drug:								
- Hard drugs	66%	65%	58%	52%	50%	51%	51%	49%
- Soft drugs	31%	31%	38%	44%	45%	45%	45%	47%
- Hard- and softdrugs	3%	3%	4%	4%	4%	4%	4%	4%
- Other/unknown	0%	0%	0%	0%	0%	0%	0%	0%
Opium Act cases	10,699	12,713	12,145	12,190	13,011	11,815	11,430	10,566
% drug related of total number of cases	8,3%	8,6%	8,3%	8,4%	8,9%	8,5%	8,2%	7,6%

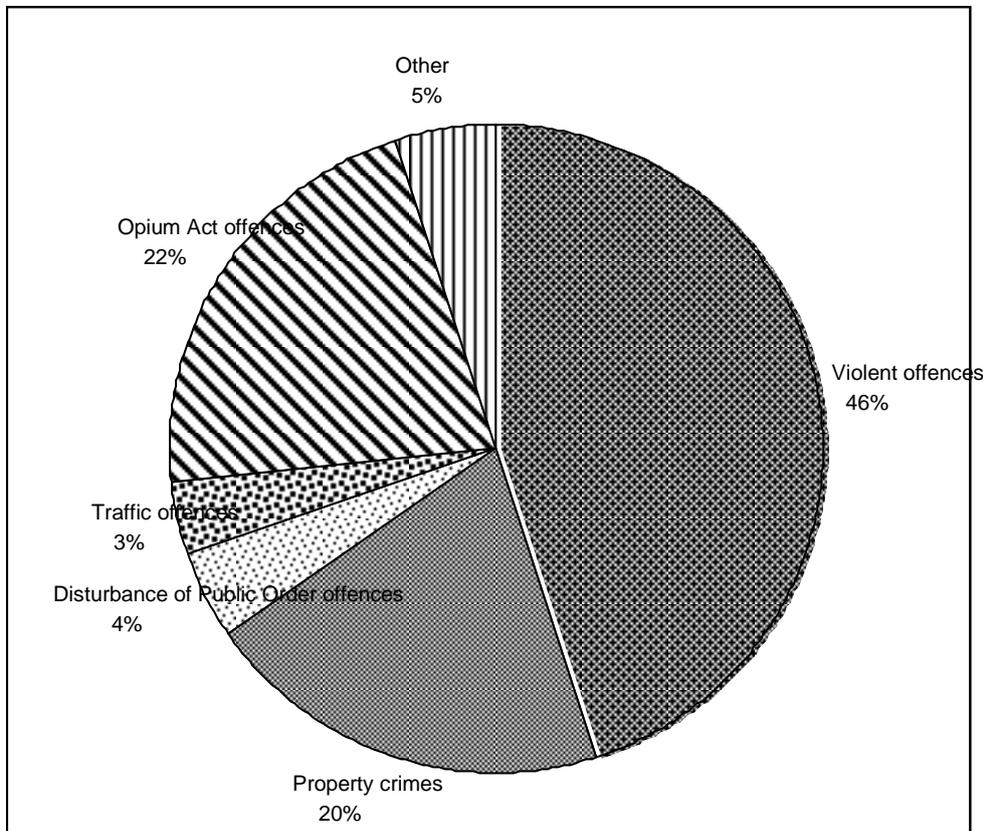
I. There can be more than one case per person. II. Due to changes in information systems and underlying databases, the data for 2009 have a preliminary character. Source: OMDATA, WODC, 2010.

Data on the specific type of sanctions are only available until 2008. There are no reliable 2009 data available yet.

Opium Act offenders in prisons (figure 9.1.1)

Of the 11,682 persons who are detained in Dutch prisons on September 30, 2009, 22% was there because of an Opium Act offence. In 2008, this was 20%. There are more offenders detained for violent offences (46%). Opium Act offences are second in proportion.

Figure 9.1.1: Percentage of detainees for Opium Act offences, compared to five other categories of offences, September 30, 2009



Source: De Heer - de Lange et al. 2010.

New developments in Opium Act offences and the Opium Act

- In 2009, an Appendix 2 was added to the Opium Act Decision, which makes it possible to prescribe heroin for treatment resistant heroin addicts registered at municipal treatment units by physicians working at those units (Stb 2009-348; see Chapter 1). Also in 2009, BZP (1-benzylpiperazine) was added to list II of the Opium Act (Stb 2009-380).
- In 2009 some problems occurred in the drug field which lead to discussions about necessary changes and to consultations of stakeholders. Three resolutions passed the Lower House of Parliament in November 2009, in which a reconsideration of legislation processes and the law itself was addressed:

- One resolution requested the government to maximize efforts within the EU to get back jurisdiction over the legislation process in the case of prohibition of drugs (T.K. 24077-241). In reaction to this resolution, the government – the minister of Security and Justice and the minister of Health, Welfare and Sport - stated in September 2010 that the internationally agreed upon procedure, if implemented meticulously, is considered well-balanced and adequate with regards to the threat that new drugs can pose to the EU (T.K.24077-255). The procedure will be evaluated in the EU framework. After the evaluation, the government will inform Parliament about the outcomes and eventual next steps.
- Another resolution concerned signs of sales of ‘fake dope’ in certain areas in Amsterdam, which caused (serious) nuisance and disturbances of public order. It requested the government to investigate whether legislation was considered necessary to enforce this drug sale in practice (T.K.24077-246). In reaction to this resolution, the government consulted the municipality of Amsterdam, the Association of municipalities in the Netherlands, the Public Prosecutor and the Centre for Safety and Prevention of Criminality. The problem proved to be limited to a small area in the inner city of Amsterdam and it was tackled with existing (local) instruments and laws (T.K.24077-255).
- A third resolution requested the government to analyze existing practical problems in law enforcement, prevention, and treatment of GHB (T.K.24077-244). With regards to law enforcement, the existing laws are considered adequate. If new legislation should be necessary, the best option is considered to be an extension of art. 10 of the Opium Act (prohibition of preparatory actions for drug offences) should be extended. To improve law enforcement in the direction of producers and traffickers, research will be conducted into the (international) market of GHB and possible involvement of organised crime (T.K.24077-255).

In all these cases, existing laws and procedures were considered adequate to tackle the problems.

- There are no changes in the Opium Act in 2010.
- An “expert committee for the ranking system of drugs in the Opium Act” was installed (see also chapter 1). This committee will work out three possible scenarios for the ranking of drugs in the law: keeping the existing system with two separate lists for soft drugs and hard drugs; introducing a system with only one list; and introducing a totally different system (T.K.24077-254, see also: Van Amsterdam et al. 2009).
- An amendment of the Opium Act is in preparation in order to prohibit grow shops, which were shown to be closely linked to illicit production of cannabis. The amendment is in the formal consultation procedure in 2010 (T.K.32500-VI/2).
- On the basis of the criminal law and on requisition of the Prosecutor, the Judge can impose repayment of illegal financial profits on a person who is convicted for an offence. The Prosecutor published an update of the standard calculations in the case of indoor cultivation of cannabis, in which – amongst other changes - the price is set at € 3,280 per kilo of cannabis and € 2,85 per cutting (www.openbaarministerie.nl, November 2010).
- The existing Opium Act guidelines for the Public Prosecutor have been continued – without change – in December 2009 until the end of 2010 (Stc 2009-19486).

Conclusion

Most of the police investigations into more serious forms of organised crime concern drugs. The proportion of investigations into cases with soft drugs/cannabis is increasing, that of cases with hard drugs is decreasing, although hard drugs still form the majority. In the criminal justice chain – police, Public Prosecutor, Courts – the number of Opium Act offences is decreasing. This is in line with a general decreasing trend in criminal justice cases in the Netherlands. Cases with hard drugs show a different trend than those with soft drugs: the proportion of hard drug cases is decreasing, but that of soft drug cases is increasing. The proportion of cases with a combination of hard and soft drugs is quite stable in the last years.

9.1.2 Other drug-related crime (i.e. crimes committed by drug users)

Offences committed by drug users

The Police Records System includes a classification 'drug user'. It is important to note that in the Netherlands drug use as such is not a criminal offence according to the Opium Act. The designation 'drug user' is accorded by the Police to a suspect if he/she may constitute a danger to others due to his or her drug use, if he/she indicates being a drug user or if he/she asks for methadone. The classification is made by the police, but because drug use is not assessed systematically, its validity is disputable. An unknown proportion of drug using offenders is missing in the classification.

The category of drug users who are registered as such by the Police has the following profile in 2009 (not in table; preliminary data):

- 92% is male.
- They are a greying population: mean age increased from 35 years in 2002 to almost 40 (39.9) in 2009. In 2009, 95% was over 24 years old.
- Most of them (43%) live in one of the four largest cities (250,000 or more inhabitants).
- Many of them are repeat offenders: 79% was arrested more than ten times before and 24% more than 50 times.

With regards to the type of crime, we can see the following pattern in the registered crime (table 9.1.6):

- Most of the drug users committed property crimes. This fraction has been decreasing.
- Violent crimes (against persons) are increasing.
- Other crimes like Opium Act offences (drug dealing) and vandalism/disturbance of public order decreased and that of traffic offences shows slight increases.

Main changes concern property offences (decreasing) and violent offences (increasing). A possible explanation could be that the group with a primary opiate problem, who committed mainly property crimes, was imprisoned first – for instance in the Institution for Prolific Offenders (Vollaard 2010). Another possible explanation is that there are less opiate users and more users with a primary cocaine/crack problem (Cruts & Van Laar 2010, Tollenaar & Van der Laan 2010).

The development in types of crime is also visible in general trends in registered crime in the Netherlands (De Heer - de Lange et al. 2010).

Table 9.1.6: Type of crime of suspects classified by the Police as drug users, 2002-2009^{I,II}

	2002 (N=10,460)	2003 (N=10,823)	2004 (N=10,504)	2005 (N=9,646)	2006 (N=8,878)	2007 (N=8,307)	2008 (N=7,757)	2009 (N=6,527)
Property crimes without violence	63%	58%	56%	53%	50%	49%	51%	50%
Property crimes with violence	12%	11%	10%	8%	8%	8%	7%	6%
Other violence (against persons)	22%	23%	24%	24%	26%	29%	28%	29%
Opium Act offence	19%	22%	23%	24%	25%	21%	21%	19%
Vandalism, disturbance of public order	23%	23%	23%	22%	23%	24%	22%	19%
Traffic offence	10%	10%	11%	11%	11%	12%	13%	13%
Sexual offence	1%	1%	1%	1%	1%	1%	1%	1%
Other	10%	11%	11%	11%	10%	11%	10%	11%

I. Suspects may commit more than one type of offence; percentages do not add up to 100. II. Due to changes in information systems and underlying databases data 2009 have a preliminary character. Source: HKS, KLPD/DNRI, group Research and Analysis.

With regards to disturbance of public order, there is information from the National Security Monitor (CBS 2010). This monitor reports experiences of almost 200,000 Dutch inhabitants of 15 years and older who live in a private household situation. Respondents filled out questionnaires – via internet, on paper, by telephone or face-to-face. Response rate is 40%. One of the issues is the threatening nuisance they experience in their own neighbourhood.

- 7% experienced nuisance from drunken persons on the streets.
- 4.9% of the respondents report experiences of drug-related nuisance. In 2008, 4.8% of the respondents reported this.
- 2.7% rate drug-related nuisance as the most urgent problem in their neighbourhood. Drug nuisance ranks relatively low in this respect (CBS 2010).
- In the south-east of the country (*Limburg-Zuid*) reports of drug-related nuisance are highest (12.1%). Second in rank is Amsterdam (*Amsterdam-Amstelland*; 7.3%) (Centraal Bureau voor de Statistiek, Integrale Veiligheidsmonitor 2009, Tabellenrapport, 2010, p. 30).

Driving offences

New developments occurred in the preparation of an amendment of the Road Traffic Act 1994. An advice was published in which limiting values were proposed for the amount of a single drug that leads to a driving offence (Adviescommissie grenswaarden voor drugs 2010). The values will preferably be assessed by analysis of blood. The saliva-test will be used as a first screener; this test is not available for all types of drugs (T.K.29398-172). The minister of Security and Justice expects to re-introduce the bill to the Lower House in the spring of 2011 (T.K.29398-236).

Conclusion

The figures in this paragraph show that less arrestees are registered by the police as a drug user. Their mean age is increasing. The proportion of drug users arrested for property crimes is decreasing, whereas an increasing proportion of drug users is arrested for violent crimes (against persons).

9.2 Prevention of drug related crime

9.2.1 Prevention of drug-law offences

The administrative law on Prevention of Abuse of chemical substances (*Wet Voorkoming misbruik chemicaliën*) aims at interception of chemical precursors for the production of synthetic drugs. Chapter 10 reports about new developments in the availability of precursors. The law on Prevention of Money Laundering (*Wet ter voorkoming van witwassen en financieren van terrorisme*) can be used to prevent drug money from being laundered. This is an administrative law which can facilitate a possible criminal investigation. N.N.I.A.

Costs

Moolenaar (2009) presents estimates of criminal justice costs for a.o. drug offences. The estimate includes all the costs the authorities incur to prevent and investigate crime, prosecute criminals, impose sentences, and take care of victims and offenders. Moolenaar presents several approaches. Data prove to be limited, figures depend on definitions and estimation methods, and assumptions have to be made. Different approaches result in different outcomes. Moolenaar estimates on the basis of the best possible method that publicly financed prevention of drug offences (like surveillance by the police) costs 114 million euro in 2006. In the ranking of seven types of offences, drug offences rank fifth and thus relatively low.

Prevention of organised crime

In the combat against organised crime – especially cannabis-related crime - an integrated approach is applied with administrative and preventive measures, judicial approaches, and international co-operation. Furthermore, financial-economic approaches are used and strengthened. These approaches are a mix of repression and prevention. Preventive measures are considered important. Certain companies, professions or public parties might be vulnerable for organised crime; risk analyses and prevention could therefore be in place. Administrative and preventive measures are the responsibility of local authorities, mainly mayors. Local authorities are committed because organised crime uses local infrastructure and local facilities. Vulnerable places or opportunities should therefore be identified at a local level.

Preventive measures are for instance (Commissie Fränzel 2009):

- Banning orders on the basis of local police acts (for instance for drug runners or dealers, but also for drug tourists on the basis of nuisance caused by drug use in public) or on the basis of criminal law.
- Controls of rule-compliance in coffee shops and checking possible criminal records of owners of coffee shops, grow shops or smart shops (*Bibob-Act*, which can lead to refusal of permits).
- Identification of barriers for organised crime by analysing available information about offenders and criminal networks. The basic concept is that organised crime networks are dynamic and operate in changing coalitions, and that weaknesses can be used by law enforcement.

Recent research gives some information about the enforcement activities:

- The exchange of information is a problem in the integrated approach (T.K.29911-40). The legal basis for exchange of information between public agencies and private sector

partners on a non-operational level is not clear. A new model for information-exchange was developed, which will be implemented in the future.

- With regards to synthetic drugs, the approaches still have a strong focus on precursors and hard ware (glass instruments, heating equipment) and with multidisciplinary activities in several projects, like the European Drug Profiling System (KLPD 2010b).
- Dorn and Van de Bunt (2010) examined concepts of harm arising from organised crime (in general, not only drug-related) in the British and Dutch literature. One of their conclusions is that organised crime is highly flexible in its criminal activities and does not specialise in only one sector, and that police and prosecution should be equally flexible. It may sometimes be best to go for crime groups, or for facilitators, rather than going for specific offences.

Coffee shop pilots

In August 2010, municipalities were invited by the Ministry of the Interior to submit a pilot plan for experiments with new policies in order to reduce coffee shop related nuisance and criminality (T.K.24077-253). The pilots had to fit in with the new policy plans which aim at establishing a coffee shop system in which coffee shops are locations for small scale sale for local users; at containment of the number of coffee shops – based on the local situation; and at enforcement of organised crime in relation to coffee shops (T.K.24077-239). 10 Pilot plans were chosen. These pilots are subsidized by the national government – which has a 6 million euro are available in 2010 and 2011 (www.vng.nl) - and the municipalities themselves. Examples of pilots are: new forms of supervision and enforcement by the municipality, traffic regulation, communication with drug tourists from abroad, the introduction of a ‘legitimation system’ for coffee shop customers, in which foreigners will be excluded (T.K.24077-256). The pilots will be evaluated in research commissioned by the Ministry of the Interior. The research will consist of an ex ante evaluation of the plans, a process evaluation and a study of effectiveness and efficiency.

See Chapter 1 for a more detailed description of local coffee shop policies.

Prevention of crime related to coffee shops

The *Public Administration Probity Screening Act (Wet BIBOB)* enables local administrators to screen all kinds of new licence requests. The administrative authorities may refuse contracts, subsidies or permits for organisations and companies if they have serious doubts about the integrity of the applicant. For 2009, the BIBOB-office reports that 9% of the requests concerns coffee shops. See also Chapter 1.

9.2.2 Prevention of offences committed by drug users

For youngsters who are at risk for crime and drug abuse and who come into contact with the police and the criminal justice system, there are so-called local “Safety houses”, in which relevant agencies (police and prosecution, municipalities, youth care, youth probation services, addiction care etc.) deliberate about the best way to handle the case of individual youngsters. A plan is made to stop the negative trend in the youngsters’ life. The sanction for the offence is often conditional: participation in treatment is offered as an alternative to a sanction. In 2010, there are safety houses in 43 cities all over the country. They offer a combination of prevention and repression and they can intervene in an early phase of the detrimental processes of youngsters.

Local drug policies

On a local level, there are initiatives to ban the use of cannabis in the public domain and to ban drugs use in general from dance events. This is a decision on local level. According to Nabben (2010), this is motivated not so much by public nuisance or large-scale drug dealing, but more by an intensifying focus on public order and safety and a desire to heighten the authorities' visibility and pro-active law enforcement efforts. See also Chapter 1.

9.3 Interventions in the criminal justice system

A considerable fraction of crime and recidivism in the Netherlands is attributable to chronic drug users with high rates of crime, the 'prolific offenders' (Tollenaar et al. 2008, Tollenaar et al. 2010). Reduction of recidivism is one of the priority areas in the Security Program of the government. The following measures are applied:

- Intensified efforts on re-integration. In the "Safety houses" (see § 9.2.2) a trajectory, ranging from prosecution to care after prosecution or detention, is scheduled for them.
- Intensified participation in care programmes as an alternative to prison (see § 9.3.1), participation in behavioural interventions and aftercare (see § 9.3.2).
- More, more stringent and intensified supervision of offenders by addiction probation services (see § 9.3.2).
- Longer periods of imprisonment; a special measure of Placement in an Institution for prolific offenders is in force since 2004 (see § 9.3.2).

9.3.1 Alternatives to imprisonment

In the case of drug users, the general principle is that this type of crime can only be reduced by offering problematic drug using offenders treatment or care. This viewpoint was confirmed again in 2008 (T.K.24587-299, T.K.31110-5).

The number of referrals of offenders with an addiction problem shows a clear rising trend (table 9.3.1).

Table 9.3.1 Referrals to care as an alternative to imprisonment 2002-2009

Year	Number of diversions
2002	1,568
2003	2,115
2004	2,254
2005	2,081
2006	3,226
2007	3,684
2008	4,005
2009	4,514

Source: Addiction Probation Services, 2010.

Most of the referrals concern:

- Non-clinical addiction care: 39% of the diversions in 2009, more than in 2008.
- Non-clinical psychiatric care: 20% of the diversions in 2009, more than in 2008.

- Clinical addiction care: 17% of the diversions, less than in 2008.
- Low-threshold reception centers were chosen in 8% of the cases and psychiatric polyclinic care in 6% of the cases, which is more than in 2008.

The most remarkable change in 2009 is the increase of referrals to facilities which do not belong to the addiction care system, like non-clinical psychiatric care, psychotherapy and low-threshold reception centres (not in table). This trend was seen in 2008 also.

Besides the strengthening of referrals to care, a new law will be in force by January 1, 2011, which aims at improvement of forensic care for offenders with addiction problems, mental health and psychich problems and/or mild learning disabilities: the Law on Forensic Care, *Wet forensische zorg* (T.K.32398-1,3). This law implies:

- Improvement of screening, diagnosis and advice to detect delinquents with the above mentioned problems, in order to start care in an early phase of detention.
- An increase of care capacity for forensic patients, inside the prison system as well as outside the system - in regular mental health care/addiction care as an alternative for imprisonment (see also table 9.3.1).
- Inside the prison system, 700 special care places will be available in five locations of penitentiary institutes, so-called Penitentiary Psychiatric Centres, Penitentiare Psychiatrische Centra or PPC's. In 2009, four of the five planned PPC's started, and in 2010 all five should be operational with in total 700 places.
- Since 2008, the ministry of Security and Justice has the budget for buying forensic care outside the prison system. The ministry 'contracts' care institutes. In 2008, contracts were signed with 64 institutes outside the prison system. In 2009 there were 80 and in 2010 there are 88. Amongst these are forensic psychiatric clinics, institutes for persons with mild learning disabilities, addiction care institutes, institutions for supervised living and outpatient care facilities (T.K.32398-3). The care facilities should adhere to certain criteria for quality of care. The Minister of Security and Justice is responsible for placements and referrals under the new law.
- If necessary, patients can be referred further after their judicial sanction or measure is finished. Continuity of care is an important part of the new system.

One of the first target groups for whom care should be contracted is the complex group with triple-problems: addiction, co-morbid psychiatric problems and mild learning disabilities. A quick scan was conducted to provide insight into this group (Kaal et al. 2009). Literature was studied and secondary statistical analyses were performed on files of previous research and of scores on Risk Assessment Scales. Moreover, a telephone survey of the field was conducted to establish what care is currently offered to the target group with triple problems. This included the study of documents about the offer of care. Finally, an expert meeting was held, in which experts from various sectors considered the content that care should have.

