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REPORT ON THE DRUG SITUATION 2006

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Colophon

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PREFACE

The Report on the Drug Situation in the Netherlands 2006 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.

This 2006 national report was written by the staff of the Bureau of the 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 Sports. The Ministry of Justice also participates in the NDM. The NDM carries out the functions of the 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.

Prof. Dr. Henk Garretsen
President NDM Scientific Committee

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Summary

Developments in drug use and related problems

Between 1997 and 2005, the percentage of last year users of cannabis, cocaine and amphetamine remained fairly stable among the general population of 15-64 years (2005: 5.4%, 0.6% and 0.3%, respectively), although significant increases in the lifetime prevalence of the use of cannabis and cocaine were seen between 1997 and 2005 (cannabis: 19.1% and 22.6%; cocaine 2.6% and 3.4%, respectively). Both the lifetime and last year prevalence of the use of ecstasy gradually increased from 1997 to 2005 (lifetime from 2.3% to 4.3%; last year from 0.8% to 1.2%). There are no new *national* data on drug use among school-goers. The latest surveys indicated that drug use had stabilised or decreased among secondary school pupils between 1996 and 2003. A large-scale regional school survey in the south of the Netherlands revealed decreasing prevalence rates for all drugs between 2001 and 2005. Whether this trend is also evident at the national level remains to be shown. The previously reported stabilising or decreasing trend in drug use among youth is hard to explain. Effective prevention, ceiling effects in drug use, effects of policy measures, changes in youth culture or market factors may all have played a role. In contrast to the trend in drug use, the use of alcohol has increased among young people, including the very young.

Compared to the general and school population, drug use is more common among young people in the nightlife scene. Various local studies conducted throughout the country indicate that cocaine, especially in combination with alcohol, is clearly competing with ecstasy, which used to be the most prominent drug in the nightlife scene for years. Data from the Amsterdam Antenna Monitor suggest that drug use in several nightlife settings has peaked. Between 2001 and 2005 prevalence rates remained fairly stable among pubgoers, but qualitative data suggest that drug use has moderated in trendy clubs. Possible explanations pertain to a more strict policy of body-searching at the doors of clubs, a changing image (excessive use is not cool and is associated with being a loser) and a shift in music culture (less techno and more urban music). Quantitative trend data for other parts of the country are not available.

The number of problem *opiate/crack* users seems to have remained relatively stable in the past ten years (3.1 per 1000 people aged 15-64 years). In the past decade, local field studies among traditional groups of problem opiate users have shown a strong increase in the co-use of crack cocaine, a reduction in injecting drug use, and an increase in psychiatric and somatic comorbidity. Recent field studies employing observational methods and interviews among key informants point at new groups of (young) problem drug users, including those consuming *crack* as their first and main drug, and daily *cannabis* users (often polydrug users), who may be at risk of becoming problem hard drug users. Moreover, these studies confirm the increase in co-morbidity and *polydrug* use (including alcohol) among the ageing population of traditional hard drug users and suggest that the reduction in injecting drug use has now halted at a low level. Yet, treatment data still show decreasing injection rates. Data from Amsterdam point at an increased mortality rate among opiate addicts, which is probably related to the progressive ageing and pathology in this group.

No new data are available on the prevalence of infectious diseases among injecting drug users. The prospective Amsterdam Cohort Studies (ACS) suggest that the rate of new HIV infections among (injecting) drug users has sharply declined in the past years. This trend is accompanied by a reduction in injecting drug use and needle sharing. Sexual risk behaviour has continued, and the few new recent HIV seroconversions in injecting drug users are mainly related to unprotected heterosexual contacts. Notification data on hepatitis B show that injecting drug use is one of the least important transmission routes. In contrast, injecting drug use is still the most common route of infection with hepatitis C. In 2005, the Municipal Health Service (GGD) of Amsterdam detected hepatitis C virus antibodies in two-thirds of the tested injecting drug users. Hepatitis C prevalence was especially high in the oldest drug users and those with the longest history since first injecting. Although the risk of transmitting the hepatitis C virus through blood donations is extremely low, former injecting drug users have been identified as one of the major hepatitis C transmission risk groups.