Main results are:

- The combination of problems is often not recognized sufficiently. Solid diagnostic information is not available. Psychiatric problems and mild learning disabilities have been neglected for al long time. Therefore, it is difficult to make an accurate estimate of the size of the group.
- A rough estimate indicates that 23 to 52% of the detainees is faced with problematic drug use, that 30-65% of them has co-morbid psychiatric problems, while 15 to 39% of the drug using detainees could have limited mental capacity. This leads to an estimated 250

to 1,150 detainees in the prison system with triple problems. A person with triple problems will enter the prison system 920 to 4,300 times annually.

- Characteristics cannot be given accurately either. But from the literature and the experts it follows that this group usually also has problems in areas of housing and work, relationships and finance. The criminal career is often extensive. The motivation to accept care and supervision is often low.
- Clients themselves often have a need for practical support in, for example, housing and finance. According to care providers, however, the primary need for care lies with addiction and psychiatric problems.
- The desired care offer should contain the following elements:
 - Sound diagnostics at an early stage, with instruments adjusted to the level of clients and to the complexity of the problem. Diagnostic tests should be regularly repeated in order to deal with changes.
 - A sustained support structure is necessary because of the largely chronic nature of the problems.
 - There should be intensive and continuous supervision; the care should have a 24-hour nature.
 - It is important to continuously seek alignment with the motivation and the possibilities of the clients.
 - Integrated treatment or care should be offered, whereby the various problems are dealt with simultaneously.
 - There should be a safety net in the event of a crisis or relapse to substance abuse.
- The current offer of care is not sufficient. Several existing forms of intervention are currently being adjusted for the target group. Some programmes are promising, but most of the programmes are far from fully developed.

9.3.2 Other interventions in the criminal justice system

Besides alternatives to imprisonment and forensic care, the following services and judicial measures are applicable for drug users (and other offenders) in the criminal justice system in 2009/2010:

- Addiction probation services;
- (Reintegration) programs and facilities in prisons, amongst which basic medical and mental health care;
- The Measure of Placement in an Institution for Prolific Offenders (ISD);
- Aftercare.

Addiction Probation Services

Addiction Probation Services registered 18,878 clients in 2009. On December 31 2009, they had more than 15,800 clients in their files (www.svg.nl).

- The mean age of these clients is 37.6 years.
- 92% is male.
- Most (83%) have the Dutch nationality.

For the majority of clients more specific data are available, among other things about their primary problem drug and their use of addiction care or addiction probation (table 9.3.2)

- Most of the clients have a primary alcohol problem. This proportion is increasing.
- Of the clients with a primary drugs problem, cocaine is the main problem.

- Opiates is second – and decreasing.
- Cannabis ranks third and seems to be rising slowly.
- The problems have existed for a long time for most of the clients; 36% suffered from alcohol or drug problems for more than 10 years. It should be noted that this information is not available for 23% of the clients – this percentage is much higher than in the years before.
- More than one third of the clients make alternating use of voluntary addiction care or addiction probation services.

Table 9.3.2: Clients of addiction probation services 2002-2009

Clients:	2002	2003	2004	2005	2006	2007	2008	2009
Total number of clients ¹	12,356	13,635	14,100	13,234	16,385	15,914	14,674	14,816
Primary problem is alcohol	38%	40%	42%	46%	47%	47%	48%	50%
Primary problem is opiates	24%	21%	19%	16%	15%	14%	14%	12%
Primary problem is cocaine/crack	27%	27%	26%	24%	23%	23%	23%	22%
Primary problem is cannabis	6%	7%	7%	8%	8%	9%	9%	9%
Duration of problems ≥ 10 years	44%	43%	43%	43%	43%	42%	41%	36%
Alternating use voluntary care/probation services	35%	36%	36%	36%	37%	37%	38%	38%

I. Data are not available for all clients. Source: Information Services for Addiction Care/SIVZ, 2010.

The activities of Addiction Probation Services 2002-2009 are shown in table 9.3.3. Overall, there is a rising number of activities and client contacts.

Most remarkable findings are:

- Supervision of clients, diagnoses of clients and the writing of advisory reports were carried out most often in 2009, as was the case in 2008.
- Diagnoses are carried out (partly) by using the standard instrument RISC (Risk Assessment Scales, *Risico Inschattings Schalen*). A RISC-assessment was carried out more than 5,700 times in 2009. In addition, more detailed and deeper screening can be carried out, in order to come to an adequate indication for care or cure. With regards to this, a new instrument (MATE-Crimi) was piloted (Zeegers et al. 2009). This instrument aims at improved indications of drug users in the criminal justice system. Implementation is continued in 5 addiction care institutions.

Table 9.3.3: *Types of assistance offered by addiction probation services and number of times the service was provided, 2002-2009^I*

Type of assistance	2002	2003	2004	2005	2006	2007	2008	2009
First visit to arrestee/prisoner in remand	3,629	4,305	4,110	3,962	4,400	4,123	4,160	4,096
Report to judge with advice regarding continuation of remand custody	995	922	889	1,152	1,494	1,408	1,564	1,659
Referral to care programs	1,568	2,115	2,254	2,081	3,226	3,684	4,005	4,514
Supervision of clients in the framework of a judicial decision	2,407	3,726	4,919	5,454	7,880	9,728	10,679	12,288
Interventions/Reintegration programs	1,696	2,566	2,929	2,806	2,624	1,948	1,500	1,621
Supervision of working Sentences	3,382	4,098	4,650	4,904	5,293	5,267	5,322	5,497
Supervision of learning Sentences	139	217	241	286	360	294	329	244
(Advisory) reports	7,587	8,746	8,369	8,454	8,931	8,658	8,568	8,857
Diagnoses ^{II}		10,615	10,605	11,504	9,935	9,719	10,075	9,923
Reintegration plan								972
Total number of activities	31,451	43,900	39,994	40,603	44,143	44,829	46,202	49,671
Total number of contacts with clients	37,956	40,848	61,629	66,041	96,056	141,510	153,876	159,706

I. No figures on case level, no specification for type of drug/alcohol/gambling II. Introduced in 2003, RISc's included. Source: Foundation of Addiction Probation Services, 2010 (www.svg.nl).

Reintegration programs and facilities for drug users in prison

The following programmes and facilities are available in 2009 for persons with drug problems:

- Behavioural interventions are available for those detainees who have a sanction of at least four months. The interventions have to be accredited by a special Commission for Behavioural Interventions which was installed by the ministry of Security and Justice.
- For delinquents with drug problems, two interventions were approved in 2009: the short lifestyle training and the lifestyle training. A behavioural intervention for delinquents who committed violent crimes under the influence of alcohol is in development (Jaarverslag 2009 Erkenningscommissie, 2010).
- The special units for addicts (*Verslaafden Begeleidings Afdelingen, VBA*) were discontinued in 2009. The above mentioned PPC's (see 9.3.1) came in place.
- Detained drug users can make use of medical and psychological care in prison.

Measure of Placement in an Institution for Prolific Offenders (ISD)

- Since 2004, the measure of Placement in an Institution for Prolific Offenders (ISD) is in force (Stb 2004-471). This is a judicial measure for prolific offenders of over 18 years old. ISD can be applied for a maximum of two years. The aim of the measure is twofold: to safeguard society from the frequent offences committed by prolific offenders by incapacitation of the offenders and to improve the individual situation of offenders, in

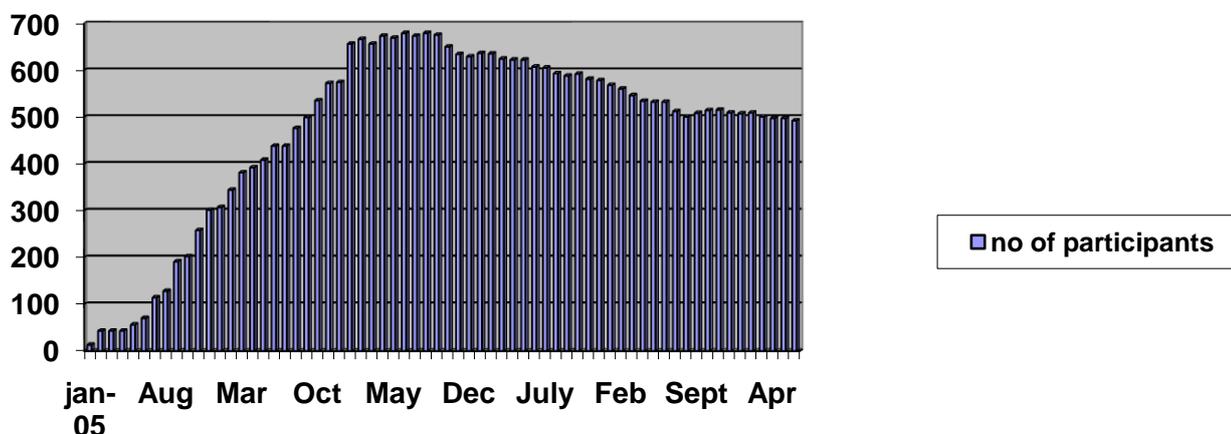
order to reduce their recidivism. Several studies into ISD-participants show that the large majority is a problematic drug user.

- ISD is executed in eight penitentiary institutions which are especially equipped for ISD-detainees. The capacity is 1,000 places.
- Until July 2010 the measure was imposed by the Judge 1,888 times:
 - 16 persons in 2004
 - 339 in 2005
 - 407 in 2006
 - 341 in 2007
 - 349 in 2008
 - 282 in 2009
 - 120 in 2010 (until July 1).

There is a decrease in 2009 compared to 2008 (Tollenaar et al. 2010).

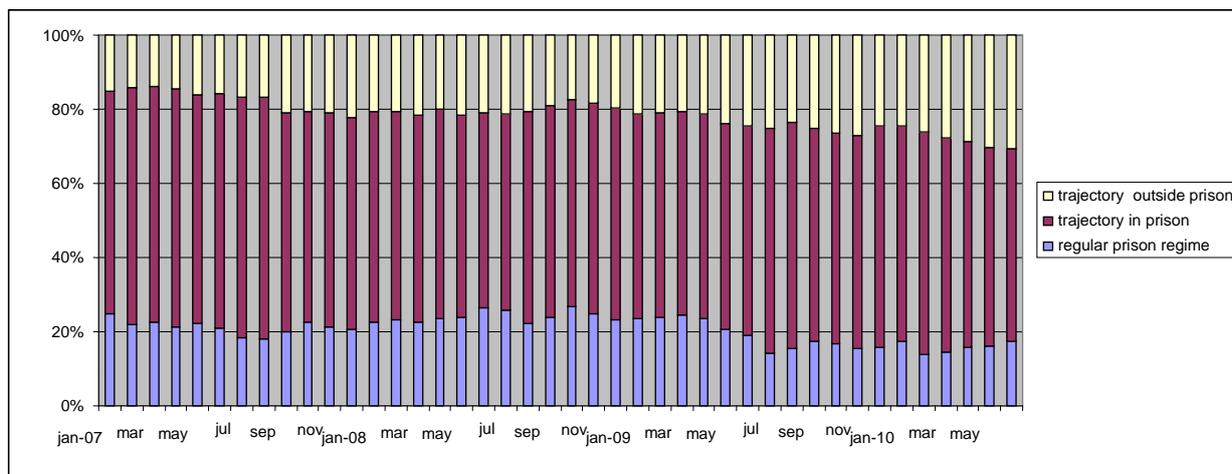
- In January 2005, the first participants entered ISD. The number increased until 2008. Since then, a decrease occurred (figure 9.3.1). In 2009 there were a mean of 528 persons (in 2008: 607) per month under the ISD. The highest number that was reached until now was 679; this was in June and August 2007. There are big differences per region and institution.
- ISD changed in the course of time: more efforts are placed on motivating offenders to participate in behavioural interventions and care, inside the penitentiary institutions (“trajectory in prison”) or outside in regular care facilities (“trajectory outside prison”). Those who cannot be motivated or for whom no interventions are available stay in a “regular prison regime”.
- In 2009 and the first half of 2010, a mean of 18% of all participants per month stayed in regular prison regime (figure 9.3.2). A mean of 57% of all participants per month participated in trajectory regimes in prison and 25% stayed outside prison.
- It can be concluded that a decreasing minority of the persons who are convicted to a measure of ISD stay in a regular prison regime without behavioural interventions. The majority participates in interventions that aim at reintegration and reduction of criminal recidivism after release from ISD. There is a growing tendency towards participation in care programmes outside prison as an alternative to imprisonment.

Figure 9.3.1: Number of persons per month in Institutions for Prolific Offenders¹, January 2005-June 2010



I. Including those in trajectories outside prison. Source: Service for Judicial Facilities, 2010.

Figure 9.3.2: Number of participants in Institutions for Prolific Offenders per month in trajectories outside prison, trajectories in prison and regular prison regime, 2007-June 2010



Source: Service for Judicial Facilities, 2010.

Recent research showed that the group of ISD-convicted (n=58 in one ISD institution; Ganpat et al 2009) consists of three categories:

- Subgroup I: persons who have problems with more than one drug, suffer from psychiatric or psychic problems, and have low intellectual abilities This group is the majority (53%).
- Subgroup II: persons who have problems with more than one drug, who have a mean IQ and no co-morbid psychiatric or psychic problems (38%).
- Subgroup III: persons who use one or no drug and have a high IQ. Half of this group suffers from psychiatric and psychic problems. This group is a minority (9%).

Compared to detainees in a regular prison, ISD-convicted are much more represented in subgroup I (53% against 17% in normal prisons), and much less in subgroup III (9% in ISD

against 53% in normal prisons). Subgroup II contains of 38% in ISD and 30% in normal prisons.

The study makes clear that more than 90% is a problematic poly drug user and that more than half suffer from triple problems.

Tollenaar et al. (2010) monitor prolific offenders by combining registration data from the police, the Public Prosecutor, probation services and the Service for Judicial Facilities. They report about ISD in the period 2004-2007. They show a decrease in the number of prolific offenders who enter the judicial system during this period. Amongst those who are convicted to a measure ISD, there is considerable number of addicts, but also a considerable number of other problems (mental health problems, problems with housing, finances, physical health or social relations). ISD-convicted persons have a substantial criminal history of a mean of 56,9% earlier convictions. This confirms findings from earlier studies (Biesma et al. 2006, Goderie 2009).

Vollaard (2010) studied the incapacitation-effect of the measure ISD in terms of 'saved offences'. He used a quasi-experimental design in which he compared 12 regions with varying relative numbers of ISD-convictions. On the basis of police registrations of 1999-2007 he assessed the developments in the number of car thefts and thefts from houses on a regional level – these kinds of thefts are often committed by the prolific offenders who get an ISD-measure and can be assessed in a relatively reliable way. Assessed was whether the use of the ISD-measure (and of the preceding measure SOV) correlated with decreases in local crime.

According to this study, a 30% lower number of car thefts and thefts from houses resulted from the measure SOV/ISD. Like Tollenaar & Van der Laan, Vollaard reports that SOV/ISD resulted in fewer arrests (around 25% less) of prolific offenders. Whereas the most well-known prolific offenders were convicted to an SOV/ISD-measure first and the less serious prolific offenders came later, the extra effectiveness of the measure decreases in the course of the years. SOV/ISD is cost-effective, according to Vollaard. Vollaard's study is limited to the period of the SOV/ISD measure (maximum 2 years). He did not study the criminal recidivism after the measure and on the longer term, nor did he assess the exact length of the incapacitation period or the participation rates in behavioural interventions and care trajectories. The study makes clear, however, that incapacitation effects are substantial.

Aftercare

Aftercare is primarily a responsibility of municipalities. The municipality should know in a timely manner when a detainee will be released and what kind of problems he/she has. The ministry of Security and Justice started a special aftercare programme in 2009 (Van Duijvenbooden et al. 2010). This programme runs under the direction of the ministry, and penitentiary institutions, municipalities, probation services, mental health/addiction care organisations, housing corporations and organisations that help people to get out of their debts, work together. In the prisons, special personnel is appointed to prepare aftercare when a detainee is being released (*Medewerkers Maatschappelijke Dienstverlening*). Municipalities get finances for co-ordination of aftercare. Most of them appointed a special co-ordinator for the aftercare. In 2010, a special team for implementation was installed. An inventarisation of the state of the implementation in 2010 showed that – amongst others -:

- It is important that detainees are placed in a prison in their own region.

- The communication between penitentiary institutions and municipalities and the exchange and quality of information needs improvement. Privacy of information plays a role here.
- There are lots of innovations and changes going on in the penitentiary system at the same time; this hampers the implementation. Also, there should be more capacity to start the aftercare in time and clearance of instructions for the special personnel is necessary.
- Especially with regards to drug-addicted ex-detainees there is a problem with housing: corporations are not willing to rent houses to this specific target group.
- Another problem is the lack of care facilities for detainees with both addiction and psychiatric problems (Van Duijvenbooden et al. 2010).

The programme is still running. Pilots have been set up in 2010 as well as a monitor. No data are available yet.

Conclusion

Referral to care programs as an alternative for imprisonment is stimulated and the number of referrals is rising. Care is now bought by the ministry of Security and Justice. Primary target group are addicts with triple problems. Addiction probation services have an increasing number of clients. Over 1,800 prolific offenders, the majority of whom have a drug problem, were convicted to the measure of placement in a penal institution for prolific offenders. The number of convictions to this measure has been decreasing and the majority participates in care programmes outside prison or in behavioural interventions inside prison. The long period of imprisonment under this measure results in a substantial decrease in offences by prolific offenders.

9.4 Drug use and problem drug use in prison

Kepper et al. investigated the use of substances among male adolescents in juvenile justice institutions in the Netherlands (Kepper et al. 2009, table 9.4.1). Mean age of respondents was 17.6 years, 38% was in pre-trial arrest for five weeks or longer, 7% was convicted to imprisonment and 55% was convicted to the measure of placement in a juvenile justice institution with compulsory treatment. Questionnaires on substance use were filled out by 155 boys (out of n=522; 30% response) who were placed in 10 (out of 12) institutions between March and July 2009. The self-report questionnaires were filled out by the respondent under supervision of an interviewer/researcher. The questions concerned use prior to the incarceration and use since their stay in the institution. Prevalence rates of drug use were compared with those of same age males from regular secondary education.

- Prior to their detention or pre-trial arrest, the incarcerated boys had a high level of alcohol and drug use.
- In the age of 13 and 14 years, for example, more than half of the incarcerated boys had used cannabis in the past month, compared to only 5% of the boys in regular education. They also smoked more joints per occasion. Especially in this youngest age category the differences in substance use compared to boys that attend regular education were large.
- The incarcerated boys had also used hard drugs more often, like ecstasy, cocaine, crack cocaine, amphetamine, hallucinogens, GHB, LSD, or heroin. From these boys 20% had used a hard drug at least once, compared to only 4% among the peer group following regular education.
- The majority of the boys (65%) reported the use of cannabis since their incarceration and almost all of them used it at the institution.

- The use of hard drugs decreased since the incarceration: 6% used hard drugs since detention and within the institution. This use was limited to 3 of the institutions.
- Almost all of the interviewed boys (90%) reported that it is easy for them to obtain cannabis in the institution. For 75% even hard drugs are easy to get hold of.

The researchers conclude that the substance use among incarcerated boys is problematic. It should be noted that the response rate was low and that the results are not corrected for ethnicity. Many boys in the sample had stayed in the institution for a long time already; they had to look back in time, which may have caused bias in their answers. It should also be noted that the questions about drug use during their stay in the institution were small in number and not very detailed.

Table 9.4.1: Drug use among incarcerated boys compared to their peer group at regular education

Prevalence Age group	Incarcerated boys				Peer group from regular education
	Before detention	During detention			
		At relief	At the institute		
		At home	Elsewhere		
LTP cannabis					
13-14 y	62.5%				9.3%
15-16 y	80.3%				28.6%
17-18 y	82.1%				52.0%
LMP cannabis					
13-14 y	54.2%				4.6%
15-16 y	61.9%				14.4%
17-18 y	69.6%				29.1%
		6.5%	10.3%	63.9%	
LTP any hard drug					
13-14 y	21.4%				4.0%
15-16 y	22.1%				7.7%
17-18 y	27.1%				15.6%

LTP = life-time prevalence; LMP = last-month prevalence; hard drugs = ecstasy, cocaine, crack cocaine, amphetamine, hallucinogens, GHB, LSD, or heroin. Source: Kepper et al. 2009.

In a reaction to this report, the minister of Security and Justice announced measures, which constitute of more stringent controls on drug use in the institution as well as preventive activities (T.K.24587-392).

9.5 Responses to drug related health issues

N.N.I.A.

9.6 New developments

Relevant developments with regards to drug users in the criminal justice system are:

- The continuing implementation of “Safety houses” and aftercare (T.K.32500-VI/2).
- The coming Law on Forensic Care (per January 1, 2011; T.K.32500-VI/2).
- The coming Law on Compulsory Mental Health Care (*Wet verplichte GGZ*), which facilitates compulsory admission of persons with psychiatric problems in treatment centres, under certain strict conditions.
- Besides crime, public nuisance and psychological disorder form a policy-issue, since it was shown that heavy alcohol and drug use can cause public nuisance (Van Noije et al. 2009, T.K.28684-239, CBS 2010).

10 Drug markets

10.1 Availability and supply

It is difficult to get a valid overview of the availability and supply of drugs. The data in §10.1 and §10.2 are mainly drawn from reports published by the National Police Forces. These reports are based on files, registrations and seizure data of the regional police forces, customs and other investigation units. Figures may suffer from bias because of the fact that the scope is limited to those cases that come in the law enforcement's picture. Moreover, the number of recorded drug offences and seizures is influenced by the alertness, relative skills and priorities of the police, by the quantity of drugs that are produced and trafficked, and the care taken by producers and traffickers (see a.o. Kilmer et al. 2010).

Data about supply reduction activities come from national and regional policy documents and from the 2009-report of the national police forces, which focus on priority areas of the police with regards to organised crime. In addition, research reports are used, like the National Safety Monitor (CBS 2010), the Trendwatch monitor (Doekhie et al. 2010), a quick scan on compliance to rules by coffee shops (Faes et al. 2010). In 2009-2010, the empirical research is very limited.

10.1.1 Availability

- In 2008/2009 various indicators pointed at a reduced availability of precursors for synthesising ecstasy and amphetamine, which resulted in a lower purity of these drugs on the retail market (see National report 2009).
- With regards to PMK, this decreasing trend in availability is reported again by the police over the year 2009 (KLPD 2010a, KLPD 2010b). According to the police, producers turned to pre-precursors with which they can – with an extra step – still produce MDMA.
- BMK also seems to show a decreasing trend. Yet, the police reported that there seems to be enough of this precursor available, as indicated by the estimated increase in production (KLPD 2010a, KLPD 2010b). The police guess that BMK might come from Russia or Lithuania, or that producers use other precursors, like BMK-sulphite and phenylacetic acid.
- The glass instruments which are needed for the production of synthetic drugs are more difficult to get, according to the police (KLPD 2010b).
- In the first half of 2010 the trend in purity seems to have 'normalised' as indicated by the purity of ecstasy and speed samples, returning to previously reported levels (see § 10.3).

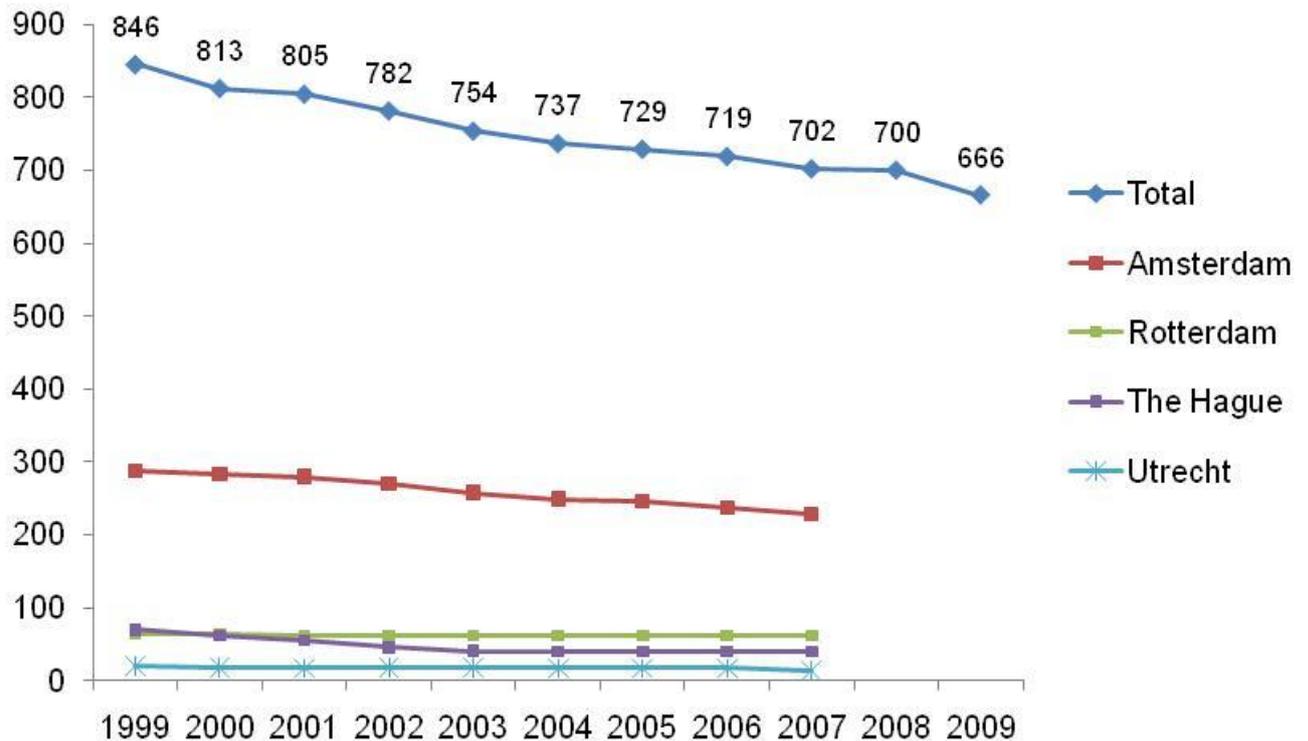
Coffee shops

- In the Netherlands, the sale of cannabis is regulated through the system of coffee shops¹⁹ but these are not equally distributed throughout the country.
- Figure 10.1.1 shows that the number of coffee shops gradually decreased in the past decade. In 2009, there were 666 coffee shops in 101 municipalities, which cover 23% of all 441 municipalities (Bieleman et al. 2010).

¹⁹ Cannabis can be obtained in coffee shops that adhere to certain criteria (AHOJ-G; see chapter 1).

- Over half (53%) of the coffee shops is located in the six big cities with over 200 thousand inhabitants.
- The reduction from 2008 to 2009 can be explained in part by the closure of 16 coffee shops in Rotterdam, which did not comply with the minimal distance criterion to schools, and the closure of (all) 8 coffee shops in Bergen op Zoom and Roosendaal. Moreover, coffee shops were closed because the municipality applies an 'extinction policy' or because they have violated the regulations (see later).

Figure 10.1.1 Trend in the number of coffee shops in the Netherlands



No separate data for the major cities available for 2008 and 2009. Source: Bieleman & Nijkamp, 2010

- Coffee shops have to comply to rules. They are not allowed to advertise, to have hard drugs or youth under 18 in their shops, to cause nuisance, to sell more than 5 grams to a customer or to have a stock of 500 grams of cannabis or more. Bieleman & Nijkamp (2010) sent a questionnaire on the compliance to these rules to civil servants in 155 municipalities that had a maximum policy or no specific policy with regard to the (number of) coffee shops. Over 40% of the municipalities indicate to give one or other criterion priority. These are – in order of importance – no minors in coffee shops, followed at distance by the 'no hard drug criterion' and the maximum stock criterion. In 67 of the 105 municipalities with coffee shops in 2009 additional criteria have been applied (e.g. with regard to distance between coffee shops and national border, bars or youth establishments). Seventy-seven percent of the municipalities with coffee shops used a minimum distance criterion to schools (generally 250 metres), but this is generally only effectuated with regard to new coffee shops. According to the civil servants, the AHOJ_G criteria were violated 44 times in 2009, which is half the number for 2008 (n=88).

Highest frequency of violation was recorded for the maximum stock criterion, followed at distance by the 'no minors' criterion.

- Several municipalities reacted in 2010 on a call by the Minister of Interior Affairs to experiment with pilots for (regulation of) coffee shops (Ministerie van Binnenlandse Zaken 2010, Vereniging Nederlandse Gemeenten 2010). Ten pilots started in September 2010 and are running now in municipalities all over the country (see § 1.2). They experiment with different interventions: stimulation of small-scale shops, spreading of shops, new forms of supervision and enforcement, communication with drug tourists from abroad, enforcement of non-tolerated illegal selling points of cannabis and traffic measures.

Illegal selling points for cannabis

- Cannabis is also available through other illegal selling points, e.g. dealers operating by means of mobile-phone; home dealers, who sell drugs from their own home, partly from own cultivation; self-growers, who give cannabis away or sell it; street dealers; and under-the-counter dealers, who sell cannabis in a 'normal' catering place.
- These illicit selling points are more common in cities without coffee shops, and according to observations of key experts of the Trendwatch monitor (see § 2.3) there has been an increase in 'illegal sales' as response to the decreasing number of coffee shops (Doekhie et al. 2010).

Other sources

- Until the first of December 2008, fresh magic mushrooms and other non-traditional psychoactive substances were legally available in so-called smart shops (see also § 6.2). Since this date all mushrooms containing psilocin or psilocybin have been placed on Schedule II of the Opium Act. Reliable figures on the number of smart shops are not available. In 2003 the number of smart shops has been estimated at 165 (Centrum voor Criminaliteitspreventie en Veiligheid 2010). The number of smart shops and their sales has probably decreased after the ban on magic mushrooms, but figures are lacking. Some of the smart shops seemed to have 'survived' financially by switching to the sale of the hallucinogenic root sclerotia which was not included in the Opium Act. These sclerotia can also be bought on the internet, as can many other drugs, but a good overview on drug supply through internet is not available.
- Drug runners are active in some municipalities. Research into characteristics and crime patterns of drug runners started in Maastricht, Roosendaal and Bergen op Zoom, which are cities where drug runners cause a lot of nuisance and crime, and Rotterdam and Utrecht, which are considered cities where a lot of drug runners come from (Bremmers, 2010).

10.1.2 Supply

The National Police Forces report a.o. about the supply (production, trafficking) of drugs by organised crime in 2009 (KLPD, 2010a). They do not present hard data and the sources of the findings are not well defined. It is known from research that it is difficult to analyse organised crime in a reliable and adequate way (Van de Bunt et al. 2007). Moreover, the report is based on information from investigations of law enforcement agencies, which means that the resulting picture is limited and might be biased.

For 2009, only an 'overall' picture is given. This picture confirms for the largest part earlier reports, but it also indicates some new developments.

Research on organised crime shows that criminals involved in transit crime need to co-operate with persons they can trust. Therefore, they prefer to co-operate with persons who are well known to them, thanks to family and friendship ties (Van de Bunt et al. 2007).

The impression sketched by the Police Forces can be summarized as follows:

- With regards to *cannabis*, there is expertise on regional level, but not yet on national level. The regional investigations focus mainly on production and the distributive trade. The investigations also aim at the financial aspect of a case. Growshops play a dominant role in this distributive trade. They are a place where producers and buyers of cannabis meet each other. Sometimes they serve as a stash for the cannabis. The shops can be a legal façade for an illegal organization. The trafficking of Dutch cannabis and hash from abroad is often in the hand of the same entrepreneur. Dutch criminals seem to expand their territory to Belgium and Germany, according to the police. How much of the cannabis is exported, is not known. Most of the arrestees for cannabis offences are Dutch and for a larger part well known to the police already.
- With regards to *cocaine*, it is reported that the trafficking of cocaine to Europe is laborious and a transport may take months or even years. Western Africa still is a logistic junction in the international trafficking of cocaine, but South-Africa is also becoming a relevant meeting point for cocaine-related organised crime. Different nationalities, like Colombians, Italians, British and Dutch persons, are in different ways involved in the trafficking.
- With regards to *heroin* the police reports that most of the seized heroin comes from Afghanistan and is mainly imported from Turkey. It is coming into the Netherlands via the German border by road transports. The Netherlands still is a logistic junction and a distribution centre for heroin and adulterants for the (Western) European market. New is the emergence of Belgium in the same role. New is that the heroine market in the Netherlands is 'dutchifying' and that traffickers of heroin often deal in more than one type of drugs.
- With regards to *synthetic drugs*, there is additional information available from the Centre of Expertise on Synthetic Drugs and Precursors (KLPD 2010b). This Centre collects data about investigations in the Netherlands and abroad, it uses medias cans and reports from other organizations. The reports from the National Police Forces and from the Centre of Expertise both indicate some displacements in the supply of synthetic drugs:
 - Firstly, there is a displacement in precursors: there seems to be an increasing scarcity of the precursor PMK, which made producers of MDMA turn to the pre-precursor safrol. BMK seems to be sufficiently available for producers of amphetamine; it might come from Russia or Lithuania, but producers might also be looking for alternatives like BMK-sulphite or phenyl acetic acid. The scarcity of PMK in 2009 led to a decrease of the production of MDMA.
 - Secondly, diverse other kinds of synthetic drugs were seized (in various amounts).
 - Thirdly, there are indications that persons with other ethnic backgrounds are increasingly involved in production and trafficking, in addition to the criminal entrepreneurs that are already known in this field and who have a structural position in the production of synthetic drugs.
 - Finally, the production is spreading to more countries. Belgium still plays an essential role in the logistic process, via the harbour of Antwerp. Production sites in the Netherlands were mainly found in the south of the country and their capacity and professionalism increased, like in 2008.

New developments in 2010

- The splitting of the production processes of synthetic drugs in the Netherlands into different parts.
- The fact that purity of ecstasy tablets on the Dutch consumer markets rose and those of amphetamine returned to previously reported levels (see § 10.3).

10.2 Seizures

Figures about seizures in 2009 as reported by the National Police Forces are unreliable because of underreporting (not all regional police forces deliver data) and will therefore not be presented here.

- A new protocol for the transaction and registration of seizures by the police was introduced in 2007 (Inspectie Openbare Orde en Veiligheid 2009). The aim was to improve the activities and the transparency of the process.
- An inventory of problems made clear that it is difficult to weigh seized drugs in a precise and comparable way, for instance in cases where drugs are impregnated in clothes or adulterated in liquids, and especially when large amounts of drugs are involved (Inspectie Openbare Orde en Veiligheid 2009).
- The protocol provides rules, in order to improve harmonisation. The aim is that all police forces will implement the protocol. The protocol is in a process of improvement and implementation in 2010.

Table 10.2.1 shows figures from the Centre of Expertise on Synthetic Drugs and Precursors (KLDP, 2009, 2010b). Figures from this Centre might be incomplete – there is no obligation for enforcement agencies to report figures to the Centre – but they give the best possible picture.

- 24 dismantlements of production locations are reported in 2009. This is three more than in 2008. The increase is mainly due to the number of amphetamine production sites, which was 3 times as high as in 2008, and the production sites of other synthetic and designer drugs like mCCP, methamphetamine and 2C-B. Only one MDMA production site was dismantled.
- 37 warehouses of hardware, chemicals or both were discovered by the police, two more than in 2008.
- There are less recorded waste dumpings in 2009. Most of these concerned wastes of amphetamine production.
- Most of the dismantlements and waste dumpings were recorded in the South of the Netherlands (not in table).
- The Act for Prevention of Misuse of Chemicals (*Wet voorkoming misbruik chemicaliën, WVMC*) obliges companies to report suspicious transactions with regards to registered chemicals to a special registration office of the Fiscal Intelligence and Investigation Agency (*FIOD*) at the police Unit South Netherlands. In 2009, 59 suspicious transactions were reported, the same number as in 2008. In the years before, there were fewer reports (not in table).

Table 10.2.1: Number of dismantlements of production locations for synthetic drugs 2002-2009, as reported to the Centre of Expertise Synthetic Drugs and Precursors

	2002	2003	2004	2005	2006	2007	2008	2009
Production locations	43	37	29	18	23	15	21	24
Warehouses			14	19	43	44	35	37
Waste dumpings	105	97	81	51	42	50	36	34

Source: KLPD-DNR, Unit South Netherlands, 2010b.

The Centre reports some remarkable developments in 2009:

- There was only one seizure of the precursor for MDMA, PMK. It concerned 40 litres, a relatively small amount. According to the Centre, this shortage of PMK is seen worldwide. Its cause might be new legislation and controls in the source country China.
- Two locations were dismantled where experiments were carried out with conversion of the pre-precursor safrol into PMK. This seems to be a new development.
- In 2009, BMK was seized again, for the first time since 2005. There were four seizures of in total 207 litres of BMK, which is considered a relatively small amount.
- Glass instruments for the production of synthetic drugs were more difficult to obtain for producers in 2009.
- More other kinds of synthetic drugs and designer drugs were seized (see above).

10.3 Price/purity

10.3.1 Purity

The Drug Information and Monitoring System (DIMS™) of the Trimbos Institute provides detailed information on the quality of 'ecstasy' and other drugs submitted by consumers at test locations of drug treatment services. Some of the submitted tablets can be identified visually on the basis of comparing specific characteristics (colour, logo, weight, diameter etc.) and reaction in the Marquis test with previously analysed tablets. All other samples (non-recognised tablets and all powders and liquids) are sent to the laboratory for chemical analysis. In 2008, DIMS™ received 6,200 drug samples. In 2009 a total of 11,862 samples (including 8,746 tablets; See also Standard Table 15) were recorded, of which 43% were analysed in the laboratory. This strong increase mainly reflects changes in the ecstasy market (see later) and associated health concerns of consumers. In the text below, a distinction will be made between tablets or other samples as they were sold to the consumer, e.g. tablets sold as ecstasy, amphetamines and cocaine. Data on powders (mainly cocaine and amphetamine) are also included in this paragraph.

Due to limited laboratory capacity and strong increase in the number of samples delivered by consumers in 2009, we will first describe the composition of consumer samples that were identified in 2009 on the basis of the identification lists (without laboratory analysis). Thereafter we will continue with the findings based on laboratory analyses.

Identified without lab tests

In 2009 4,759 tablets or tablets were recognised (or classified) on the basis of a visual analysis, Marquis test and identification lists. This is 54% of all tablets delivered by consumers to the DIMS™. The majority was sold as ecstasy or ecstasy-like substance (n=4,666). Table 10.3.1 shows that about one-third of these ecstasy tablets did not contain MDMA (or alike substance). The second most common substance was mCPP (22%).

Table 10.3.1: Composition of tablets sold as ecstasy identified by identification lists (and not analysed in the laboratory)

Substance	N	%
MDMA	2,916	62
mCPP	1,044	22
Mephedrone	258	6
2C-B	173	4
Cafeine	58	1
(meth)amphetamine	77	2
MDMA/MDEA	30	1
MDMA/mCPP	24	1
mCPP/(meth)amphetamine	11	0
4-Fluoramphetamine	13	0
Other active/miscellaneous	42	1
Non-active	20	0
<i>Total</i>	<i>4,666</i>	<i>100%</i>

Source: DIMS™, Trimbos Institute

Laboratory analysis

Ecstasy: decreasing proportion of tablets with MDMA in 2008/2009

In 2009, a total of 2,181 tablets sold as ecstasy were delivered to DIMS™ and analysed in the laboratory. Table 10.3.2 shows the percentage of analysed tablets containing certain substance(s), or a combination of substances. These categories are mutually exclusive.

- The total percentage of ecstasy tablets containing MDMA (and/or an MDMA-like substance, such as MDEA, MDA) as the only scheduled drugs has decreased from 2007 to 2008 and 2009. Results for the first half of 2010 point at a 'recovery' of the ecstasy market.
- At the same time the percentage of tablets containing miscellaneous substances has clearly increased in 2008 and 2009. This was mainly due to an increase of tablets containing mCPP (12% in 2009) and mephedrone (7%). In the first half of 2010, ecstasy tablets also commonly contained mCPP (9%); other substances were domperidon (4%) and metoclopramide (93%). Mephedrone (2%) seems to disappear now the ecstasy market seem to 'recover', which may be a positive development given its possible abuse liability (Brunt et al., 2010).
- In 2009, amphetamine was detected in 3.8% and methamphetamine in 1.1% of all samples (both with and without an MDMA-like substance).

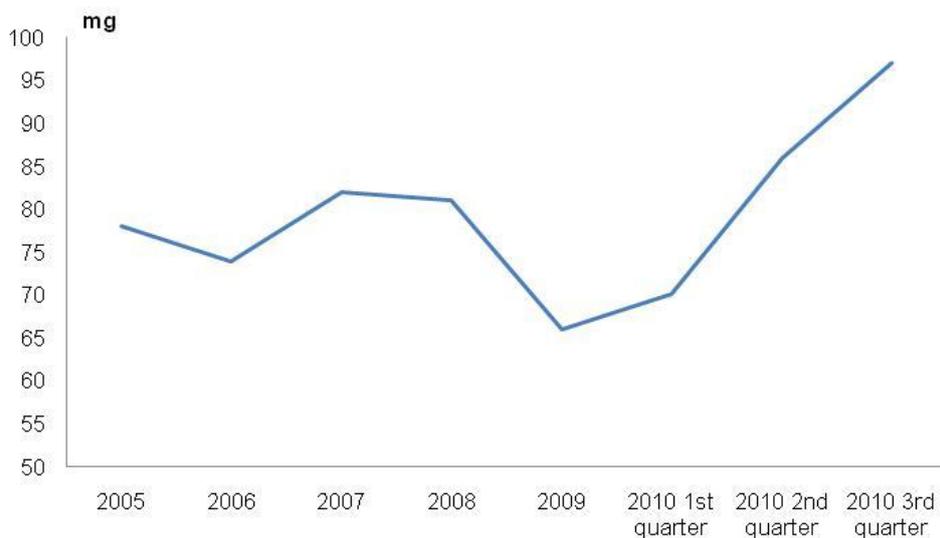
Table 10.3.2: Content of tablets sold as 'ecstasy' based on laboratory analyses

	2004	2005	2006	2007	2008	2009	2010*
Number of tablets analysed	1985	2140	2523	2319	2183	2181	1186
- Only MDMA-like substances	91.90%	88.60%	83.20%	84.60%	70.50%	70.75%	82.33%
- (Meth)amphetamine	0.80%	4.00%	1.80%	0.70%	1.10%	4.91%	3.04%
- MDMA-like substances and (meth)amphetamine	0.30%	1.40%	2.20%	1.30%	1.40%	1.28%	1.26%
- Others **	4.50%	0.30%	4.50%	3.80%	7.40%	1.40%	1.43%
- Miscellaneous***	2.50%	5.70%	8.30%	9.60%	17.70%	21.66%	11.94%

* Data for 2010 are from January-June. ** Category 'others' may include samples with MDMA and for example caffeine and other pharmacologically active non-scheduled substances. ***In 2009: The category miscellaneous consisted mainly of mCPP (11.60%) and mephedrone (7.4%). Source: DIMS™, Trimbos Institute.