For several years, the growing popularity of *cocaine* was paralleled by increases in other indicators (e.g. treatment demand, hospital admissions, deaths), but this trend seems to have halted. For example, the number of cocaine clients at outpatient drug treatment services rose steadily from 2,468 in 1994 to 9,999 in 2004 but stabilised at 9,824 in 2005. The increase in the number of hospital admissions where cocaine abuse or dependence is mentioned as a secondary diagnosis peaked in 2002 (562), and remained at more or less the same level in the following years (547 in 2005). Finally, the initial rise in the annual number of recorded acute cocaine deaths between 1996 and 2002 (10 and 34, respectively) did not continue in the past years.

As far as *cannabis* is concerned, a further increase in the number and proportion of clients seeking treatment due to a primary cannabis problem is noted. Currently, 27% of all new drug clients are cannabis clients (TDI data). The number of hospital admissions with cannabis abuse or dependence as a secondary diagnosis has also increased, although remaining at a fairly low level (193 in 2000 and 322 in 2004 and 299 in 2005). A gradual increase has also been reported in the number of cannabis-related non-fatal emergencies in Amsterdam and the number of information requests at the National Poisons Centre. Whether these developments signal an increase in problem cannabis use is not known, since no trend data are available on the number of problem cannabis users. There is often also a considerable time lag between the start of problem use and seeking help at treatment centres.

Market data show that the average THC concentration in Dutch home-grown cannabis peaked in 2003 (20%) and levelled off in 2004 and 2005 (18% in both years). The increase in THC content has been linked to an increase in problem use, but this has never been substantiated by research data. Probably, a subgroup of relatively young cannabis users with a preference for potent marihuana is at risk for developing dependence problems. Recent research data suggest that persons with pre-existing cardiovascular diseases are at acute risk when consuming cannabis with a high THC content.

Finally, treatment data point to a rise in the number of *amphetamine* users applying for help. Also, the percentage of 'ecstasy' pills on the market containing amphetamines (alone or in combination with other substances) increased as did the number of information requests at the National Poisons Centre. Whether these indications signal a new trend remains to be shown. So far, there are no signs of a major increase in the popular-

ity of amphetamines, either in the nightlife scene or among the more marginalised hard drug users.

Responses and interventions

A number of drug policy measures have been taken recently, or in the past, in response to the developments mentioned above. In 2004, a national action plan was launched to discourage *cannabis* use, and to promote research on problem use of cannabis, especially in the area of a relationship between cannabis use and mental disorders. In this context a third public nationwide cannabis campaign directed at young people was run in November 2006; an online self-help programme was developed; and a guideline was published on peer education targeting a reduction of cannabis use among youngsters. As problem cannabis users often also have other psychosocial problems, a more comprehensive strategy may be more effective. This approach is incorporated in a Dutch experiment evaluating the effectiveness of multidimensional family therapy in this group of problem cannabis users. Concerning problem *cocaine* use, no specific treatment options are available yet. However, several experiments are running, of which the incentive-based (vouchers) Community Reinforcement Approach (CRA) seems the most promising. For marginalised crack users, several outreach programmes are in place, with the aim to minimise harm.

Moreover, the new research programme of the National Addiction Research Programme ("Risk behaviour and dependence") of the Dutch Health Research and Development Council (ZonMw) started in mid- 2006. The themes include the epidemiology of and risk factors related to the initiation of drug use and chronic drug use, and the effectiveness of interventions, with special emphasis on problem use of cocaine and cannabis, alone and in combination with alcohol.

Initiatives have also been taken in response to the increased *comorbidity* of substance dependence and other psychiatric disorders. Several review studies, guidelines and protocols for the treatment of these 'dual diagnosis' problems were published (or will be published soon) and a number of new facilities for integrated care of dual diagnosis patients have been planned. Professional skills and responsibilities in this field are generally insufficient because these are mainly focussed on either addiction care or mental health care, not on both working fields. Therefore, training courses are being initiated or developed for working with specific dual diagnosis patients.

At a more general level, various initiatives focus on the improvement of the quality of addiction care, such as the five-year programme 'Scoring Results', which is now in its second phase. The emphasis is on improving medical and nursing interventions, further development of protocols, and improving professional training and education. This long-term programme explicitly works on the quality enhancement of addiction care in general. Its focus is on the field of prevention and treatment. Moreover, a national action programme Quality Mental Health Care and Addiction Care was launched in 2006, aiming to improve patient registration systems, the safety of patients and the implementation of available Dutch guidelines, including those produced by the Scoring Results programme.