- The concentration of MDMA in tablets has always shown a wide variation. Excluding ecstasy tablets without any trace of MDMA, in 2009 18% of the ecstasy tablets contained between 1 and 35 mg MDMA, 40% contained between 36 and 70 mg and, 32% between 71 and 105 mg and 11% contained a high dose of over 106 mg.
- The average amount of MDMA in tablets (containing at least 1 mg MDMA?) strongly decreased from 81 mg in 2008 to 66 mg in 2009. In 2010, the averaged dose increased again and even exceeded levels above those in previous years (see figure 10.3.1). Note, however, that the data for 2010 concern averages for relatively short time periods.
- These developments (% of ecstasy tablets containing no MDMA like substance, decreasing concentration of MDMA) point at a temporarily reduced availability of MDMA in 2009, with clear indications of a restoration of the ecstasy market in 2010.

Figure 10.3.1: Average concentration of MDMA in tablets sold as ecstasy*



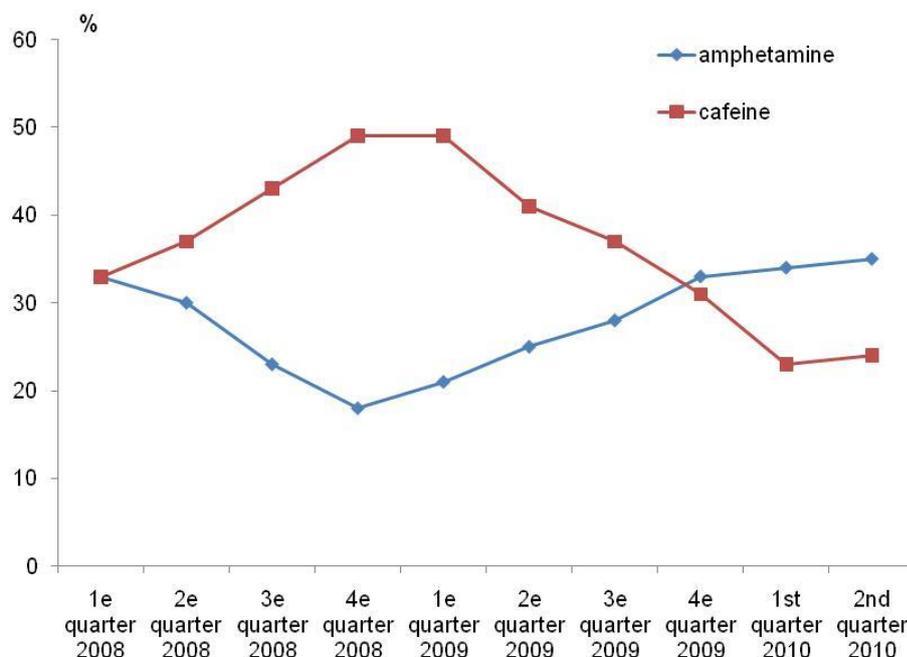
* in tablets containing at least 1 mg MDMA. Source: DIMS™.

Amphetamine:

In 2009, DIMS™ received 1,061 powders sold as speed.

- The majority of these powders (93,3%) contained (meth)amphetamine, with an annual average concentration of 27%.
- The purity of amphetamine powders delivered by consumers to the DIMS™ decreased in the course of 2008 and in 2009, but in the last quarter of 2009 purity had returned to previous levels (see figure 10.3.2).

Figure 10.3.2: Average concentration of amphetamine en caffeine in speed samples*



* Data based on a selection of samples containing at least a trace amphetamine (with or without caffeine).
Source: DIMS™.

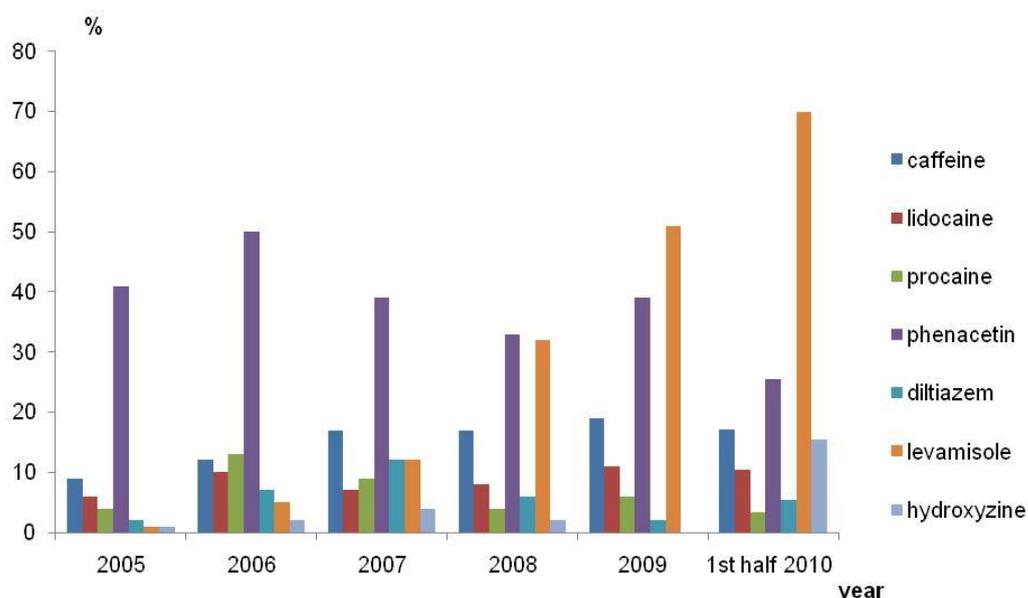
- Trends in purity were mirrored by trends in the concentration of caffeine (which was present in 80 percent of all speed powders). Figure 10.3.1.2 shows the percentage of caffeine in all samples containing amphetamine (thus also including samples without caffeine). The highest concentration of caffeine was measured in the 1st quarter of 2009, returning to 34 percent in the 4th quarter of 2009. If only samples are included with caffeine the average concentration in 2009 was 56%.
- In 2009, 6% of the speed samples contained the non-controlled substance 4-fluoramphetamine, which is lower than in 2008 (10%). In the first quarters of 2010, 4-methylamphetamine (4-MA) was detected in several tens of speed powders.
- Possibly the temporary reduction in purity of amphetamine is associated with a reduced availability of the precursor benzyl-methyl-keton (BMK).

Cocaine: large proportion of powders with medicines, especially levamisole

In 2009, 821 powders sold as cocaine were analysed.

- Almost all (95%) of samples did indeed contain cocaine (among other substances), with an average concentration of 49%, which is (significantly) lower compared to previous years (55% in 2008, 57% in 2007, 69% in 2002). In 2009 3% of the cocaine samples solely contained another psychoactive substance(s) and 1% contained no psychoactive substance at all.

Figure 10.3.3: Percentage of powders sold as cocaine containing medicines



* Source: DIMS™, Trimbos Institute.

- Since 2002, the percentage of cocaine samples containing pharmacologically active adulterants or diluents has strongly increased. Figure 10.3.3 shows that the proportion of powders sold as cocaine with phenacetin is high but has slightly decreased (39% in 2009, 25% in 1st half of 2010). Yet, the proportion of cocaine powders containing levamisole has strongly increased (51% in 2009, 70% in first half of 2010). Levamisole is an antihelmintic used mainly for veterinary purposes. It is also used as an anti-cancer drug, but is not officially registered for human use in the Netherlands. The average dose of levamisole was 7.4 mg in first half of 2010.
- In North-America, the use of cocaine adulterated with levamisole has been associated with serious blood diseases. In the Netherlands no such cases are known (CAM, 2010).
- In the 1st half of 2010 15% of the cocaine samples also contained the antihistaminicum hydroxyzine.

Other substances

- In 2009, the following substances were found in the *total number of analyzed drug samples* (powders, tablets, liquids, n=5,084). Some substances found relatively often were ketamine (n=66), GHB/GBL (n=61), 4-Fluoroamphetamine (n=99), mephedrone (n=65) and 2-CB (n=81).

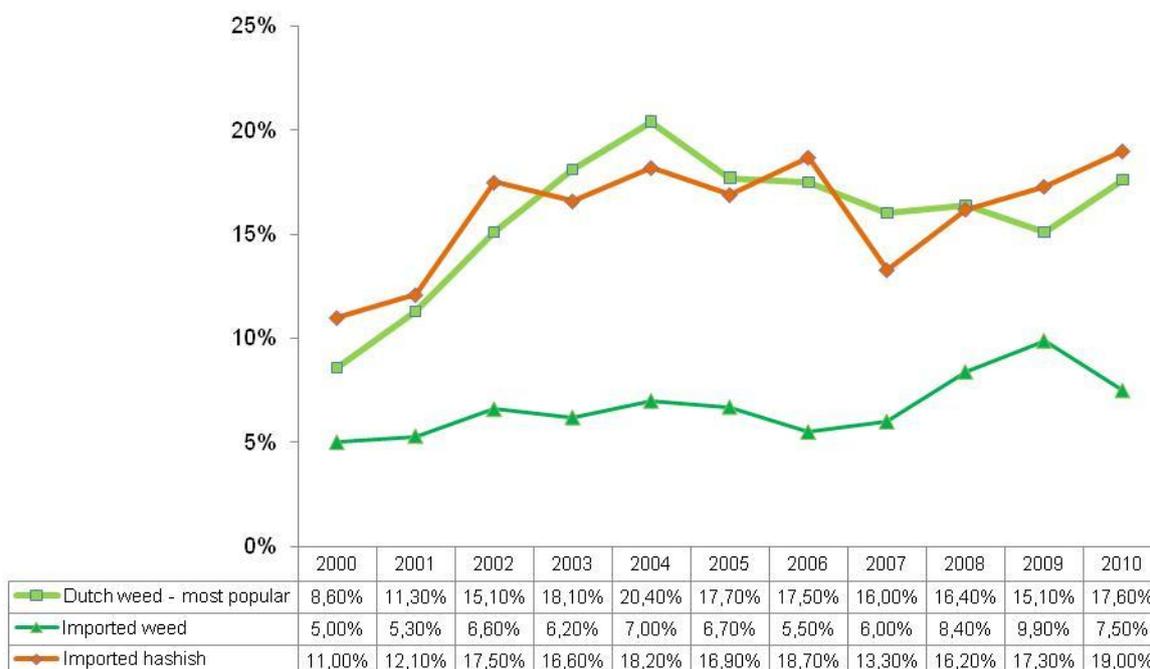
Cannabis

Since 1999 the Trimbos Institute also monitors THC content and prices of cannabis (THC-monitor) (Pijlman et al., 2005). Samples of different cannabis products (about 1 gram each) are regularly procured from a random sample of 50 coffee shops and chemically analysed. Figure 10.3.4 shows the average concentration of THC in Dutch marihuana ('nederwiet'), imported marihuana and imported hashish (see also Standard Table 14). Two types of samples of Dutch marihuana were bought: the most "favourite" variety (normally reported

here, unless mentioned otherwise) and the most “potent” variety, according to the perception of owners of coffee shops. In 2010 there was a change in laboratory, which may have had some impact on the trend data (Niesink et al., 2010).

- Dutch marihuana contains about three times more THC than imported marihuana.
- Between 2000 and 2004, the percentage of THC in Dutch marihuana increased significantly from 9% to 20%. Between 2005 and 2010 average concentrations fluctuated between 15% and 18%. Since 2001, the annual average concentration of THC in the most favourite variety was not significantly different from that of the most potent variety (17.8% and 17.9% in 2009).
- The THC concentration in imported marihuana increased between 2007 and 2009 and dropped again in 2010.
- The percentage of THC in imported hashish dropped from 18.7% in 2006 to 13.3% in 2007, and increased thereafter. These changes are hard to explain.

Figure 10.3.4: Average THC percentage in cannabis products



Source: THC-monitor, Trimbos Institute (Niesink et al., 2010).

- The relatively high THC content in Dutch weed compared to imported weed is probably due to highly professional cultivation methods.
- As a result of intensified law enforcement in the area of marihuana cultivation (see previous National Reports), it might have become more difficult to obtain marihuana with a good quality standard in Dutch coffee shops. Retail prices have also risen (see section “Prices” below).

THC versus cannabidiol (CBD)

The potency of cannabis is generally indicated by the concentration of THC. In recent years scientific publications increasingly point at the role of another cannabinoid – cannabidiol (CBD) – in contributing to the (health) effects of cannabis. More specifically, cannabidiol seems to counteract some of the effects of THC that are implicated in, among others, psychosis and dependence (e.g. Morgan et al., 2010; Bhattacharyya et al., 2010). In this

regard, especially the ratio between THC and CBD – rather than absolute THC content - seems to count.

Dutch weed contains relatively high concentrations of THC and very low levels of CBD (18% versus 0.2%, respectively). For imported marihuana this balance is slightly better (7.5% versus 0.2%), but levels of CBD are also low. Imported hashish contains highest levels of CBD (6.0%), which might to some extent counteract adverse (but possibly also wanted) effects of THC. Whether these differences translate in different health risks that are relevant at population level remains to be seen.

10.3.2 Prices

Sources on the price of drug samples are DIMS/THC-monitor, surveys in Amsterdam (Antenna) and the two-yearly Trendwatch monitor. It should be noted that prices may vary widely between regions, but a reliable picture on regional differences is not available. Also, prices vary depending on the size and location or source of the purchase (Benschop et al., 2009; Doekhie et al., 2010). Moreover, prices reported here are not corrected for purity (unless mentioned otherwise).

Cannabis

- According to the THC-monitor, the average retail price of a gram of imported marihuana is consistently lower compared to other cannabis products (table 10.3.3; see also Standard Table 16).
- The retail price of Dutch marihuana increased between 2006 and 2009 and stabilised in 2010. Price increases were strongest for the Dutch weed sold as most potent type.
- Taking data for the most potent and popular types of Dutch weed together, a significant correlation is found between price and THC concentration ($r=0,55$, $p<.001$).

Table 10.3.3: Average retail price per gram of cannabis products (in €)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Dutch weed – most popular	5.8	5.9	6.1	6.4	6.0	6.2	6.2	7.3	7.7	8.1	8.1
Dutch weed – most potent		5,9	6,6	7,0	6,3	6,6	7,0	8,5	9,8	10,5	10,1
Imported weed	3.9	4.0	4.2	4.3	4.9	4.1	4.4	4.3	5.2	4.9	4.6
Imported hashish	6.3	6.4	7.1	7.6	6.6	6.8	7.3	7.7	8.1	8.7	9.1

Source: THC-monitor, Trimbos Institute (Niesink et al., 2010).

Prices other drugs

Retail prices of other drugs reported by users who delivered their drugs sample to DIMS™ did not change much over the past three years (see Standard Table 16). In 2008 and 2009, the price of an ecstasy tablet varied between 1 and 10 euro. However, the average price per tablet seemed to be slightly higher in 2009 compared to 2008. This is consistent with findings from the Amsterdam Antenna monitor using data from different samples of visitors of clubs, cafes and coffee shops: the average price per ecstasy pill remained stable between

2003 and 2009 (4 euro), but was one euro lower in the years in between (2005 and 2008) (Nabben et al. 2010). Trendwatch reported prices between 2 and 5 euro- with a trend towards the upper range – and minor regional differences (Doekhie et al., 2010).

The price of cocaine lies between 20 and 80 euro. Average price remained stable in the past four years (after a long-term decrease since the early nineties), but prices corrected for purity showed a recent upward trend (Brunt et al., 2010). Doekhie et al. (2010) reported that prices Amsterdam dealers have to pay for one kilogram of cocaine have increased up to 40,000-41,000 euro, but prices at retail level remain generally stable at 50 euro.

Amphetamine is much cheaper than cocaine - one gram generally costs between 5 and 15 euro - which is sometimes mentioned as a reason to use it as a substitute for cocaine (Van der Poel et al., 2005). However, in 2009 prices seemed to be slightly higher compared to 2008 (table 10.3.4). Moreover, there are strong regional differences with prices being higher in the big cities (10-20 euro) compared to more rural areas (<10 euro) (Doekhie et al., 2010).

Table 10.3.4 Prices (in €; mean and range) of drug samples delivered to DIMSTM in 2008 and 2009

	Heroin		Cocaine		Amphetamine		Ecstasy	
	2008	2009	2008	2009	2008	2009	2008	2009
Sample size (n)	24	40	637	780	843	973	1766	1561
Mean (€)	40	40	50	50	6	8	2	3
Minimum – maximum (€)	15-60	10-60	25-70	20-80	5-15	1-25	1-10	1-10

Heroin, cocaine, amphetamine prices are in euro per gram. Ecstasy price is in euro per tablet. Source: DIMSTM, Trimbos Institute.

Part B: Selected issues

11 History, methods and implementation of national treatment guidelines

11.1 History and overall framework

11.1.1 *Brief introduction on the role of guidelines in improving quality in addiction care in the Netherlands*

The role of guidelines in improving the quality of care is considered important, but the literature on implementation and health policy measures shows that guidelines in itself are insufficient to realize this goal. “Guidelines are a way to translate research results and clinical experiences in practice into recommendations about care procedures. They work as an intermediary in the implementation process.” (Grol 2009b). For instance, besides guideline publications that tell professionals *what* to do in daily practice, other publications are needed that present guidance *how* to do it, for example protocols, manuals, and modules. Initial studies on the implementation of guidelines in Dutch addiction care showed some advantageous results, but the consequences for the quality of care in the longer run have to be evaluated yet.

To gain more insight into developments of the quality of addiction care, additional mechanisms have been or will be introduced in the Netherlands. Examples are the routine monitoring of the outcomes of care, performance indicators, and an elaborated administrative schedule of diagnosis-treatment combinations. The aim of these combinations is to structure treatment allocation arrangements and to structure the decision making of the insurance companies about funding arrangements. These mechanisms may have both advantageous and disadvantageous effects, which will also briefly be referred to in this selective issue.

11.1.2 *Historical, cultural and institutional contexts that contributed to the development of guidelines*

Below, some important and partly simultaneous developments and activities for guidelines in general health care, mental health care, and addiction care in the Netherlands are presented. Earlier developments were the consensus statements, initiated in the 1970s, of the National Institutes of Health (NIH) in the United States. These are reported to be the first examples of systematic guideline development. This movement was paralleled and supported by methodological advancements in reviewing the research literature during the period 1975 to 1995. For the social sciences this started with the publications of Glass (Glass 1976; Glass et al. 1981). The growing sense of importance among scientific researchers of conducting systematic reviews and meta-analyses for determining the effectiveness of interventions gradually became prominent. And on its turn, the international movement of evidence-based medicine, that started in Canada and the United Kingdom in the 1980s, has been fundamental for evidence-based professional guideline construction.

During the 1980s, general practitioners (GPs) in the United States started to construct guidelines and standards for professional practice. The function of these guidelines was to support GPs in their professional practice, to restrict unnecessary differences in professional

practice, to offer a basis for evaluation and training, and to support medical task agreements between GPs and medical specialists (Theuvenet et al. 2004).

The international movement of evidence-based medicine that started in Canada and the United Kingdom in the 1980s has been directive for a similar movement in the nineties in the Dutch health care, the mental health care, and addiction care (Swinkels et al. 2008).

General health care

The first guideline for GPs was introduced in the Netherlands in 1989 by the Dutch Association for General Practitioners (NHG). Guidelines from this period were predominantly consensus based. From 1996 the guidelines became more evidence based, under the supervision of the Dutch pioneer in evidence-based medicine, the Institute for Quality in Health Care (CBO). In the same decade, foundations for medical specialists became also active in guidelines construction (Theuvenet et al. 2004).

In medical sciences, the Cochrane Collaboration started in 1992 and its Dutch sister organization, the Dutch Cochrane Center, started two years later. In the Netherlands, the growing availability of scientific evidence for effectiveness has fuelled the development towards more evidence-based guidelines instead of only consensus-based guidelines.

In the Netherlands, at the end of the nineties several developments and activities were initiated by the Ministry of Health, Welfare and Sport, all pointing in the same direction, namely supporting the process of improving the quality of care. Later in the nineties the costs of care, and thus the discussions about choices in care, also became a part of guidelines construction. The Ministry of Health, Welfare and Sport funded a program of cost-effectiveness analyses that was realized by several organizations, for example the Institute for Quality in Health Care (CBO), the Order of Dutch Medical Specialists, the Institute for Medical Technology Assessment, the Working Group on Research and Quality (WOK), and the Dutch Cochrane Centre. Improving the quality of care has become increasingly related to the quest for increasing the efficiency in health care expenditures, which is due to the steadily rising national costs of health care. The target is to reach for high-quality health care for the patient at the lowest price. Among the initiatives that were started are not only the guidelines, but also quality standards, protocols, benchmarking including routine outcome monitoring, performance indicators and Diagnosis Treatment Combinations (Casparie et al. 2004; Pijnenborg et al. 2004). The importance of these endeavours has currently grown due to the general quest.

Mental health care

During the nineties, the need for research reviews of the effectiveness of interventions was also felt in the field of mental health care, which resulted in several systematic review reports about different mental disorders (Arends et al. 1996; Donker et al. 1996; Van Gageldonk 1996). In 1999 the National Steering Group for the Development of Multidisciplinary Guidelines for Mental Health Care was initiated. This Steering Group was supported by several professional and client organizations in the field of mental health care. Under this Steering Group, several commissions were inaugurated, meant for producing guidelines for specific classes of mental disorders. Until now ten guidelines have been published and disseminated, in hard copy and on the internet.

Addiction care

The developments and activities described above were in another way also introduced in the Dutch addiction care. The first research review on the effectiveness of the Dutch addiction care was published in 1997 (Van Gageldonk et al. 1997) and since then many other reports followed (Cuijpers et al. 2006; Rigter et al. 2004; Van Gageldonk et al. 1998). Also in 1999, the program Scoring Results started its activities for the improvement of the quality of the Dutch addiction care. This program would last until 2009. Actually, this program was initiated by the Ministry of Health, Welfare and Sport, because there was a broadly felt dissatisfaction with the quality of the Dutch addiction care. As an active reaction to the dissatisfactory situation, several directors of institutes for addiction care designed a program for quality improvement, the so-called program "Scoring Results" (Walburg et al. 1998). They phrased three main program goals. A first goal was to redesign the supply of interventions in the addiction care towards a more evidence-based care and to follow the 'stepped care' principles. A second goal was to apply routine monitoring to evaluate the outcomes of the care given by individual professionals and teams, this in order to arrive at permanent professional improvement. Finally, a third goal was to build a supportive system, starting with a redesigned training and (re)schooling system for professionals (Rutten et al. 2009). Apart from many other publications like literature reviews, manuals, handbooks, and working books, the program Scoring Results has now published several guidelines for professional practice in the addiction care. Several other guidelines have been published by other organizations and were funded by the Netherlands Organisation for Health Research and Development (ZonMw).