Drug prevention is increasingly considered a part of public health prevention, targeting vulnerable groups or risk groups in society. The focus is on health in general, i.e. also covering prescription drugs and food and sports. According to the database of the Prevention and Brief Interventions Centre (LSP), today some 250 drug prevention projects

and programmes have been developed and implemented, and 180 of these are still running. A minority of these activities has been evaluated although the number of evaluations is rising and evaluation quality is improving. A new development concerns preventive interventions via the Internet. It is assumed that e-interventions will become a common mode of prevention and treatment during the coming years.

Law enforcement and the criminal justice system

In 2005 and 2006, three special policy programmes were running in the Netherlands: (1) 'A combined effort to combat ecstasy in and from the Netherlands' which aims at a reduction in production and trafficking of ecstasy, (2) the 'Plan to combat drug trafficking at Schiphol Airport', which aims at the reduction of cocaine imports and (3) intensified enforcement on cannabis cultivation and especially the organised crime behind it. In the context of these programmes, several changes in law enforcement and criminal justice system statistics were noted:

- In 2005, the total number of Opium Act cases registered by the Police (according to preliminary statistics 2005) and the Public Prosecution decreased, after four consecutive years of increase. This drop concerns hard drug cases only. Soft drug cases increased. In 2005 hard drug cases made up 48% of all Opium Act cases; cannabis cases accounted for 46%.
- Especially in cases of hard drug trafficking at Schiphol Airport, the prosecutor decided more often not to prosecute in 2004, within the framework of the so-called temporary substance-oriented approach to drug traffickers at Schiphol. In 2005 the effects of this policy seem still present but to a somewhat lesser extent: the number of cases prosecuted increased again.
- With regard to cannabis, the number of cases of preparation, production and trafficking has risen substantially in comparison to 2004.
- As in 2004, the number of prison sentences and detention years imposed for Opium Act cases decreased substantially in 2005.
- Between 2000 and 2005 the proportion of investigations concerning organised drug crime seems to be increasing. In 2005, 72% of these investigations concern drugs, mainly hard drugs and especially cocaine and synthetic drugs. For cocaine, the Netherlands appears to be mainly a transit country.

Another programme running from 2002-2006 ('Towards a safer society') targets, amongst others, prolific offenders, of whom about three-quarters are hard drug users. They undergo systematic screening and assessment, supervision and guidance. In 2004, a special judicial measure was introduced, which facilitates imprisonment for a maximum of two years, even for minor crimes, given the fact that these crimes are committed repeatedly.

Part A: New Developments and Trends

1 National policies and context

Introduction

The national drug policy in the Netherlands has four major objectives:

- 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. This policy was formulated in the white paper: The Dutch Drug Policy: Continuity and Change (1995) (Ministerie van Volksgezondheid (Health Ministry)1995). The implementation of this policy was monitored and updated by four progress reports. Since then, Dutch drug policy has developed drug strategies for specific drugs:

- Ecstasy: the white paper "A combined effort to combat ecstasy" (2001) announced intensified law enforcement in the battle against the production and trafficking of ecstasy (T.K.23760/14);
- Cocaine: 'Plan to combat drug trafficking at Schiphol Airport' (2002) is directed against the trafficking of cocaine at Schiphol Airport (T.K.28192/1);
- Cannabis: the Cannabis Policy Document (2004) did tighten Dutch policy on cannabis (T.K.24077/125);
- Heroin: a scientific experiment to treat chronic and treatment-resistant opiate addicts by means of medically prescribed heroin (first announced in 1995).

1.1 Legal framework

Laws

The use of drugs is not penalised in the Netherlands, unlike the production, trafficking and possession of drugs. The framework for prosecuting unlawful activities, especially the production and trafficking of drugs, and for sentencing criminal drug users has been gradually expanded in the past decade and now involves an extensive set of laws and other legal instruments.