Finally, in their advisory report to the Minister of Health, Welfare and Sport, the Commission on Medical Interventions for Drug Dependence from the Health Council of the Netherlands (Gezondheidsraad), supported the targets and activities of the program Scoring Results. The advisory report stressed the importance of evidence-based medical and psychosocial interventions for drug dependent people. Knowledge about evidence should be incorporated in professional guidelines for the professional practice in order to improve the quality of the Dutch addiction care (Health Council of the Netherlands 2002).

11.2 Existing guidelines: framework and content per guideline

The descriptions below of the separate Dutch guidelines for addiction care (see § 11.2.1 to § 11.2.9) include the framework and the content of the guideline. The framework includes background, development, coordinating bodies and participants. The content describes interventions, targets of the guideline and the chapter subjects. Reports on and experiences with the implementation of these and other guidelines are presented in § 11.3.

Up to now nine guidelines for addiction care have been published in a period of eight years (see table 11.1). Two guidelines are forthcoming (one on methadone treatment, and one on treating drug problems in general). Unlike the former guidelines, the forthcoming two are using the methodology of evidence-based guideline development (EBRO) that is also used for medical guidelines in the Netherlands (Van Everdingen et al. 2004).

Table 11.2.1 Published Dutch guidelines for addiction care*

1. Comorbidity: diagnosis and treatment	2003
2. Compulsory discharge from treatment	2004
3. Inpatient and outpatient detoxification	2004
4. RIOB: Methadone maintenance treatment	2005/2006
5. Case management	2007
6. Client profiles	2007
7. Pharmacological treatment for drug dependence in prisoners	2008
8. Treatment of cannabis problems in youth and young adults	2009
9. Disorders in alcohol use: diagnosis and treatment	2009

*Protocols, manuals and modules are not included. Source: National Branch Organization for Mental Health Care and Addiction Services (GGZ Nederland).

Six of the nine Dutch guidelines for addiction care are initiated and/or (co-)funded by the ten-year program Scoring Results, while the guidelines for mental health care were all the result of the organizational activities of the National Steering Group Multidisciplinary Guideline Development in Mental Health. The guideline for compulsory discharge from treatment was realized by the Coordination Group Guideline Development in Addiction Care. A second guideline on pharmacological treatment for drug dependent prisoners was supported and funded by the Ministry of Security and Justice (see § 11.2.5), and a second one on disorders in alcohol use was supported by the National Steering Group Multidisciplinary Guideline Development in Mental Health (see § 11.2.7).

It is observed that the sequence of guideline construction is presumably not guided by the prevalence rates of specific drug problems or disorders that cause most public nuisance or costs. Contrary to the Netherlands, the centralized guideline construction in the United Kingdom by the National Institute for Clinical Excellence (NICE) focuses both on mental health care and addiction care. It should be noted that in the United Kingdom a mean amount of £ 480,000 is spent per guideline. This is substantially more than the money spent on the Dutch guidelines.²⁰

11.2.1 Comorbidity: diagnosis and treatment

The first Dutch guideline in addiction care deals with comorbidity. The publication was the result of a project conducted in a research department of one institute for addiction care (Posthuma et al. 2003). It presents guidelines and instruments for screening and diagnosis of comorbid problems. Manuals and specified recommendations are presented for professionals in both addiction care and mental health care. Guidelines for professional treatment practices are not described.

In the first chapter the concept "double diagnosis" is defined, epidemiological data are presented, and the aetiology of this phenomenon is presented. Chapter two presents the results of the literature review and the pilot studies, the guidelines and recommendations. Included are also limiting factors and recommendations for the implementation of the guidelines. A limiting factor is for instance the existing treatment climate in the organizations

²⁰ Tim Kendall. Joint Director, National Collaborating Centre for Mental Health, UK. Presentation on NICE guidelines at the Big Guideline Conference in Amsterdam, Dec. 8th 2009.

of mental health care that may hamper the treatment of drug problems. For example, there may be a climate in which drug use is considered a contra-indication for psychiatric treatment or is simply ignored. The recommendations given in the guideline not only stress the importance of education and training (mutually in psychiatric and addiction problems), but also stress discussions about prevalent professional attitudes. Furthermore, a lack of time and capacity (money and expertise) are considered limiting factors. An implementation plan is recommended in order to structure the process.

The last chapter gives an overview of instruments for screening and assessment. In the appendices a thorough description is given of the pilot studies and the literature reviews, for example instruments for measuring motivational enhancement, several screening instruments for substance use among psychiatric patients, instruments for screening and assessment of psychopathology among drug dependent patients, and an overview of evidence-based treatment for double diagnosis patients, which is specified for several psychiatric disorders.

11.2.2 Compulsory discharge from treatment

The second guideline has been realized by a group of experts from professional organizations in addiction care and psychiatric nursing (Regiegroep richtlijnontwikkeling in de verslavingszorg 2004). The group was funded by the Ministry of Health, Welfare and Sport. The guideline targets the organization of medical treatment and nursery care (in- and outpatient), and targets decision making for patients who are treatment-refractory or are seriously misbehaving during treatment or care. Examples of these behaviours are breaking the house rules, disobeying the treatment plan, or behaving dangerously. A more specific target is to guide the decision making process towards discharging patients from treatment and care, in case several earlier corrective measures were not successful. The guideline should offer more guarantees for maintaining the safety for other patients and professionals, and for maintaining a care environment that remains workable for both. Its purpose is that members of patient organizations and professionals will use this guideline for constructing a more specified local or regional protocol for compulsory discharge.

The guideline first describes important concepts concerning circumstances in treatment and care related to compulsory discharge. It also describes generally accepted points of departure or rules related to treatment and care. It continues with describing the processes and examples of breaking those rules, of acute danger and possible actions to be taken in those circumstances. In some chapters case descriptions are added for further illustration. Decision steps and actions are summarized in two decision trees for both the organization and the patient. Finally, the ways of terminating the treatment contract and the process of discharge are described.

11.2.3 Inpatient and outpatient detoxification

The third Dutch guideline in the field of addiction care was composed by a working group of experts from two Dutch institutes of addiction care (De Jong et al. 2004). The fundament of this guideline was given by a literature review on the pharmacological treatment of withdrawal symptoms and by criteria that are important for the decision to choose outpatient or inpatient detoxification. Based on the results of this review, a draft protocol was written and evaluated during meetings with physicians and nurses. Both professional organizations

and patients were asked to comment on this draft. The guideline has finally been tested in two pilot studies on its feasibility.

The guideline mainly describes the medical-biological process of detoxification that takes around two to three weeks, and supports the choices to be made during that process. The results of the two pilot studies showed that this process needs support, especially in outpatient detoxification treatment. Other activities, for instance psychosocial support and motivational enhancement, are not included in this guideline. It represents an evidence-based description of the pharmacological treatment possibilities for detoxification specified per psychoactive substance. The important role of the patient with regard to withdrawing symptoms and craving, and the important role of a systematic registration as a basis for evaluation and improvement are stressed.

The content of the chapters covers the main aspects of detoxification, information on several psychoactive substances (alcohol, opiates, benzodiazepines, cannabis, cocaine, polydrug use), guidelines/instructions for physicians and for nurses separately, and for both professional groups together. The guideline also presents standards for substance-specific detoxification treatment, and patient data registration issues (treatment plan, treatment agreement, measurement instruments, and an illustrative example). The last part describes a literature review on this subject.

11.2.4 RIOB: Methadone maintenance treatment

The RIOB guideline was developed by two institutes of addiction care to tackle existing problems in maintenance treatment. Methadone maintenance treatment already existed in 1968 in the Netherlands. During the nineties, the target of maintenance treatment changed from abstinence to the more realistic target of stabilization. In later years the target mainly changed toward reducing public nuisance (Driessen 2004). Partly due to this last target, the practice of methadone treatment was reduced to merely methadone dispensing. Since 2004 this change was increasingly criticized by individual authors {Loth, 2003 238 /id;Loth, 2009 3041 /id}, by professional organizations, by the Health Care Inspectorate (IGZ 2004), and by the Netherlands Court of Audit (T.K.29660-1-2.Tweede Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatienummer 29660 nrs.1-2 2004). The RIOB targets physicians and nurses separately. It stresses the necessity of adding nursery care to methadone dispensing practices. It also describes the requirements for the setting, organization, and management of this treatment.

The RIOB has been developed via several pilot studies. During these studies, both the managers and the professionals learned to reflect on their daily professional behaviors and learned to change it when necessary. The management should, for instance, enable nursing professionals to include nursing practices and psychosocial care in their daily tasks, by changing the system for time management.

The RIOB guideline (Loth et al. 2005) first describes different profiles of the opiates dependent client with special attention for women and cultural minorities. Secondly, the systematic collection of client data is considered, both for the physician and the nurse. A third subject is how to reach an adequate medication regime for methadone or for buprenorphine. Attention is paid to special patient groups, namely pregnant women, double-diagnosis patients, the young and older addicts, and polydrug users. Special circumstances are also highlighted, for example holidays and detention. Finally, attention is paid to multidisciplinary diagnosis and support, based on so-called "categories of intensity of care" (in Dutch: *zorgzwaartecategorieën*). These categories were based on a guideline on client

profiles (see § 11.2.6). Furthermore, guidelines were formulated for the organization of maintenance treatment, including registration, funding, and the composition of a professional team. Next, attention was paid to national registration requirements, cooperation with general hospitals, mental health care organizations, judicial organizations, and institutions for mentally retarded people. At the end of each chapter, appendices are added about many subjects, for instance about the necessity of information transfer between physicians and nurses, about the DSM-IV- and ICD-10 criteria for substance dependence, and about urine testing. Finally, the reports of four literature reviews are added, two on maintenance substances, and a third and fourth review on maintenance treatment for patients with comorbid psychiatric disorders and polydrug use.

11.2.5 Case management

Two publications preceded the guideline for case management: a literature review (Wolf et al. 2002) and an 'assistance document' (*handreiking*) (Wolf et al. 2003). The review presents an overview of the results of effect studies on case management for chronic drug dependent patients. The assistance document is meant to support the professional work of case managers with regard to what *should* be done.

The guideline for case management has been produced by four institutes for addiction care. It describes how case management can best be realized, what methods and interventions can be used, and how an effective relationship of the case manager with the patient should be built. It is written from the perspective of the individual case manager (Tielemans et al. 2007). The authors assume that case managers should be part of a multidisciplinary team. They further state that basic conditions within the organization should be met in order to enable working with target groups with complex problems. These target groups not only have addiction problems.

Chapter one of the guideline briefly describes the theoretical backgrounds, the points of departure (important targets), and the models of case management. The second chapter describes the target group and the inclusion- and release criteria for case management. In the following chapter the six-phases model of case management is described, offering support for the decision making by the case managers. These six phases are:

- 1) entry phase: sharing information, building a working relationship, and registration;
- 2) inventory phase: focusing on urgent problems, network analysis, description of life course;
- 3) analysis: planning an individual program of care;
- 4) execution of the individual case management program;
- 5) evaluation: regular evaluation of quality of life and;
- 6) release phase: reducing case management activities, transfer of activities to other professionals and determining types of after care.

In the final chapter of the guideline several areas of attention are specified and worked out, for example psycho-education and medication, self care, social contacts, daily activities, coping skills related to housing and living, and financial and judicial problem solving. A Compact Disk is added with the data from the literature review, an education module for case managers in the addiction care and measurement instruments.

11.2.6 *Client profiles*

The guideline for client profiles is based on an instrument for setting up profiles, especially for clients with chronic addiction and many other problems (Wits et al. 2007). This instrument was developed by the Rotterdam addiction research institute IVO in collaboration with three institutes for addiction care. The guideline construction was funded by the Netherlands Organisation for Health Research and Development (ZonMw).

The main target of the guideline is to improve the fit between the supply of care and the need of care among the patients. Target group analysis is considered fundamental for the programming of (often long-term) care for addicted patients with complex problems. The guideline presents suggestions for a target-group analysis when different types of care are considered for patients with complex problems. The basic subjects for such an analysis are patient needs, access to patients, and linking a care program to these needs. The use of this guideline is considered to be improved by a brief additional training of professionals.

Chapter one of the guideline contains four subjects:

- 1) a description of the usefulness of patient profiles: how to increase the response rate, how to reduce drop-out rates, and how to increase the effectiveness of treatment or care;
- 2) steps to be taken toward such a profile: management support within the organisation, sketching the context, data collection, determining the need of care, constructing a patient profile, organizing feedback, and a specified description of the best fit of care supply;
- 3) information on target group analysis: by a multidisciplinary working group inside an organization, if necessary supplemented by external expertise; and
- 4) reflections on the time and man power needed to realise this analysis: 10-30 days for 2-3 professionals, working group time some six months.

In the second chapter of the guideline the constituent steps are described for the analysis of the target group. Working schemes and elaborated examples are described in the last part of the guideline.

11.2.7 *Pharmacological treatment for drug dependence among prisoners*

The guideline for pharmacological treatment among prisoners was issued by the Ministry of Security and Justice and the Institute for Quality in Health Care (CBO). The guideline was supported by a consensus working group with members from different professional departments: 1) professionals from the forensic medical, psychological and psychiatric circuit; 2) nurses and medical specialists in prisons; 3) pharmacists, and 4) physicians, specialized in addiction. The initial target was to construct a guideline for methadone treatment in prisons, but the target population very often has more problems besides substance use. These other problems (e.g. comorbidity) forced the working group to cast the net much wider, including other medical interventions. Still, the impetus of this guideline lies on opiates dependence.

The Department of Judicial Institutions (DJI) of the Ministry of Security and Justice endorses the following explicit points of departure or principles. Prisoners should receive efficient health care with comparable quality as in general health care, they should also be treated with the same evidence-based interventions as people outside prison, and continuity of care should be guaranteed when addicted prisoners need it.

The guideline consists of ten chapters, covering the following issues: the effectiveness of pharmacological treatments for substance dependent prisoners; epidemiological data on

drug dependence in prisons, the state of the art of pharmacological treatment of opiate dependence in general; criteria for the eligibility of prisoners for methadone treatment, suggestions to cope with comorbid problems among prisoners when they receive pharmacological treatment (e.g. infectious diseases, somatic disorders, psychiatric disorders, pregnancy), criteria for decision making concerning the use of benzodiazepines among opiate dependents in prison, decision making criteria targeting the use of other medication by target group members (e.g. naltrexone, tranquilizers), the organization of methadone treatment, and guidelines for registration and for cooperation with external organizations and with other levels within the judicial circuit (DJI 2008).

11.2.8 Treatment of cannabis problems in youth and young adults

The guideline annex protocol for the treatment of cannabis problems deals with the outpatient treatment of cannabis problems among young people from 12 up to including 23 years (Ivens et al. 2008). At the same time a working book was published for homework for the clients (Ivens 2008). Both were written by an expert affiliated with one institute for addiction care. During the coming years, comparable publications for problems with other drugs than cannabis are foreseen for this target group.

For the cannabis guideline a supportive literature review was conducted, presenting the following topics: 1) epidemiological data on cannabis use among the target group, 2) the effects of cannabis use on young people, 3) the use of classification systems, instruments for screening and diagnosis, main results of treatment effect studies, and 4) the usefulness of client profiles for determining the most adequate treatment options (Wittenberg 2006).

The guideline briefly mentions several principles for treatment, for example the targets, criteria for inclusion, comorbid problems, the role of significant others (family, friends), the flexible role of phases of behaviour change, the materials to be used, and guiding principles of the treatment process. Principles are for example: clients first, start with motivational enhancement, give homework, building a therapeutic relationship, tackling patient compliance, urine tests, relapses, and prevention of drop-out. Finally, some background information is presented for the professional about types of cannabis use among young people, existent treatment options, and methods and techniques.

Two intervention types are mentioned: lifestyle training 1 and 2 for adults (based on cognitive-behavioural principles) and the Cannabis Youth Treatment Series (Webb et al. 2002). The interventions focus on correcting inadequate coping strategies and dysfunctional cognitions via motivational enhancement techniques, self control, cue exposure, behaviour skills, and relaps prevention. The number of sessions depends on the need of the client.

11.2.9 Disorders in alcohol use: diagnosis and treatment

The last guideline for dealing with disorders in alcohol use was produced by a special working group of the National Steering Group Multidisciplinary Guideline Development in Mental Health (see § 11.1). It was done with the accord of several professional organizations (e.g. for physicians, nurses, psychologists, psychiatrists) and was supported by the Trimbos Institute and the Institute for Quality in Health Care (CBO) (Trimbos-instituut/CBO 2009). The guideline was initiated by the Dutch Foundation for Psychiatry and funded by the Order of Medical Specialists.

In general, alcohol dependence is traced when it exists already for a long time. The target is to improve (early) diagnosis and treatment for one of the biggest problems in health care.

This guideline has 15 chapters and gives recommendations and advice for 1) the diagnosis of alcohol problems of adult patients, 2) criteria for choosing in- or outpatient detoxification, and 3) recommendations for treatment. The guideline further describes instruments for case finding in the general medical practice, and laboratory tests that determine acute and chronic alcohol abuse. Other subjects are 1) the effectiveness of pharmacological treatments (e.g. acamprosate, naltrexone and disulphiram in targeting abstinence or reduction of use), 2) the effectiveness of psychosocial interventions for this patient group (e.g. motivation enhancement, brief interventions, selfhelp groups, the 12-step approach, cognitive-behavioural therapy), and 3) combinations of both types of interventions.

Brief attention is paid to the up to now insufficient evidence for the effectiveness of alternative treatment, e.g. transcendental meditation, biofeedback, and acupuncture. The guideline also covers recommendations for treatment in case of comorbid psychiatric disorders. Furthermore, the guideline pays attention to the causes of and risk factors for somatic complications of alcohol abuse and the role of general practitioners for the case finding and diagnosis of alcohol problems. Next, existing legal arrangements for quasi-compulsory treatment are described, as well as options for interventions in the work place. Finally, recommendations are formulated for enhancing the implementation of the guideline. The recommendations and advice are meant for professional use in the mental health care and the addiction care, but also for general medical practice and other professionals involved with the care of individuals with alcohol problems. The guideline is also expected to be of supportive value for the decision making for patients and their families.

As mentioned in the introduction of § 11.2, two multidisciplinary guidelines on (problem) drug use are in development.

11.2.10 Final remarks

The program Scoring Results is constructing a 'new generation' of guidelines (addenda) for the treatment of patients with comorbid disorders. These guidelines will be addenda to the existing multidisciplinary guidelines for mental health. The first addendum will be the Guideline Anxiety and Addiction (Snoek et al. 2009). Separate guidelines will be constructed for patients with substance use disorder and other disorders like depression, schizophrenia, or borderline personality disorder.

In recent years, the treatment demand for GHB addiction has increased at a number of institutes for addiction care in the Netherlands (Van Laar et al. 2010). This far, no evidence-based guideline has been developed yet for the treatment of GHB-addiction. The institute for addiction care Novadic-Kentron was the first in the Netherlands to apply medical GHB for detoxification purposes. At Novadic-Kentron, scientific research is now being conducted to establish an evidence-based guideline for the treatment of GHB-addiction (Willemen 2010).

11.3 Experiences in the Netherlands with the implementation of guidelines

The experiences with the implementation of guidelines in the Netherlands will now be described. Lessons from more general implementation evaluation reports will be described first. These reports deal with the experiences with guidelines in the health sector in general, the implementation of guidelines in the mental health care (see § 11.3.1), and experiences with the implementation of guidelines and other 'products' of the program "Scoring Results"

(see § 11.3.2). Finally, the results of two guideline-specific implementation reports will be described (see § 11.3.3 and § 11.3.4).

11.3.1 Implementation of guidelines in mental health care

Many factors may influence the implementation of guidelines. Grol and Wensing (2006) refer to characteristics such as the content (e.g. consensus based or evidence based), the form (e.g. digital or written), the formulation (e.g. easy to understand and accessible) and the layout (bad- or well-organised) (Grol et al. 2006). The actual implementation of a guideline will also depend on the circumstances and the clinical settings, that is the context in which the implementation is supposed to take place (Rycroft-Malone et al. 2010). Therefore, successful implementation will often require "building context" (Rycroft-Malone et al. 2009).

One study tried to gain insight in factors that influence the development, introduction and evaluation of six preselected guidelines (on prevention, cure and care) in somatic and mental health care (Fleuren et al. 2009). The authors constructed an instrument called the "Quality of Guideline Development, Introduction and Evaluation" (abbreviated in Dutch as KRIE). This instrument was applied to systematically compare the guidelines on three parts of the innovation cycle. The report mentions several conclusions:

- Although guidelines are developed systematically, some limiting bottlenecks occur:
 - Methodological knowledge for performing a systematic literature review is often restricted;
 - Patients and other stakeholders are insufficiently involved;
 - Bottlenecks are not systematically scrutinized;
 - Consensus-seeking strategies result in guidelines that are phrased in terms that are too general;
 - The development process takes too much time.
- Attention for the perspectives of patients and relatives is not self-evident.
- Guidelines do not include special versions for patients and management of care.
- The implementation of guidelines is considered in the final phases, not from the beginning.
- An analysis of determinants (limiting and facilitating implementation factors) is rarely done in advance.
- Implementation strategies that fit the results of a determinants analysis are rarely used.
- Evaluation of the implementation of guidelines is rarely done.

The authors finally conclude that the KRIE-instrument seems adequate for a comparative analysis of the development, introduction and evaluation of guidelines in general.

A second study showed that the accessibility of the multidisciplinary guidelines for anxiety and for mood disorders appears to be hampered by the following factors. Firstly, the decision trees presented in the guidelines are said to be insufficiently clarified. A similar conclusion is drawn for the sequence of working with several pharmacological treatments. Other factors mentioned are the recommendations not being specified for separate professional disciplines, the content being co-determined by the pharmacological industry, and guidance being given only for treating symptoms and not for underlying psychological problems (Smolders et al. 2006).

A third study was published to trace factors that hamper the implementation of the seven multidisciplinary guidelines for mental health care and the two addenda²¹ that were published in the Netherlands from 2000 to 2008 (Sinnema et al. 2009). This study was based on a literature review, interviews by mail and interviews by telephone. The mean response rate was low (27%), that is 406 interviews by mail from a total of 1,526 that were sent to selected professionals. The response was the highest among nurses and psychologists, followed by psychotherapists and psychiatrists. Very low response rates were reported for general practitioners, managers, and social workers. Interviews by telephone were held among directors of professional organizations who were or are active with guideline construction for mental health care. These interviews targeted 1) the use of these guidelines within their own organization, 2) the way they have tried to stimulate this use, and 3) their opinion about the best way of stimulating the use of guidelines in the future. Although the non-response rate was considerable, both the literature review and the two interviews largely revealed the same factors that influence the implementation of the guidelines.

Sinnema et al. (2009) concluded that the guidelines were used by only a minority of the professionals (28%). The use was the highest among psychiatrists (somewhat less than 50%), followed by the psychologists (around one third), the psychotherapists, general practitioners, and nurses. The use of the guidelines was the lowest among social workers and psychotherapists. A clear cut implementation policy and organised support within the organization are considered the most important factors for stimulating the use of these guidelines. On the other hand, the results showed that especially psychiatrists and psychologists feel unsatisfactorily pressed by measures taken by health insurance companies and the National Health Inspectorate to use guidelines. According to the experience of psychiatrists and psychologist these pressures mainly result from economic motives and are not concerned with the content and the quality of care.

A general conclusion is that the energy during the past decade was mainly focused on developing guidelines. This conclusion is also drawn by Fleuren et al. (2009). According to the authors, the impetus of the energy spent during the coming years should be redirected toward an increased implementation rate of these guidelines. The study recommends the use of computer software programs for increasing the efficiency of care processes and for advice, evaluation and feedback. A second recommendation advocates brief summaries and overviews that are easy to read for the different professional user groups, and present clear guidance in which professionals should do what and when. Another important point of attention is investing in (accreditation) training in interactive workshops for professionals in using the guidelines, for example in using specific measurement instruments. Furthermore, not only scientific knowledge should guide the updating of existent guidelines, but also knowledge about daily experiences should be collected and reviewed for this purpose. The patient should be more involved in the decision making about diagnosis and treatment options (shared decision making) because until now this is rarely done. It is finally recommended to connect the Dutch guideline trajectory to another trajectory running in (mental) health care, namely the development and implementation of performance indicators. It is assumed that this will enhance a more stimulating environment for improving the quality of professional practice (Sinnema et al. 2009).

In mental health care the so-called "break through series" (*doorbraakprojecten*) have been realized to accelerate improvements in patient care for specific disorders or problems.

²¹ Addenda present adaptations to existing guidelines for specific subgroups, e.g. the younger and the elderly.

Break through series were developed some fifteen years ago in the USA by Don Berwick, a pediatrician who was inspired by Total Quality Management and wanted to reduce existing resistances among fellow physicians against new (evidence-based) developments in medical care. The method has been introduced in the Netherlands by the Institute for Quality in Health Care (CBO). It mainly consists of a systematic and stepwise strategy for reducing limitations and enhancing stimulating factors for the implementation of new working methods. Setting SMART targets and continuously measuring indicators of outcomes are essential ingredients in this method.²² Until now the outcomes of this method showed modest advantages in health care (Schouten et al. 2008). In primary health care for mood disorders in the Netherlands the results of the evaluation literature were mixed or unclear (Franx et al. 2006; Franx et al. 2009). Until now the break-through method has not been used for the implementation of guidelines in the addiction care.

Several (potential) burdens of the introduction of guidelines in Dutch (mental) health care have also been reported and these coincide largely with earlier reported pros and cons of guidelines in general (Burgers et al. 2009).

A first type of argument against guidelines considers the reduced freedom of professional practice. Effective care cannot always be realized due to an overdose of rules, protocols and administrative duties (Van Os et al. 2004). Related criticisms point at the danger of overeager managers, superficial scientific support, and cost-effectiveness-based decisions by health insurance companies (Asmus 2005). The genesis of standardization of health care during the past decade is said to have created unease and discontent and to have increased the number of professionals that leave their work (Van de Brink et al. 2005).

A second type of argument is that after the introduction of the mechanisms of a free market economy in the national health care, the professional autonomy for creating a higher quality of health care has been challenged. The reason is that the government, the insurance companies (and the patients) increasingly want to use guidelines for their own targets. Implementation of guidelines is - without any piloting - enforced by a combination of formal measures, e.g. re-registration, accreditation, certification, and legal measures (Goudswaard et al. 2010; Grol 2010). In the Netherlands, the system of fixed combinations of diagnosis and treatment has been worked out and is currently evaluated to facilitate a new care funding system by means of these Diagnosis Treatment Combinations (Van Hoof et al. 2009). It is still unclear if these measures are effective for raising the quality of mental health care and addiction care.

A third argument concerns the cost-effectiveness of guidelines. It has been noted that the 'circle' of guideline construction, dissemination, implementation, evaluation and updating, has become an 'industry' with its own interests. The costs are high and should be maintained, while the effectiveness is still suboptimal and future perspectives are uncertain, unless all participants see the importance of this endeavour and will maintain the funds for realizing these activities in future. The cost-effectiveness of an implementation strategy can be considered as an amalgamation of: 1) cost-effectiveness of the desired medical actions; 2) the degree to which these actions already take place; 3) the costs of an implementation strategy; and 4) the effectiveness of an implementation strategy (Grol et al. 2004; Grol 2009b; Grol 2010). Reconsidering these factors suggests that a successful implementation is by no means easy or cheap, and it should be carefully guided by evaluation and adaptation.

²² www.trimbos.nl/verbeterdezorg

11.3.2 Evaluating the implementation of the products from the program Scoring Results

The concept of "implementation" is often not clearly described and is confused with related concepts such as "dissemination", "diffusion", or "adoption". "Implementation can be described as a planned process and systematic introduction of innovations and/or changes of proven value; the aim being that these are given a structural place in professional practice, in the functioning of organizations or in the health care structure." (Grol 2009a).

The implementation process consists of five phases. The first phase is *orientation*, i.e. the promotion of the awareness of the innovation and stimulating interest and involvement. *Insight* is the second phase, creating understanding and developing insight into the own routines in daily work. In the third phase, the *acceptance* phase, a positive attitude is developed, motivation is enhanced, positive intentions are created, and decisions to change are initiated. The fourth phase concerns the *change* itself by promoting actual adoption in practice and confirming the benefits and value of change. The fifth and last phase is *maintenance*. In this phase new practices are integrated into new routines and into the organization (Grol et al. 2004).

The implementation of the diverse products of the program Scoring Results (not only guidelines but for instance also manuals and protocols) has been evaluated three times, namely in 2003, in 2005, and in 2008. The results of these evaluations are not one-to-one comparable, but still give a rough picture of the state of the art in guideline implementation in the Dutch addiction care. The evaluation results are given in table 11.2.

Table 11.3.1 Percentage of institutes for addiction care that reported using (routinely) a guideline or having adapted it

Guideline	2005* (N=12)	2008** (N=11)	2008 % that changed (adapted) guideline
Comorbidity: diagnosis and treatment	50.0%	63.6%	18.0%
Compulsory discharge from treatment	41.7%	45.5%	18.0%
Inpatient and outpatient detoxification	41.7%	63.6%	9.0%
RIOB: methadone maintenance treatment	n.a.***	90.9%	n.a.
Case management	n.a.	63.6	n.a.
Client profiles	41.7	36.4	9.0

*Percentage of the organizations that used the guideline. **Percentage of the organisations that used the guideline routinely or that changed/adapted the content of it. *** Not included in the 2005 evaluation Source: (Spits et al. 2009b).

The first evaluation in 2003 showed that data about the implementation rate of the products from Scoring Results were still scarce. This was partly due to the fact that the program did not start until 1999. Another reason was that in most organizations an implementation plan was lacking. Other factors that limited the implementation were the critical attitude of the

professionals in the field towards a product (e.g. a guideline), the instability of the implementation team, and a weak management of the implementation process. The conclusion was that the implementation process of the program products needed to be enforced (Spits et al. 2009b).

For most guidelines, the rate of implementation (i.e. percentage of organizations that use these products routinely (in most cases without adaptations) increased when comparing the outcomes of the 2005- and 2008-evaluation. Table 11.2 shows that, for the early published guideline on comorbidity, the implementation rate increased from 50% in 2005 to 64% in 2008. For the guidelines on compulsory discharge and on detoxification there was an increase from 42% to 46% and from 42% to 64% respectively. Finally, for the later published guidelines on methadone maintenance treatment and (intensive) case management, only 2008 data were available showing implementation rates of 91% and 64% respectively. The implementation rate of the client profiles guideline decreased between 2005 and 2008, namely from 42% to 36%, possibly indicating a lack of interest or usability.

According to the authors, the implementation of the guidelines on comorbidity and detoxification still needed reinforcement in 2008. Suboptimal implementation rates are reported for compulsory discharge and client profiles. Some organizations adapted a guideline to the local situation before implementing it, sometimes because the guideline was not satisfactorily specified for the target group (see for instance § 11.3.3). Other organizations decided not to implement the guideline. However, the general conclusion was that the products from Scoring Results have become better known in the field and also better implemented compared to the earlier evaluations (Spits et al. 2009b).

It should be noted that these evaluations were based on self-reports via interviews by telephone. Besides, these interviews were often conducted with only one and in some cases only a few professionals in each institute for addiction care. Furthermore, the outcomes (the degree of application of a product) are prone to interviewer and interviewee bias. The validity of these evaluation results is therefore limited. It should also be noted that for each separate guideline, available for not longer than three years, the answers were categorized in pre-defined stadia of implementation: orientation, insight, acceptance, change (or adaptation), and maintenance (Grol et al. 2006). In several organizations the guidelines were changed before implementation, and in some other organizations the guidelines were not implemented at all. Finally, recommendations were presented for updating several guidelines and other products, because they are either outdated or not implemented (Spits et al. 2009b).

The researchers also studied opinions about the factors that influence the implementation of guidelines. These factors were divided into: 1) individual factors (cognitive, motivational and behavioural) that refer to the patient, the professional, the manager and others who use the guideline; 2) social factors like professional training, teams and networks; 3) organizational factors like structures and processes and means; and 4) societal factors such as funding and legal measures (Grol et al. 2006). The individual factors that were mentioned most frequently were the attitude of professionals in addiction care, characteristics of the guideline, and the way of introducing the guideline. A social factor of importance appeared to be the degree of cooperation within teams of professionals. Clear division of responsibilities and working pressure were often mentioned as organisational factors. The societal factors that were mentioned were mainly financial factors like funding and facilities. Successful implementation of guidelines was also reported to be enhanced by guidelines being brief and clear for professionals and management. Implementation also needs a planned strategy and increased information sharing (Spits et al. 2009a; Spits et al. 2009b).

Besides these more general studies on the implementation of guidelines in mental health care and addiction care, separate reports have been published on the implementation of the guideline for detoxification and the guideline for methadone maintenance treatment. These reports will be reviewed below in § 11.3.3 (detoxification) and § 11.3.4 (methadone maintenance treatment).

11.3.3 Modification of the guideline for detoxification to promote implementation

The guideline for detoxification (see § 11.2.3) is used by eight of the eleven approached regular institutes for addiction care, covering about 90% of all regular addiction care in the Netherlands (Spits et al. 2009a). Another publication (Van Oosteren et al. 2009) showed that one regional institute for addiction care added some more specific modules to the four-week outpatient module of this guideline. These modules were based on experiences in this outpatient setting indicating that drug dependent people are often not motivated for treatment, are frequently in need of more structure in their life, and often have serious physical health deficiencies.

Therefore, mandatory modules were added paying attention to the following: 1) daily contacts on working days; 2) group meetings, both twice a week, and both for increasing structure and enhancing motivation; 3) physical revalidation exercises twice a week; 4) active involvement of 'significant others' (partners, family); and 5) active outreach work when relapse is probable.

The amended guideline was tested among fifteen clients, showing satisfactory results. This pilot was considered a success. Fourteen clients were abstinent directly after the end of the program. Six weeks later, thirteen were still abstinent and client satisfaction measures were high. Although some clients had difficulties with the mandatory character of the program, most felt satisfied about the intensified control measures. The satisfaction with working with the guideline of the professionals involved was also high, because they initially did not expect the clients to be able to complete this demanding detoxification program (Van Oosteren et al. 2009).

11.3.4 Small-scale pilot-implementation of the guideline on methadone maintenance treatment (RIOB)

The Dutch guideline on methadone maintenance treatment resulted from a critical discussion about the gradual deterioration of the methadone treatment (see § 11.2.4). It took several years before the conditions were met for implementation of the guideline in four institutes of addiction care (Rutten et al. 2009). The two most important and straightforward conditions for implementation were: 1) the willingness to participate and to cooperate; 2) the possibilities offered to do so, that is time, money, active management support, sufficient physical facilities, and commonly shared treatment targets; 3) the readiness to critically reflect on daily practice; 4) multidisciplinary cooperation; 5) an active working group within each organization; and 6) training of professionals (Loth et al. 2006).

The construction of the guideline was not following a predetermined procedure, but two phases were discerned: a development phase, and a pilot-implementation phase. Realization took place via action research. The basic assumptions of this design for research and development was the interdependence of three factors: 1) the development of the guideline content; 2) the limits set by the prevailing policy of the organization of addiction

care; and 3) the adjustment of the guideline content based on process evaluation results. Due to this design, the two phases of the guideline construction were interconnected.

The question has remained how to implement the RIOB in all institutes for addiction care. The recommendations of the implementation report suggest that the guideline should be translated to organization-specific handbooks that enable more consensus on targets, target groups, methods, and implementation of methadone maintenance treatment (Loth et al. 2006). A final recommendation points at the necessity of a national structure for the routine monitoring of the clinical effects of methadone treatment (Verbrugge et al. 2005;Walburg 1997). The implicit assumption seems to be that routine outcome monitoring will increase the use of these guidelines.

In the near future, a new guideline for methadone treatment will be built upon the current one (see § 11.2.4). The new guideline will be more strictly evidence based by following a specific procedure coinciding with current procedures in medical science.

11.3.5 Future developments

Two seemingly inconsistent developments can be seen in the guidelines movement in the Netherlands, though perhaps less in addiction care than in mental health care: standardization and diversification.

The initial idea and goal of evidence-based medicine was and is to diminish ineffective variation in care for equal or comparable health problems. A certain degree of standardization should guide clinical practice towards a higher comparability of clinical practice for similar problem areas. The assumption is that this will also lead towards a higher quality of cure and care for the patients. Standardization can be considered a congruent by-product of evidence-based medicine. Guidelines are a step on the path of changing health care in the direction of evidence-based medicine.

Nevertheless, standardization in this sense has its limits. National guidelines can partly be a specification of international guidelines, because international guidelines are often directed at governmental organizations and institutions for public health. These general guidelines should be translated and adapted towards recommendations that fit national or regional daily-practice situations (Burgers et al. 2009;Burgers et al. 2004;WHO 2009). The current guidelines in the Dutch addiction care are still rather generally formulated. Therefore, some perspectives on guideline construction stress the importance of diversification of guidelines by improving the clinical value of guidelines. This could be done by adapting the content of these guidelines to specific subgroups and circumstances, based on the results of guideline implementation found in naturalistic, practice-based studies among these subgroups. In this sense, adaptation may be recommended to improve clinical outcomes, quality of life and client satisfaction.²³ Specification or diversification may also increase the user-friendliness and consequently the use of these guidelines.

Diversification may also be the product of the commitment of managers, professionals and patients in the construction of guidelines. It has been shown that the implementation can be improved by involving these stakeholders from the start in the construction of guidelines. One of the dangers that remains however, is that the adaptation of the guidelines may result in a decrease of the effectiveness of interventions, when compared to the original interventions based on well-controlled studies. Thus, treatment integrity may be violated.

²³ Walburg, J. (2009). Chairman of the Board of Directors of the Trimbos Institute. Presentation during the Great Guideline Congress. Amsterdam, December 8th.

The products of the AGREE Collaboration and the products of the Guidelines International Network (GIN) are well known in the Netherlands, and many professional organizations are member of one or both organizations. In the Netherlands a separate organization has been initiated, namely the Platform Evidence-Based Guideline development (EBRO). About 30 Dutch professional organizations are member of the EBRO Platform. The targets of EBRO largely overlap with those of GIN (Theuvenet et al. 2004).

In conclusion

Evidence-based guidelines, protocols, manuals, assistance documents, performance indicators, bench marking, total quality management, project management, performance management, change management, innovation management, implementation management, break-through management, time management, case management, meta-management of management development, Diagnosis Treatment Combinations, categories of intensity of care, and routine outcome monitoring: the target of all these management tools was to improve the quality of the mental health care and the addiction care.

However, the evaluations reviewed above already showed that, apart from the positive effects, the abundance of 'management' has also had its drawbacks. In its manifesto "Power & Counter Power, Enough is Enough", the Steering Group "Enough is Enough" has summarized the management drawbacks as follows: pressure on the real quality of care, quantity being more important than quality, systems for care being dominated by systems for production and accountability, production being more important than the client, more and more regulations and more and more amendments on the regulations, professionals not being taken seriously and professionals not being trusted, bureaucracy, and, last but not least, professionals wasting a lot of their precious time to more and more registration obligations to provide more and more information (Graafmans 2006).

11.4 Comparison with the WHO guidelines on pharmacological treatment of opiate dependence

In this paragraph, a comparison will be made between Dutch guidelines and the WHO recommendations on 1) choice of treatment, 2) opioid agonist maintenance treatment, 3) management of opioid withdrawal and 4) pregnancy. Data are used from the existing two Dutch guidelines on opiate treatment, that is the guideline on pharmacological maintenance treatment of opiate dependence and the guideline on out- and inpatient detoxification.

For each recommendation below, it is stated whether the guidelines in the Netherlands include this recommendation, even if not with exactly the same wording. According to the EMCDDA guidelines for drafting this paragraph, only one answer has been selected for each recommendation.

Name of Assessors: André van Gageldonk, Trimbos Institute, Netherlands Institute of Mental Health and Addiction		Yes	No	Not Applicable specify	No answer
1.	Choice of treatment²⁴				
1.2	For the pharmacological treatment of opioid dependence, clinicians should offer opioid withdrawal, opioid agonist maintenance and opioid antagonist (naltrexone) treatment, but most patients should be advised to use opioid agonist maintenance treatment. Do the present guidelines include this recommendation?	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
1.3	For opioid-dependent patients not commencing opioid agonist maintenance treatment, consider antagonist pharmacotherapy using naltrexone following the completion of opioid withdrawal. Do the present guidelines include this recommendation?	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2	Opioid agonist maintenance treatment	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1	For opioid agonist maintenance treatment, most patients should be advised to use methadone in adequate doses in preference to buprenorphine. Do the present guidelines include this recommendation?			X ²⁵	
2.2	During methadone induction, the initial daily dose should depend on the level of neuroadaptation; it should generally not be more than 20 mg, and certainly not more than 30mg. Do the present guidelines include this recommendation?	<input type="checkbox"/>	X ²⁶	<input type="checkbox"/>	<input type="checkbox"/>
2.3	On average, methadone maintenance doses should be in the range of 60–120 mg per day. Do the present guidelines include this recommendation?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
2.4	Average buprenorphine maintenance doses should be at least 8 mg per day. Do the present guidelines include this recommendation?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
2.5	Methadone and buprenorphine doses should be directly supervised in the early phase of treatment. Do the present guidelines include this recommendation?	<input type="checkbox"/>	<input type="checkbox"/>	X ²⁷	<input type="checkbox"/>
2.6	Take-away doses may be provided for patients when the benefits of reduced frequency of attendance are considered to outweigh the risk of diversion, subject to regular review. Do the present guidelines include this recommendation?	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.7	Psychosocial support should be offered routinely in association with pharmacological treatment for opioid dependence. Do the present guidelines include this recommendation?	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

²⁴ Both 1.2 and 1.3 are not explicitly recommended, but the standard detoxification (withdrawal) treatment in the Netherlands is with methadone. Naltrexone was used temporary in an experiment with rapid detoxification.

²⁵ Not recommended, but this is a reality in the Netherlands where buprenorphine is not (yet) as regularly used as methadone. Buprenorphine was only recently registered as a medicine and is paid on medical request by the health insurance company.

²⁶ The recommended starting dose methadone is 20 mg for patients who do not use often heroin, and 40 mg when frequent heroin use is suspected.

²⁷ This is not explicitly recommended but implicitly assumed to be present, to be done.