In the Netherlands, the most important laws on drugs are:

- Opium Act (*Opiumwet*) – (criminal law)
- Prisons Act (*Penitentiaire Beginselenwet*) - (criminal law)
- Placement in an Institution for Frequent Offenders Act (*Plaatsing in een inrichting voor stelselmatige daders – ISD*) - (criminal law)
- Temporary Measures for Penitentiary Capacity for Drug Couriers Act (*Tijdelijke Wet Noodcapaciteit Drugskoeriers*) - (criminal law)
- Closing Drug Premises Act (*Wet Sluiting Drugs panden*) - (administrative 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*)

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 criminal law. It was fundamentally changed in 1976. A distinction was made between drugs presenting unacceptable risks (hard drugs) and drugs like cannabis (soft drugs), which were seen as less dangerous. Since then, the Opium Act has been amended repeatedly but its basic structure was maintained.

In 2006, a minor amendment to the Opium Act was proposed. Article 13b of the Opium Act combined with article 174a of the Local Government Act can only be used to close premises used for the sale of illegal drugs, if *disturbance of the public order* could be proved. In April 2006, a proposal was sent to Parliament, in which only the *sale* of illegal drugs has to be proved. The scope of this bill is the sale of hard drugs as well as the illegal sale of cannabis. The tolerated sale of cannabis in the coffee shops falls outside the scope of this bill. In practice, in these cases law enforcement will be used in proportionality. That means that the closing of a premise will be the ultimate sanction in a chain of sanctions (T.K.30515/3). This bill has not yet taken effect in law.

In December 2005, the Dutch House of Representatives passed a motion asking the Government to regulate a ban on smoking marihuana in public spaces by analogy with the ban on public drunkenness. The Minister of Justice replied that the municipalities already have the power to enact effective by-laws to tackle this problem (T.K.24077/191; T.K.30300VI/98:). The mayor of Amsterdam got the go-ahead from the Municipal Council to order bans on smoking cannabis ('blowverbod') for specific areas for at most one year. Offenders can receive a 45 euro fine (Redactie Binnenland 2005).

Since September 2003, physicians can prescribe cannabis for medical reasons, and pharmacies are allowed to supply this drug. A government agency, the Office of Medicinal Cannabis (OMC), regulates the entire process of production, delivery and quality control of medicinal cannabis. It was estimated that 200 kilos, or more, of medicinal cannabis could be sold in 2004 to 10,000 or 15,000 potential patients. But only 1,000 to 1,500 patients did actually use the legal cannabis on a regular basis, leading to annual sales of about 70 kilos (T.K.24077/140). In 2005, sales stabilised at level, leading to a loss of about € 172,000. In 2006, the loss will probably be about the same size.

In April 2005, the Minister of Health decided to evaluate the medicinal cannabis policy. The evaluation report of November 2005 concluded that some of the original objectives were attained. Medicinal cannabis, meeting pharmaceutical requirements, is available in the Netherlands for research and for the treatment of patients. However, the number of patients obtaining cannabis via a prescription is lower than expected, because of unwillingness on the part of the physicians to prescribe it and the lack of reimbursement. One of the major conclusions of this report is that it is highly uncertain whether medicinal cannabis will be authorised in the years to come (T.K.24077/172). In the autumn of 2005, the Minister decided to continue the existing policy for one year, in order to give pharmaceutical companies the time to develop plans for the registration of cannabis as a medicine. In the opinion of the Minister, the prospect that medicinal cannabis will become

a registered medicine is realistic enough to continue the existing policy until the end of 2007 (T.K.24077/192).

Institution for prolific offenders (ISD)

On 1 April 2001 the Judicial Placement of Addicts (*Strafrechtelijke Opvang Verslaafden-SOV*) intervention was introduced. It allows the courts to place prolific offenders, who are addicted to drugs, commit repeated petty crimes and who have failed to respond to other forms of treatment, in a special institution. The aim of this initiative is to reduce public nuisance and to promote behavioural change among offenders. It is estimated that about 20 percent of these judicially placed offenders might give up committing crimes after completion of this programme (E.K.28980/B:). The maximum duration of this measure is two years.

Originally, it was decided that further implementation of the law should await the outcomes of an evaluation for three to four years (to be expected in early 2007). The experiment is running in four institutions – in Amsterdam, Rotterdam, Utrecht and the ‘southern municipalities’ -, totalling 219 places.