3	Management of opioid withdrawal	Yes	No	Not Applicable specify	No answer
3.1	For the management of opioid withdrawal, tapered doses of opioid agonists should generally be used, although alpha-2 adrenergic agonists may also be used. Do the present guidelines include this recommendation?	X	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.2	Clinicians should not routinely use the combination of opioid antagonists and minimal sedation in the management of opioid withdrawal. Do the present guidelines include this recommendation?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
3.3	Clinicians should not use the combination of opioid antagonists with heavy sedation in the management of opioid withdrawal. Do the present guidelines include this recommendation?	<input type="checkbox"/>	X	<input type="checkbox"/>	<input type="checkbox"/>
3.4	Psychosocial services should be routinely offered in combination with pharmacological treatment of opioid withdrawal. Do the present guidelines include this recommendation?	X			
4	Pregnancy²⁸				
4.1	Opioid agonist maintenance treatment should be used for the treatment of opioid dependence in pregnancy. Do the present guidelines include this recommendation?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
4.2	Methadone maintenance should be used in pregnancy in preference to buprenorphine maintenance for the treatment of opioid dependence; although there is less evidence about the safety of buprenorphine, it might also be offered. Do the present guidelines include this recommendation?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>

²⁸ Being pregnant is considered a contraindication for prescription of buprenorphine.

WHO guidelines coherence: only to be applied to guidelines applied for guidelines on closed settings

In case your guidelines are about closed settings (“closed settings” refers to prisons, work camps, compulsory drug treatment centres and any other institution in which people are detained), state whether they agrees with the “Clinical guidelines for withdrawal management and treatment of drug dependence in closed settings” freely downloadable at:

(http://www.who.int/hiv/pub/idu/wpro_withdrawl/en/index.html).

For each recommendation, please state whether your guidelines include them (even if not with exactly the same wording). Please select only one answer.

		Yes	No	Not Applicable specify	No answer
1.	Do the present guidelines agree with the “Clinical guidelines for withdrawal management and treatment of drug dependence in closed settings ” ?	<input type="checkbox"/>	<input type="checkbox"/>	X ²⁹	<input type="checkbox"/>

²⁹ There are no recommendations for closed settings in our guidelines.

12 Mortality related to drug use: a comprehensive approach and public health implications

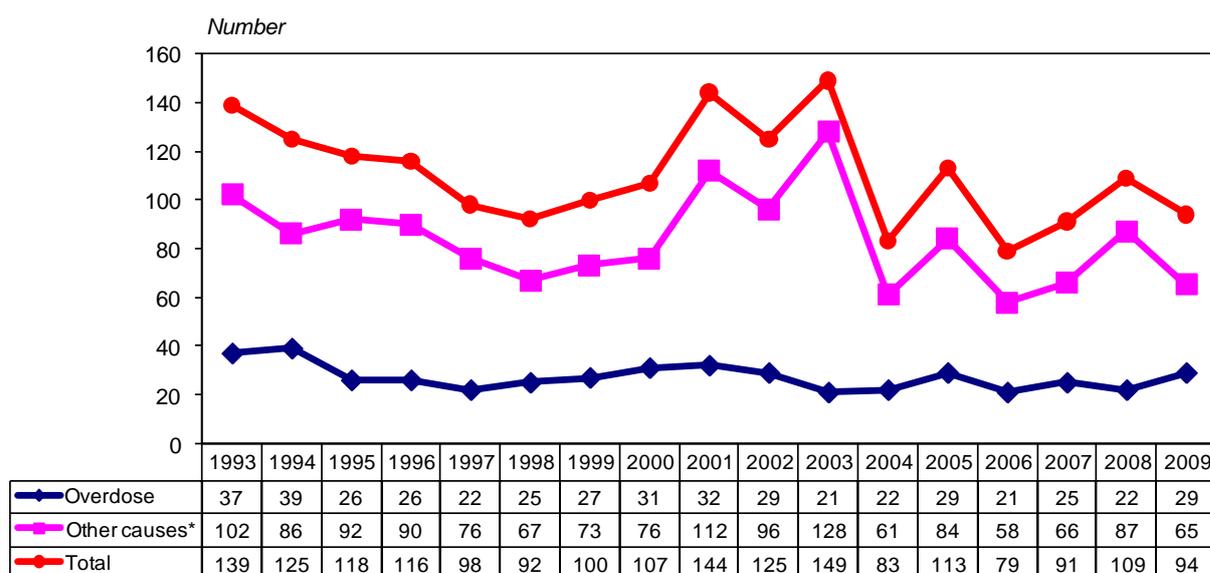
12.1 Overall mortality among problem drug users

The total overall mortality among drug users consists of three parts: mortality that is *not* related to drugs (base-rate mortality), mortality that is *directly* related to drugs, and mortality that is *indirectly* related to drugs. For the Netherlands, information about the total mortality among problem opiates users comes available from a mortality cohort study in Amsterdam. This information can be combined with information from the General Mortality Register (Causes of Death Statistics) to estimate the total opiates-related mortality in the Netherlands. Since 2003, the mortality figures from the cohort study in Amsterdam show a stabilizing downward trend. For the Netherlands as a whole, it is estimated that, in 2008, there were about 200 deaths that directly or indirectly were related to opiates.

Overall mortality among drug users in Amsterdam

Each year the Municipal Health Service Amsterdam (GGD Amsterdam) traces drug-related deaths by combining data from the Central Methadone Register, the municipal registrar's office, the municipal coroners, hospital records, and the police. Data on fatal poisonings ('overdoses') from the Amsterdam coroners also include tourists and drug users that stay illegally in the Netherlands and are therefore not included in the Population Registry. The regular General Mortality Register (GMR), on the contrary, only includes residents of the Netherlands who are recorded in the Population Registry. Moreover, in addition to direct deaths (or 'overdoses'), the Amsterdam registration also includes mortality cases that are indirectly related to drugs. Figure 12.1.1 gives the number of deaths that were found according to this procedure among the drug users in Amsterdam (ST18_2010_NL_01).

Figure 12.1.1: Number of deaths among drug users in Amsterdam



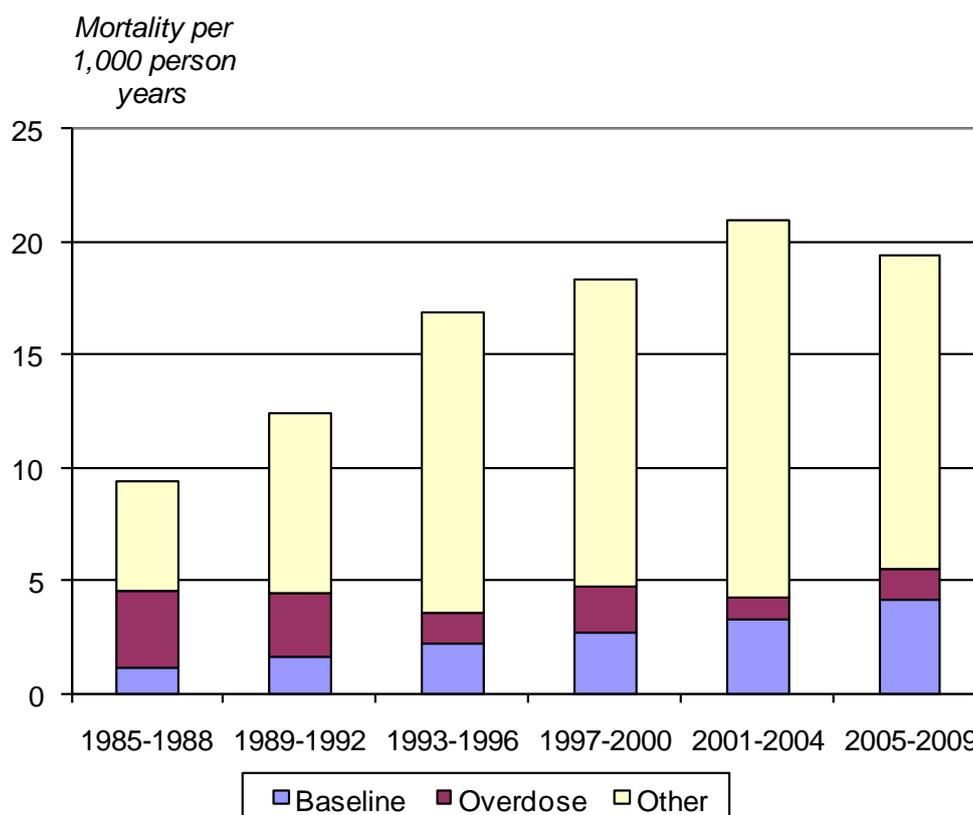
*The category "other causes" includes mortality *not* related to drugs (base-rate mortality), and mortality *indirectly* related to drugs. Cases are counted among all drug users who have (ever) been registered in the Central Methadone Register of the Amsterdam Municipal Health Service. This may result in an overestimation of the number of cases in the category 'other causes'.

Each year more deaths were due to "causes other than overdose". In 2005 the number of deaths temporarily increased, but in general there is a stabilizing downward trend since 2003.

Apart from the absolute number of deaths per year, the Municipal Health Service Amsterdam also monitors the *mortality rates* per observed person years. In order to conduct a proper follow-up of drug users, only methadone patients who are likely to stay in Amsterdam are included in this monitoring system. Moreover, only those methadone patients are included who have a known address in the city and were born in the Netherlands, Surinam, the Netherlands Antilles, Turkey, or Morocco.

Figure 12.1.2 gives the mortality per 1,000 person years of observation for the four-year periods from 1985-1988 to 2001-2004, and the five-year period 2005-2009. A steady increase in the baseline mortality is seen, which is related to the ageing of the population of opiate users. Moreover, while the overdose mortality showed a declining trend, a steady increase was seen in mortality due to other causes until 2001-2004, which might be indirectly related to the ageing of the population (more somatic and psychiatric comorbidity). This trend seems to be stabilizing in the period 2005-2009. The standardized mortality ratios further decreased from 6.4 in 2006 to 4.5 in 2008 and 2009. Probably, the majority of injecting drug users who are at highest risk of dying have died already and current risk ratios tend to decrease to the level among non-injecting drug users.

Figure 12.1.2: Mortality per 1,000 person years among Amsterdam methadone patients from 1985-1988 to 2005-2009



The baseline mortality indicates the mortality among the Amsterdam population of the same age as the methadone patients. Source: Municipal Health Service Amsterdam.

Estimated drug-related mortality for the whole of the Netherlands

The drug-related deaths include the deaths that are directly as well as indirectly related to drugs. For 2001 it was estimated that there were a total of 479 deaths of which 11% were considered to be the base-rate mortality not related to drugs, 23% were attributed directly to drugs (poisoning, overdose), and 66% were attributed indirectly to drugs (Cruts et al. 2008). The estimate for the total number of drug-related deaths was based on generalizing the mortality found in Amsterdam to the national prevalence estimate of problem opiate users. Since the mortality figures for Amsterdam have been updated for the year 2009 and the estimate for the number of problem opiate users has been updated for the year 2008, a new estimate can now be made for the total number of drug-related deaths for the year 2008.

For 2008, the number of problem opiate users in the Netherlands has been estimated at about 17,700 within a range from 17,300 to 18,100 problem opiate users (see § 4.1). In 2009, in the Amsterdam cohort of methadone patients, a total mortality rate was found of 19.27 per 1,000 person years, the base-rate mortality being 4.30, the mortality rate directly related to drugs being 1.93, and the mortality rate indirectly related to drugs being 13.04 (Buster, Municipal Health Service Amsterdam, personal communication). When generalizing these mortality figures from Amsterdam to the total number of problem opiate users in the Netherlands, a first crude estimation has it that in 2008 there were about 341 deaths among

the problem opiate users (range: 333-349). However, for 2001 it was found that generalizing the mortality figures from Amsterdam to the whole of the Netherlands leads to overestimation, and thus requires correction on overestimation (Cruts et al. 2008). When applying the correction factor that was found in 2001 to the updated estimate, it is estimated that in 2008 there were about 274 deaths among the problem opiate users (range: 268-280). It is further estimated that, from these deaths, 76 deaths are base rate and are not related to drugs (range: 74-78), whereas 34 deaths are directly related to drugs (range: 33-35), and the remaining 164 deaths are indirectly related to drugs (range: 160-168). Between 2001 and 2008 the total number of drug-related deaths in the Netherlands has clearly decreased.

In paragraph 6.3 above it was reported that, in 2008 as well as in 2009, 52 deaths were found in the General Mortality Register (Causes of Death Statistics) that were directly related to opiates. The estimation above has resulted in an estimated 34 cases. The registration and the estimation refer to the same target group, and therefore, under ideal circumstances, should give the same number. However, registrations and estimations do not take place under ideal circumstances. The registered 52 cases and the estimated 34 cases fall in the same order of magnitude and therefore do cross validate one another.

12.2 Conclusions from a public health perspective

All in all, three groups of drug users can be distinguished in which drug-related deaths occur: (1) the traditional group of ageing opiates users, (2) the (new) group of primary crack cocaine users, and (3) the recreational drug users. The first two groups of problem drug users were the focus of this chapter.

With regard to the group of (ageing) opiates users, it was roughly estimated that in 2008 there were 274 deaths among problem opiate users, of which 72% was directly or indirectly related to the use of drugs. Given a population of 11,054,849 people aging between 15 and 64 years, this implies only 1.8 'opiates-related' deaths per 100,000 inhabitants. Moreover, the past years show a decreasing trend in these deaths. It should be noticed that, during the past years, a majority of the traditional problem opiates users also started abusing other drugs, especially crack cocaine. This implies that the deaths among opiates users will also to some extent be related to crack-cocaine use, in addition to other (lifestyle) factors. To what extent the drug-related deaths among the problem opiates users are related to opiates or to crack cocaine has not been estimated yet.

With regard to the second group of upcoming crack cocaine users, no cohort study is available yet to assess the total mortality among these problem drug users. It has been planned that, as soon as a substitute treatment will have become available, a cohort study can be set up. It is hoped for that in the near future, just like the current methadone as a substitute for heroin, the slow-releasing "cocadone" (Van den Brink 2010) will become available as a substitute for crack. Notwithstanding this current lack of information, the figures from the Dutch General Mortality Register show that from 1996 up to including 2009 only in 2002 the number of (acute) cocaine-related deaths approached the number of acute opiates-related deaths. Although these statistics do not differentiate between crack cocaine and cocaine powder, they suggest that the public health impact from crack cocaine will not be larger than the public health impact from opiates. However, these figures do not reflect overall mortality among (crack cocaine users) and it is known that cocaine use may be underreported as a cause of death.

With regard to the third group of recreational drug users (e.g. of cannabis, ecstasy and amphetamine), numbers of acute or direct deaths seem to be relatively small according to the Dutch General Mortality Register, and also the monitoring systems for emergencies related to party drugs rarely show fatal accidents.

Compared to numbers of deaths related to the use of alcohol and tobacco - about 1,800 for alcohol and over 19,000 for tobacco, primary and secondary causes (Van Laar et al., 2010) - the impact on public health by mortality related to both problem and recreational use of drugs is small.

Publications

Results from the Amsterdam cohort study on mortality among methadone patients have been incorporated in publications by Bargagli, Hickman, Davoli, et al. (2006); Buster (2003); Buster, Van Brussel, and Van den Brink (2002); and Cruts, Buster, Vicente, et al. (2008). Findings from the Dutch General Mortality Register (GMR) have been reported by Van Laar, Cruts, and Keij (2003); and by Van Laar, Cruts, and Deerenberg (2006). Findings from the Amsterdam Cohort Studies among drug users about mortality-increasing diseases and infections have been incorporated by De Bruijne, Schinkel, Prins et al. (2009); Smit, Van den Berg, Geskus, et al. (2008); Van de Laar, Molenkamp, Van den Berg, et al. (2009); and by Van den Berg, Smit, Van Brussel, et al. (2007). Results from the monitoring of HIV infection in the Netherlands have been published by Gras, Van Sighem, Smit et al. (2010).

PART C

13 Bibliography

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T.K.31110-5. Tweede Kamer der Staten-Generaal vergaderjaar 2007-2008 publicatienummer 31110 nr.5 (2008). Justitieel Verslavingsbeleid; Brief staatssecretaris over de zorg in justitieel kader. Den Haag: Sdu Uitgevers.

T.K.31477-2. Tweede Kamer der Staten-Generaal vergaderjaar 2007-2008 publicatienummer 31477 nr.2 (2008). Wijziging lijst I en II, behorende bij de Opiumwet, i.v.m. plaatsing op lijst I van oripavine

en plaatsing op lijst II van hallucinogene paddenstoelen; Verslag schriftelijk overleg over de wijziging van lijst I en II, behorende bij de Opiumwet in verband met plaatsing op lijst I van oripavine en op lijst II van hallucinogene paddenstoelen. Den Haag: Sdu Uitgevers.

T.K.32159-2. Tweede Kamer der Staten-Generaal vergaderjaar 2009-2010 publicatienummer 32159 nr.2 (2009). Toegankelijker medicinale cannabis; Initiatiefnota. Den Haag: Sdu Uitgevers.

T.K.32159-3. Tweede Kamer der Staten-Generaal vergaderjaar 2009-2010 publicatienummer 32159 nr.3 (2009). Toegankelijker medicinale cannabis; Verslag van een algemeen overleg; Antwoorden op vragen van de commissie VWS, gehouden op 23 maart 2010, inzake de initiatiefnota "Toegankelijker medicinale cannabis" van het lid Van der Ham. Den Haag: Sdu Uitgevers.

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T.K.32159-6. Tweede Kamer der Staten-Generaal vergaderjaar 2009-2010 publicatienummer 32159 nr.6 (2010). Toegankelijker medicinale cannabis; Brief regering; Toezegging gedaan tijdens het Algemeen Overleg over medicinale cannabis. Den Haag: Sdu Uitgevers.

T.K.32398-1. Tweede Kamer der Staten-Generaal vergaderjaar 2009-2010 publicatienummer 32398 nr.1 (2010). Vaststelling van een Wet forensische zorg en daarmee verband houdende wijzigingen in diverse andere wetten (Wet forensische zorg); Koninklijke boodschap; Koninklijke boodschap. Den Haag: Sdu Uitgevers.

T.K.32398-3. Tweede Kamer der Staten-Generaal vergaderjaar 2009-2010 publicatienummer 32398 nr.3 (2010). Vaststelling van een Wet forensische zorg en daarmee verband houdende wijzigingen in diverse andere wetten (Wet forensische zorg); Memorie van toelichting. Den Haag: Sdu Uitgevers.

T.K.32399-3. Tweede Kamer der Staten-Generaal vergaderjaar 2009-2010 publicatienummer 32399 nr.3 (2010). Regels voor het kunnen verlenen van verplichte zorg aan een persoon met een psychische stoornis (Wet verplichte geestelijke gezondheidszorg); Memorie van toelichting. Den Haag: Sdu Uitgevers.

T.K.32500 VI-2. Tweede Kamer der Staten-Generaal vergaderjaar 2010-2011 publicatienummer 32500 VI nr.2 (2010). Vaststelling van de begrotingsstaten van het Ministerie van Justitie (VI) voor het jaar 2011; Memorie van toelichting; Memorie van toelichting. Den Haag: Sdu Uitgevers.

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13.2 Alphabetic list of relevant data bases

Amsterdamse cohortstudie, Amsterdam Cohort Study

Local cohort study on mortality among methadone clients registered at the CMR (see below), conducted by the Municipal Health Service Amsterdam.

Homepage: www.ggd.amsterdam.nl

Antenne (Amsterdam Antenna)

Local monitor of the use of alcohol, tobacco, and drugs by school-goers and socialising young people in Amsterdam, conducted by the Bonger Institute of the University of Amsterdam (UvA). Homepages: www.jur.uva.nl & www.jellinek.nl

Causes of death statistics

National registration of causes of death, that is the Dutch General Mortality Register (GMR), including deaths due to drugs, conducted by Statistics Netherlands (CBS). Homepage: www.cbs.nl

CBS Politiestatistiek, Statistics Netherlands (CBS) Police Statistics

National registration of the number of police reports on offences against the Opium Act, conducted by Statistics Netherlands (CBS). Homepage: www.cbs.nl

Cliënt Volg Systeem Amsterdam, Client Monitoring System, Amsterdam

Local registration system of treatment given by the Municipal Health Service, Addiction Care, and Public Mental Health Care, including treatment for drug users. Homepage: www.ggd.amsterdam.nl

Cliënt Volg Systeem van Stichting Verslavingsreclassering Nederland, Client Monitoring System of the Foundation of Addiction Probation Services

National registration of probation services offered to drug using offenders, conducted by the Foundation of Addiction Probation Services. Homepage: www.ggznederland.nl

CMR, Centrale Methadon Registratie, Central Methadone Register (CMR)

Local registration of methadone substitution treatment, conducted by the Municipal Health Service Amsterdam. Homepage: www.ggd.amsterdam.nl

CPA, Centrale Post Ambulancevervoer, Central Post for Ambulance Transports (CPA)

Local registration of ambulance transports, including transport due to problem use of alcohol and drugs, conducted by the Municipal Health Service Amsterdam. Homepage: www.ggd.amsterdam.nl

Database problematische harddrugsgebruikers 2008, Data base problem hard drug users 2008

Data base about a field sample of 572 socially marginalized problem hard drug users. This database is a compilation of databases supplied by the Municipal Health Service Amsterdam, the Addiction Research Institute Rotterdam (IVO) and Bureau INTRAVAL.