In 2005, the process evaluation of this experiment was published. The aims of this evaluation were to clarify how and under what conditions this intervention was implemented and carried out, as well as to describe the SOV as intended and as achieved. It was concluded that several national- and local-level factors did affect the implementation of the SOV. The main conclusion is that there is a considerable gap between the SOV as intended and the achieved SOV (Van 't Land et al. 2005).

Based on this evaluation, one of the improvements was the development at central level of a policy outline that will be used as a framework at operational level for all (local) partners involved. This will be implemented through the successor of the SOV, the ISD (Placement in an Institution for Prolific Offenders).

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). This act refers to all prolific offenders, not only addicts. Until 2007, a thousand places will be created for these offenders, excluding addict -offenders. The Judicial Placement of Addicts (SOV) will operate as a separate programme within the ISD-programme. The main targets of the Prolific Offenders Programme are to prevent high risk youth from becoming prolific offenders and to reduce recidivism for adult prolific offenders. Some personal support during detention plus individual aftercare following detention are part of this Programme. In July 2006, 438 intramural and 60 extramural places were occupied. During the Programme, research will be done to improve the local implementation of the ISD-measure and a Prolific Offenders Monitor will be developed in order to measure the effectiveness of this policy. The coordination between the many organizations involved is of major importance in making this new approach a success. One important conclusion of the first implementation report is that mental health services are not sufficiently involved in the Frequent Offenders Programme (Snippe et al. 2006).

Implementation of Laws

Opium Act Directive

In the Netherlands, criminal investigation and prosecution operate under the so-called ‘expediency principle’ or principle of discretionary powers (*opportunitetsbeginsel*). The Dutch Public Prosecution Service has full authority to decide whether or not to prosecute

and may also issue guidelines. The most recent set of comprehensive guidelines for enforcing the Opium Act was the Opium Act Directive of 2000, which was valid from 2001 until 2005 (Stc 2000/250). This Opium Act Directive has been extended until the end of 2008 (Stc 2004/246:).

The sale of cannabis is illegal, yet coffee shops are tolerated in their sale of cannabis, if they adhere to certain criteria: 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 (AHOJ-G criteria). Three extra criteria are: no alcohol vendor, no more than 500 grams in stock and -in some cities- a minimum distance to a school or to the Dutch border. In recent years, government policy has aimed to reduce the number of coffee shops. However, the decision whether or not to tolerate a coffee shop lies with the local governments. At the end of 2005, the Netherlands had 729 officially tolerated cannabis outlets (coffee shops). This is a 1.0 percent overall decrease compared to the situation in 2004 (737 coffee shops, see paragraph 10.1). In 2005, the majority of the 467 municipalities in the Netherlands pursued a zero policy (72%) or a maximum policy (22%) with regard to the number of tolerated coffee shops.

Research into the enforcement of the coffee shop rules and compliance with these rules has shown that not only the law enforcers but also the coffee shop owners take the regulations seriously. Many activities take place to effectuate compliance with the rules, such as the coffee shop owners checking the age of the customers or the continuous supply of new stock in connection with the 500-gram criterion. Generally the police, coffee shop owners, customers and neighbours of the coffee shop consider the rules clear and reasonable. However, the research shows that according to different sources 41% of the coffee shops break one or more coffee shop rules in the year of measurement (2004). In particular, the public nuisance criterion is often violated (20%). The criterion prohibiting alcohol and hard drugs is most strictly adhered to (only violated by 3% of the coffee shops). In total, 75 coffee shops in 50 different municipalities were involved in this research (Broekhuizen et al. 2006). In his reaction to this report, the Minister of Justice underscored the priority of the enforcement of the age criterion, besides the hard drugs and the distance to-a-school criteria (T.K.24077/190).

In order to meet the wish of Parliament to investigate possibilities for experiments of regulated production of cannabis to supply the tolerated coffee shops, the Ministers of Justice, the Interior and Health commissioned research on the international juridical implications of such experiments. It was concluded that there is no room in the UN Conventions or European law to tolerate the regulated cultivation of cannabis for coffee shops, because coffee shops are part of the commercial sector. The legal cultivation of cannabis is only allowed for medical and scientific reasons (T.K.24077/175; T.M.C.Asser Instituut 2005).

Drug related nuisance

One of the main targets of Dutch drug policy is the reduction of drug-related nuisance, including nuisance due to drug tourism. In December 2005, three political parties and the mayor of the border town Maastricht announced the 'Manifesto of Maastricht', in which solutions to resolve the harmful consequences -such as public nuisance and the use of herbicide - arising from the illegal production of cannabis were proposed. The municipality of Maastricht proposed, in consultation with the surrounding (international) authorities, to give selected cannabis cultivators a form of certified permit to supply the toler-

ated coffee shops on an experimental basis; and at the same time it intended to clamp down on all the other cannabis cultivators. This would have to be done in close collaboration with the Public Prosecution Service. The Minister of Justice reacted that he is against such an experiment, because it is contrary to international law, it will not end the illegal cultivation, and by not enforcing the law it is against the principles of the constitutional state (T.K.24077/179).

In the autumn of 2006, a pilot project started in Maastricht to investigate the possibility of barring non-residents from the tolerated coffee shops in that city. The intention of this measure is to reduce the number of foreign drug tourists and the nuisance they cause. The Ministry of Justice started a test case which may culminate in a ruling by the European Court of Justice.

Intensified actions against ecstasy

In 2001, the national government announced measures against the production, sale and use of ecstasy in the white paper "A combined effort to combat Ecstasy" (T.K.23760/14). This action plan costs € 18.6 million each year and is evaluated by an independent research institute. The first measurement was carried out in 2003, and the interim evaluation was sent to Parliament in June 2005 (T.K.23760/19). The final evaluation will be conducted in 2007.

In November 2005, the National Crime Squad published a thorough analysis of the developments in organised synthetic drug crime in the Netherlands between 2002 and 2004. Some of the main conclusions are:

- a reduction in the amount of precursors confiscated;
- since 2002, the number of dismantled production locations of ecstasy and amphetamines was reduced by a third;
- the dumping of harmful waste has been decreased;
- the use of ecstasy in Western Europe and North America has decreased, but has risen in South America, Southeast Asia and Southern Africa; the use of amphetamines is stable;
- it is estimated that about 70% of the confiscated ecstasy-tablets in the world are produced in the Netherlands: that is between 112 and 224 million tablets;
- the organisation of the trafficking of amphetamines and ecstasy *within Europe* is controlled by Dutch criminal organisations, in collaboration with criminal organisations in the destination countries (Huisman 2005).

Drug trafficking

In January 2002, the Dutch government presented the 'Plan to combat drug trafficking at Schiphol Airport', which was designed to intensify the existing two-pronged approach to combating cocaine smuggling from the Netherlands Antilles and Aruba, and Surinam (T.K.28192/1). The first prong comprises measures to prevent drugs transports to the Netherlands, while the second is directed at ensuring that intercepted drugs are confiscated and followed by judicial intervention against couriers.

Since early 2003, a special law court with prison facilities has been operational at Schiphol airport. Since the beginning of 2005, a *100%-control* of all flights from the Netherlands Antilles, Aruba, Surinam, Peru, Venezuela and Ecuador was completely effectuated. In 2004, an average of 290 drug couriers were arrested monthly, whereas in 2005 this number decreased to 175 cocaine couriers monthly. As a result of the 100% controls an

average of 80 couriers were arrested monthly in the first six months of 2006. Most of the actual drug couriers at Schiphol airport swallow the pellets of cocaine. Since June 2004, body scans are used to determine immediately whether a passenger has swallowed drugs or not. The names of the arrested persons are placed on a black list, which can be consulted by the airline companies in order to refuse them another ticket (T.K.28192/29; T.K.28192/38; T.K.28192/41).

Another important target of this policy is to improve collaboration between the authorities of the Netherlands Antilles and Aruba, and international collaboration within the European Union. A special Anti-Drug Team on the Antilles is financed by the Netherlands. Each week, about 4 cocaine couriers are arrested before they can board the planes (T.K.28192/41). One of the results of the European Cocaine Conference in The Hague (June 2004) was an intensification of the collaboration in combating airborne cocaine smuggling between the Netherlands and Spain, Portugal, France, the UK, Ireland, Germany, and Belgium (T.K.28192/36).

More detailed information on this topic can be found in chapter 12.

As a possible consequence of the 100%-controls at Schiphol airport, it was anticipated that the trafficking of cocaine might be shifted to the harbour of Rotterdam. Accordingly, more customs staff were deployed there (T.K.Aanhangsel/2295).