DIMS™, Bureau Drugs Informatie en Monitoring Systeem, Drugs Information and Monitoring System (DIMS™)

National survey on the contents of synthetic drugs, conducted by the Bureau of the Drugs Information and Monitoring System (DIMS™) at the Trimbos Institute. Homepage: www.trimbos.nl

Educare monitor

National monitor on first aid given at house parties, including first aid for problem alcohol and drug use, conducted by Educare Ambulant, Foundation of Nursing & Education Consultancy. Homepage: www.educaregroningen.nl

Haags Uitgaansonderzoek

Local monitor on the use of alcohol and drugs by young people in the nightlife scene (16-35 years) in The Hague, conducted by the Research Committee on Monitoring & Registration (MORE). Homepage: www.denhaag.nl/

HBSC, Health Behaviour in School-Aged Children

National monitor on the physical and mental health and well-being of school-aged children, including high-risk use of cannabis, conducted by the Trimbos Institute, Radboud University Nijmegen, and Utrecht University. Homepages: www.trimbos.nl & www.hbsc.org

HIV/aids-registratie, HIV/AIDS Registration

National reporting system for diagnoses of HIV and AIDS assessed by doctors, including HIV and AIDS due to injecting drug use, conducted by the HIV Monitoring Foundation (SHM). Homepage: www.hiv-monitoring.nl

HIV-surveillance among drug users

Local surveys in different cities of HIV-infection among injecting drug users, conducted by the National Institute of Public Health and the Environment (RIVM) and the municipal health services. Homepage: www.rivm.nl

Inbeslagnames drugs, Drug Seizures

National registration of drug seizures, conducted by the Research and Analysis Group of the National Criminal Intelligence Service of the National Police Agency (O&A/dNRI/KLPD). Homepage: www.politie.nl/KLPD/

LADIS, Landelijk Alcohol en Drugs Informatie Systeem, National Alcohol and Drugs Information System (LADIS)

National registration system of addiction care and treatment, conducted by the Organization Care Information Systems (IVZ). Homepage: www.sivz.nl

Landelijke Jeugdmonitor CBS-SCP (POLS), National Youth Monitor CBS-SCP (POLS)

National monitor on the living conditions of young persons (12-29 years), including drug use, conducted by Statistics Netherlands (CBS) and the Social and Cultural Planning Office of the Netherlands (SCP). Homepage: www.cbs.nl

LIS, Letsel Informatie Systeem, Injury Information System (LIS)

National survey on injuries treated at emergency departments of hospitals, including injuries due to alcohol and drugs, conducted by the Consumer Safety Institute. Homepage: www.veiligheid.nl

LMR, Landelijke Medische Registratie, Dutch Hospital Data (DHD)
National registration of admissions to hospitals, including admissions due to problem alcohol and drug use, conducted by Prismant. Homepage: www.prismant.nl

Monitor gedoogde coffeeshops, Monitor of tolerated coffeeshops
National monitor of the number of coffeeshops that are officially tolerated by the local municipal policy, conducted by Bureau Intraval. Homepage: www.intraval.nl/

Monitor veelplegers (ISD), Monitor prolific offenders (ISD)
National registration of suspects and convicts who repeat the offence, including offences against the Opium Act, conducted by the Research and Documentation Centre (WODC) of the Ministry of Justice. Homepage: www.wodc.nl/

National Security Monitor, Veiligheidsmonitor Rijk (VMR)
National monitor on the experiences of citizens with crime and security and their opinion about police action, conducted by the Ministry of the Interior and Kingdom Relations (BZK). Homepage: www.minbzk.nl/

NEMESIS II, Netherlands Mental Health Survey and Incidence Study
Second national cohort study on the general population (16-64 years) focussing on mental disorders including the abuse of and dependence on alcohol and drugs, conducted by the Trimbos Institute. Homepage: www.trimbos.nl

NL.Trendwatch
National qualitative panel monitor on the use of alcohol and drugs by young people in the nightlife scene, conducted by the Bonger Institute of the University of Amsterdam (UvA). Homepage: www.jur.uva.nl/criminologie

NPO, Nationaal Prevalentie Onderzoek, National Prevalence Survey (NPO)
National survey on the use of alcohol and drugs in the general population aged 12 years and older, conducted by the Addiction Research Institute Rotterdam (IVO). Homepage: www.ivo.nl

NVIC Monitor, Nationaal Vergiftigingen Informatie Centrum, National Poisons Information Centre (NVIC)
National registration of information requests for poisonings, conducted by the National Institute of Public Health and the Environment (RIVM). Homepage: www.rivm.nl

OBJD, Onderzoeks- en Beleidsdatabase Justitiële Documentatie, Research and Policy Database Judicial Documentation (OBJD)
National registration of criminal cases registered at the Public Prosecutions Department (OM), including offences against the Opium Act, conducted by the Research and Documentation Centre (WODC) of the Ministry of Justice. Homepage: www.wodc.nl/

OCTA, Organised Crime Threat Assessment

National survey on organised crime, including offences against the Opium Act, conducted by the Research and Analysis Group of the National Criminal Intelligence Service of the National Police Agency (O&A/dNRI/KLPD). Homepage: www.politie.nl/KLPD/

OGGZ Monitor Amsterdam, Public Mental Health Care Monitor Amsterdam

Local monitor on marginalized inhabitants of Amsterdam including problem drug users, conducted by the Municipal Health Service Amsterdam (GGD Amsterdam). Homepage: www.ggd.amsterdam.nl

OMDATA, Openbaar Ministerie Data, Public Prosecutions Department Data (OMDATA)

National registration of criminal cases registered at the district courts, including offences against the Opium Act, conducted by the Office of the Public Prosecutions Department. Homepage: www.wodc.nl/

Peilstationsonderzoek scholieren, Dutch National School Survey (sentinel stations)

National survey on alcohol and drug use among pupils (10-18 years), conducted by the Trimbos Institute and the Municipal Health Services. Homepage: www.trimbos.nl

Police Records System (HKS)

National identification system for the police, including drug use of suspects, conducted by the Research and Analysis Group of the National Criminal Intelligence Service of the National Police Agency (O&A/dNRI/KLPD). Homepage: www.wodc.nl/

THC-monitor

National monitor on the concentration of THC in cannabis products sold in coffeeshops, conducted by the Bureau of the Drugs Information and Monitoring System (DIMSTM) at the Trimbos Institute. Homepage: www.trimbos.nl

TULP/GW, Ten UitvoerLegging van vrijheidsbenemende straffen en maatregelen in Penitentiaire inrichtingen, Execution of detentions in penitentiaries (TULP/GW)

National registration of detentions, including detentions for offences against the Opium Act, conducted by the Judicial Detention Service (DJI). Homepage: www.dji.nl/

13.3 List of relevant internet addresses

This list contains only a selection of Dutch websites on the subject of substance use.

URL Websites	Contents
<i>Research institutes</i>	
http://www.trimbos.nl/	Netherlands Institute of Mental Health and Addiction
http://www.wodc.nl	Research and Documentation Centre of the Ministry of Safety and Justice
http://www.cedro-uva.org	Centre for Drug Research, University of Amsterdam
http://www.intraval.nl	Intraval. Bureau for Research and Consultancy
http://www.aiar.nl/	Amsterdam Institute for Addiction Research
http://www.ivo.nl/	Addiction Research Institute Foundation, Rotterdam
http://www.scp.nl/	The Netherlands Institute for Social Research
http://www.nispa.nl/	Nijmegen Institute for Scientist-Practitioners in Addiction
http://www.rivm.nl/	National Institute for Public Health and the Environment
http://www.sivz.nl/	Care Information Systems Foundation
http://www.prismant.nl/	Kiwa Prismant: Consultancy agency for the Health Care Sector
http://www.zonmw.nl/	Netherlands Organisation for Health Research and Development
http://www.hiv-monitoring.nl/	HIV Monitoring Foundation (HMF)
<i>Ministries/ governmental organisations</i>	
http://www.rijksoverheid.nl/ministeries/vws	Ministry of Health, Welfare and Sport
http://www.rijksoverheid.nl/ministeries/venj	Ministry of Safety and Justice

http://www.rijksoverheid.nl/ministeries/bzk	Ministry of the Interior and Kingdom Relations
http://www.om.nl/vast_menu_blok/english/	Public Prosecution Service (English section)
http://www.politie.nl/KLPD/	National Police Agency
https://www.riecnet.nl/	Regional Information and Expert Center (Coordination combating organised crime)
http://www.hetccv.nl/english	Dutch Centre for Crime Prevention & Safety
http://www.cbs.nl/	Statistics Netherlands

Online information and care websites

http://www.drugsinfoteam.nl/	Drugs and Alcohol Info Team of Brijder Addiction Care
http://www.unitydrugs.nl	Unity: educational peer project in Amsterdam
http://www.drugsinfo.nl/	Objective information on drugs for the general public
http://www.loketgezondleven.nl/	Website for health professionals specialised in prevention and health education

(Addition) Care institutes

http://www.ggznederland.nl/	Netherlands Association for Mental Health Care
http://www.boumanggz.nl/	Bouman GGZ (Addiction Care Rotterdam)
http://www.brijder.nl/	Brijder verslavingszorg (Addiction Care North Holland)
http://www.jellinek.nl	Jellinek Addiction Care Amsterdam
http://www.centrummaliebaan.nl/	Centrum Maliebaan (Addiction Care Utrecht)
http://www.vnn.nl/	Verslavingszorg Noord Nederland (Addiction Care Northern Netherlands)
http://www.parnassia.nl	Parnassia, psycho-medisch centrum (Addiction Care The Hague)
http://www.novadic-kentron.nl/	Novadic-Kentron, netwerk voor verslavingszorg (Addiction Care North Brabant)

http://www.tactus.nl/	TACTUS, Instelling voor verslavingszorg (Addiction Care Gelderland and Overijssel)
http://www.ggztml.nl/	GGZ Noord- en Midden-Limburg (Addiction Care Northern and Central Limburg)
http://www.mondriaan.eu/home/	Mondriaan Zorggroep (Addiction Care Southern Limburg)
http://www.emergis.nl/	Emergis – Centrum voor Geestelijke Gezondheidszorg (Addiction Care Zeeland)
http://www.gezond.amsterdam.nl/	Municipal Health Service of Amsterdam

14 Annexes

14.1 List of tables used in the text

Table 1.3.1:	Expenditures in the fiscal years 2008 and 2009 by institutes for addiction care and institutes for integrated mental health care and addiction care
Table 2.1.1:	Prevalence of drug use (%) in the Dutch population of 15-64 years in 1997, 2001 and 2005
Table 2.1.2:	Last year prevalence (%) of cannabis use by age group in 1997, 2001 and 2005
Table 2.1.3:	Annual prevalence and numbers of people with a cannabis-related disorder (m/f). Between brackets: 95% Confidence Intervals. Survey period 2007-2009
Table 2.3.1:	Prevalence (%) of substance use among visitors of parties and clubs in 2008/2009
Table 2.3.2	Prevalence of substance use among visitors of coffee shops in Amsterdam in 2010
Table 4.1.1:	National estimates of the number of problem hard drug users
Table 4.2.1:	Proportions among different groups of problem drug users having received addiction treatment during the past year
Table 4.2.2:	Comparisons between problem opiates users and problem crack users within a field sample of problem hard drug users
Table 4.3.1:	Prevalence of symptoms of problem drug use among last year users of ecstasy, cocaine and amphetamine recruited at large-scale parties and in clubs (2008/2009)
Table 5.3.1:	Clinical admissions to general hospitals in 2009 related to abuse of and dependence on cannabis, cocaine, opiates, and amphetamines
Table 6.1.1:	Number and characteristics of recorded HIV infections by route of transmission
Table 6.1.2:	Number and percentage of recorded AIDS patients, by year of diagnosis and route of transmission
Table 6.1.3	Markers for hepatitis B and C infections in 229 detainees in the South of the Netherlands
Table 6.1.4	Previous diagnosis of hepatitis B or C in detainees with positive test result (self report data)
Table 6.1.5	Antibody test results collected from medical files of 645 detainees with data available on injecting drug use (IDU)
Table 6.2.1:	Number of non-fatal emergencies due to hard drugs and recreational drugs recorded by the Amsterdam Municipal Health Service
Table 6.2.2:	Information requests related to drugs at the National Poisons Information Centre
Table 8.2.1:	Programs for social reintegration advertised in the annual social reports of the main regular institutes for addiction care in the Netherlands
Table 8.2.2:	Number of intakes among homeless people, achieved stable mixes, and percentage of stable mixes from the number of intakes by the end of 2009 in the four largest cities of the Netherlands, G4

Table 9.1.1:	Investigations into more serious forms of organised crime, percentage of drug cases and type of drug involved, 2001-2009
Table 9.1.2:	Opium Act offences recorded by the Police Forces by drug type (hard-soft), 2002-2009
Table 9.1.3:	Opium Act cases registered by the Public Prosecutor by drug type (hard-soft), 2002-2009
Table 9.1.4:	Decisions by the Public Prosecution in Opium Act cases (2002-2009)
Table 9.1.5:	Number of court sentences for Opium Act cases by drug type, 2002-2009
Table 9.1.6:	Type of crime of suspects classified by the Police as drug users, 2002-2009
Table 9.3.1:	Referrals to care as an alternative to imprisonment 2002-2009
Table 9.3.2:	Clients of addiction probation services 2002-2009
Table 9.3.3:	Types of assistance offered by addiction probation services and number of times the service was provided, 2002-2009
Table 9.4.1:	Drug use among incarcerated boys compared to their peer group at regular education
Table 10.2.1:	Number of dismantlements of production locations for synthetic drugs 2002-2009, as reported to the Centre of Expertise Synthetic Drugs and Precursors
Table 10.3.1:	Composition of tablets sold as ecstasy identified by identification lists (and not analysed in the laboratory)
Table 10.3.2:	Content of tablets sold as 'ecstasy' based on laboratory analyses
Table 10.3.3:	Average retail price per gram of cannabis products (in €)
Table 10.3.4:	Prices (in €; mean and range) of drug samples delivered to DIMS™ in 2008 and 2009
Table 11.2.1:	Published Dutch guidelines for addiction care
Table 11.3.1:	Percentage of institutes for addiction care that reported using (routinely) a guideline or having adapted it

14.2 List of graphs used in the text

Figure 2.2.1:	Trends in lifetime and last month prevalence (%) of cannabis use among pupils (12-18 years)
Figure 2.2.2:	Lifetime and last month prevalence (%) of cannabis use among pupils by gender and age in 2007
Figure 2.3.1:	Prevalence of drug use during the night out at parties and clubs
Figure 4.1.1:	Estimated number of problem opiate users in Amsterdam by country of origin
Figure 5.3.1:	Distribution of new clients recorded from 1994 to 2009 at institutes for addiction treatment by primary drug
Figure 5.3.2:	Clients recorded in 2009 at addiction treatment centres by primary drug and age group
Figure 5.3.3:	Gender distribution by primary drug of clients recorded in 2009 at centres for addiction treatment
Figure 5.3.4:	Number of admissions to general hospitals related to dependence on, or nondependent abuse of, opiates, cannabis, cocaine, and

- amphetamines, as primary diagnosis or secondary diagnosis, from 1998 to 2009
- Figure 6.1.1: Age distribution at HIV diagnosis in IDUs compared to MSM and heterosexuals, up to 2009
- Figure 6.1.2: Yearly HIV-incidence of injecting drug users (IDU) and all drug users (DU) included in the Amsterdam Cohort Studies, 1985-2009
- Figure 6.2.1: Drug-related emergencies by type of drug (in 2009)
- Figure 6.3.1: Number of acute drug-related deaths in the Netherlands according to the EMCDDA selection of ICD-10 codes from 1996 through 2009
- Figure 6.3.2: Trends in age distribution of cases of acute drug-related deaths in the Netherlands, according to the EMCDDA definition
- Figure 7.2.1: Number of syringes exchanged in Amsterdam and Rotterdam 2002-2009
- Figure 9.1.1: Percentage of detainees for Opium Act offences, compared to five other categories of offences, September 30, 2009
- Figure 9.3.1: Number of persons per month in Institutions for Prolific Offenders, January 2005-June 2010
- Figure 9.3.2: Number of participants in Institutions for Prolific Offenders per month in trajectories outside prison, trajectories in prison and regular prison regime, 2007-June 2010
- Figure 10.1.1: Trend in the number of coffee shops in the Netherlands
- Figure 10.3.1: Average concentration of MDMA in tablets sold as ecstasy
- Figure 10.3.2: Average concentration of amphetamine en caffeine in speed samples
- Figure 10.3.3: Percentage of powders sold as cocaine containing medicines
- Figure 10.3.4: Average THC percentage in cannabis products
- Figure 12.1.1: Number of deaths among drug users in Amsterdam
- Figure 12.1.2: Mortality per 1,000 person years among Amsterdam methadone patients from 1985-1988 to 2005-2009

14.3 List of abbreviations used in the text

2C-B	4-bromo-2,5-dimethoxyphenethylamine
ACS	Amsterdam Cohort Studies
ACT	Assertive Community Treatment
ADHD	Attention-Deficit/Hyperactivity Disorder
AIAR	Amsterdam Institute for Addiction Research
AIDS	Acquired Immune Deficiency Syndrome
ASI	Addiction Severity Index
BIBOB	Public Administration Probity Screening Act
BMK	Benzyl-Methyl-Keton
BZK	Ministry of the Interior and Kingdom Relations
BZP	1-benzylpiperazine
CAM	Coordination Centre for the Assessment and Monitoring of New Drugs
CAPI	Computerised Assisted Personal Interview
CBD	Cannabidiol
CBS	Statistics Netherlands
CBT	Cognitive Behavioural Treatment
CBO	Dutch Insitute for Health Care Improvement
CBZ	Board of Construction of Facilities for Hospitals
CCV	Netherlands Centre for Crime Prevention and Community Safety
CEDRO	Centre for Drug Research
CIA	Cannabis Intelligence Amsterdam
CIDI	Composite International Diagnostic Interview
CMR	Central Methadone Registration
CRA	Community Reinforcement Approach
CVGU	Centre Safe and Healthy Nightlife
DBC	Diagnosis Treatment Combinations
DHD	Dutch Hospital Data
DIL	Drugs Information Line
DIMS™	Drugs Information and Monitoring System™
DJI	Department of Judicial Institutions
DNR	National Crime Squad
DOB	2,5-dimethoxy-4-bromoamphetamine
DSM	Diagnostic and Statistical Manual of Mental Disorders
E.K.	Senate
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EU	European Union
FACT	Function Assertive Community Treatment
FIOD	Fiscal Intelligence and Investigation Department
GGD	Municipal Health Service
GG&GD	Area Health Authority
GGZ	Mental Health Service
GHB	Gamma-hydroxy-butyrate
GMR	General Mortality Register
HAART	Highly Active Anti-Retroviral Treatment
HAT	Heroin-assisted treatment
HAVO	Secondary education at middle level

HBV	Hepatitis B
HBSC	Health Behaviour in School-aged Children
HCV	Hepatitis C
HIV	Human Immune Deficiency Virus
HKS	Defendant Recognition System (of the Police)
HTN	Healthy Nightlife Toolbox
ICASA	International Collaboration on ADHD and Substance Abuse
ICD	International Classification of Diseases, Injuries and Causes of Death
IDDT	Integrated Dual Disorder Treatment
IDUs	Injecting Drug Users
IGZ	Health Care Inspectorate
IMC	Inpatient Motivation Centre
ISD	Institution for Prolific Offenders
IVO	IVO, scientific bureau on lifestyle, addiction and related social developments
IVV	Foundation of Information on Addiction Care
IVZ	Care Information Systems Foundation
KLPD	National Police Agency
LADIS	National Alcohol and Drugs Information System
LCI	National Coordination Structure on Infectious Diseases
LEDD	National Centre of Expertise on Double Diagnosis
LIS	Injury Information System
LMR	National Information System on Hospital Care and Day Nursing
LSD	D-Lysergic acid diethylamide
LSP	National Support Centre for Prevention
LTP	LifeTime Prevalence
LMP	Last Month Prevalence
LYP	Last Year Prevalence
MATE	Measurement of Addiction for Triage and Evaluation
MBDB	N-methyl-1-(3,4-methylenedioxyphenyl)-2-butanamine
mCCP	Meta-chloro-phenyl-piperazine
MDA	Methylene-dioxyamphetamine
MDEA	Methylene-dioxyethylamphetamine
MDFT	Multi Dimensional Family Therapy
MDMA	3,4-methylene-dioxymethamphetamine
MIM	Multivariate (Social) Indicator Method
MSM	Men having Sex with Men
NDM	National Drug Monitor
NEMESIS	Netherlands Mental Health Survey and Incidence Study
NHG	Association for General Practitioners
NIGZ	National Institute for Health Promotion and Disease Control
NIVEL	Netherlands Institute for Health Services Research
NNIA	No new information available
NND	National Network Drugs Expertise
NPO	National Drug Use Survey/National Prevalence Survey
NVIC	National Poisons Information Centre
OBJD	Justice Documentation Research Database
OCTA	Organised Crime Threat Assessment

OMC	Office of Medicinal Cannabis
OMDATA	Public Prosecution Department Data
PMA	Paramethoxyamphetamine
PMK	Piperonyl-Methyl-Keton
PPC	Penitentiary Psychiatric Centres
RIOB	Guideline on Methadone Maintenance Treatment
RISc	Risk Assessment Scales
RIVM	National Institute for Public Health and the Environment
ROM	Routine Outcome Monitoring
SCP	National Institute for SocioCultural Studies
SHM	HIV Monitoring Foundation
SOV	Judicial Treatment of Addicts
SRM	Criminal Justice Monitor
STI	Sexually Transmitted Infections
SVO	Steering Committee for the Reduction of Nuisance
SVG	Addiction Probation Services
TBC	Tuberculosis
TDI	Treatment Demand Indicator
THC	Tetrahydrocannabinol
T.K.	Lower House of Parliament
TM	Treatment Multiplier
TRAILS	Tracking Adolescents Individual Lives' Survey
VBA	Drugfree Addiction Support Unit
VMBO-p	Secondary practical education at the lower level
VMBO-t	Secondary theoretical education at the lower level
VNG	Association of Netherlands Municipalities
VVGN	Dutch Association of Addiction Physicians
VWO	Secondary education at the higher level, pre-university education
VWS	Ministry of Public Health, Welfare and Sport
WHO	World Health Organisation
WODC	Research and Documentation Centre of the Dutch Ministry of Justice
WTZi	Admittance of Care Institutions Act
XTC	Ecstasy
ZonMw	Netherlands Organisation for Health Research and Development

Map of the Netherlands: provinces and major cities

The Netherlands