1.2 Institutional framework, strategies and policies

Some aspects of the white paper on the Cannabis Policy Document of 23 April 2004 were implemented in the reporting year. The main policy intentions were:

- A National Action Plan to Discourage Cannabis Use.
- Intensified enforcement of the laws and regulations on cannabis. The possibilities for the local authorities to apply administrative coercion will be enhanced.
- More severe measures to curb coffee shop tourism. In accordance with the EU Framework Decision on Illegal Drug Trafficking, close cross-border police cooperation in this field will be encouraged (see also the previous paragraph on drug-related nuisance).
- Tougher action against large-scale cannabis cultivation. The Government pursues a combined approach of more severe administrative coercion and criminal prosecution.

In November 2006, a special cannabis information campaign was run, targeting young people in particular. In June 2006, the government presented the so-called Integral Approach to Cannabis Cultivation. In this approach, administrative and civil law instruments are combined in clamping down on large-scale cannabis nurseries. Under the direction of local governments the following parties may enter into a special agreement: Public Prosecution Service, the police, power companies, insurance companies, housing corporations and the tax department. Every one of these organizations has its own interest in combating illegal cannabis cultivation (T.K.24077/184). A new element in this approach is that the dismantling costs are recovered from the owners or tenants of the premises where the cannabis plants were detected.

The first annual report of the Public Administration Probitry Screening Act (Wet BIBOB), which gives local administrators the power to screen all kinds of new licence requests, emphasises that consistent use of this instrument can prevent criminals from entering

the legal cannabis sector. The annual report of 2005 shows that the BIBOB bureau received four applications to screen coffee shop owners (www.jusitie.nl/bibob/).

Medical heroin prescribing

In June 2004, the Dutch government decided that the treatment capacity for the medical prescription of heroin for chronic and treatment-resistant opiate addicts could be extended from 300 to 1,000 addicts (T.K.24077/137). This is a special treatment for a limited group in the setting of specialised addiction care. In December 2006, the Medicines Evaluation Board informed the Central Committee on the Treatment of Heroin Addicts (CCBH) that heroin was registered as a medicinal product for treatment-resistant heroin addicts (Central Committee on the Treatment of Heroin Addicts) (CCBH 2006). Most of the treatment costs for this special group of addicts have to be paid by the local municipal authorities. By the end of 2005 the Ministry of Health (VWS) adopted the plans of four out of the six municipalities already providing medical heroin co-prescription to increase their treatment capacity. Moreover, it approved the plans of eight other municipalities to develop a treatment unit. In the autumn of 2006, a total of 815 treatment places in 18 municipalities were approved by the Minister. They are scheduled to be in operation by the end of 2007 (personal communication VWS).

Within the heroin prescription experiment, a special 'contingency management' experiment was announced in three cities. Heroin addicts, who can prove that they did not use any cocaine in addition to heroin, were offered vouchers, which can be exchanged for personal care or sport activities (see also §7.4; (T.K.Aanhangsel/1758)).

Action plan on social relief for the homeless

The four major cities in the Netherlands (Amsterdam, Rotterdam, the Hague and Utrecht) and the government have reached an agreement to improve the living conditions of the homeless (approx 10,000 persons). After careful consideration, the authorities came to the conclusion that the main causes of the public nuisance and criminal behaviour among the homeless are their homelessness and their mental health and addiction problems. Consequently, an individualized and more pro-active approach to support and care for the homeless was decided on in the Social Relief Action Plan. It was agreed that by 2010 at least 60 per cent of the homeless will be living in suitable accommodation, receive effective support and care and perform meaningful daily activities. In order to prevent new street homelessness the authorities also agreed to reduce forced house evictions by 30 per cent in 2008. The structural costs of this new policy are estimated at € 175 million in 2009 (T.K.29325/8).

1.3 Budget and public expenditure

The first estimate of government expenditure on drug policy in the Netherlands was published in an international journal (Rigter 2006b). Calculations and extrapolations of expenditures from 2003 budgets of all the Ministries of the national government, annual reports from other governments and agencies and White papers were analysed, supported by interviews with and information obtained otherwise from policy makers. Expenditure was allocated to four drug policy functions: prevention, treatment, harm reduction and enforcement. The total drug policy spending estimate in 2003 was € 2,185 million. Allocation to functions amounted to € 42 million for prevention, € 278 million for

treatment, € 220 million for harm reduction and € 1,646 for enforcement. Drug law enforcement clearly represents the dominant expenditure.

In January 2006, a new Health Insurance Act (Zorgverzekeringswet) came into force in the Netherlands for all health care, including addiction care. As a result of this law, out-patient addiction care and clinical addiction care up to one year will be reimbursed by health insurance companies (T.K.29660/5-6). The addiction care will be funded by the health insurance companies via the so-called "DBC system", (Diagnosis Treatment Combinations). It is expected that in the near future the DBC system will allow a more complete bottom-up approach to estimate the actual treatment costs of drug abuse.

1.4 Social and cultural context

Public attitudes

In Spring 2006, the first National Perceived Safety Monitor was published. The extent of drug-related nuisance is one of the items which was measured at neighbourhood level. One in twenty people (5.2%) report that drug-related nuisance is common in their neighbourhood. In comparison with other sources it is concluded that this level is about the same as it was in 2005. More inhabitants of the four major cities (Amsterdam, Rotterdam, the Hague and Utrecht) do perceive drug-related nuisance as a problem compared to the Netherlands as a whole (Statistics Netherlands (CBS) 2006).

Analysis of hard drug scenes

In a study for drug policy makers, a typology of four different hard drug scenes is presented. *The open drug scene* is visible for everybody and causes much public nuisance. In a so-called *veiled drug scene*, the drug dealers are operating from special premises, and the neighbourhood pretends that it doesn't exist. A *privatised drug scene* can develop in "forgotten" neighbourhoods from which many residents move out. In a way, this kind of drug scene wrests public control from the local authorities. Besides these urban drug scenes, there exist so-called *autonomous drug scenes* in closed rural communities, mostly located in the Dutch Bible Belt. One of the conclusions of this study is that before developing a local drug policy, the local authorities should first analyse the type and background of the drug scene they are dealing with (Van der Torre 2006).

Hard drug use in closed communities

In recent years the mass media (papers and television) have regularly reported on the use of hard drugs among adolescents in closed rural religious communities such as Volendam, Urk, Putten and Goeree-Overflakkee. Part of the problem is the denial of the drug use by the parents and often also by the local authorities. In Volendam, one of the mothers of a boy who was addicted to cocaine founded the action committee *Courageous Mothers* which offers drugs education for parents and support for youngsters who kick the habit (De Visser 2006). In many other villages similar initiatives have been set up by concerned parents.

Coffee shop tourism in Belgian border region

The proposal of the mayors of the border towns Maastricht and Terneuzen to move coffee shops to the border with Belgium, in order to reduce the public nuisance caused by thousands of Belgian and French coffee shop tourists, resulted in a conflict with the Belgian

government. The Dutch Minister of Justice does not approve the creation of "cannabis boulevards" near the border and forbade the mayors to implement their plans (Redactie NRC 2006;Samyn 2006).

2 Drug Use in the Population

2.1 Drug use in the general population

In 1997, 2001 and 2005 three nationwide surveys on substance use in the general population were conducted. The methods applied in the three surveys were different.

- In the 1997 survey, data on substance use were collected by means of a Computerised Assisted Personal Interview (CAPI). The total net sample consisted of 21,959 persons aged 12 years and older.
- In the 2001 survey, a combination of methods was used in order to enhance response rates and reduce costs. This so-called multi method consisted of giving respondents the choice between completing a telephone interview, a questionnaire by regular mail, a questionnaire on floppy disc or a questionnaire via the Internet. For reasons of comparison, 16% of the respondents were interviewed by means of the CAPI. The total net sample consisted of 17,655 persons aged 12 years and older.
- In the 2005 survey, the total net sample was composed of 24,798 persons aged 15 to 64 years. The large majority (82%) of the respondents were drawn from a sample of persons who were members of an online Internet panel (Rodenburg et al. 2007). One of the advantages is its low cost. A disadvantage is the risk of selection bias (due to a selective response – response rate of 36% - and to 'being a member of an online panel'). As this method had rarely been applied in substance use surveys before, a net sample of 4,516 (18%) respondents were interviewed by means of the 'traditional' CAPI (response rate 63%) in order to allow a comparison between both survey methods. The results showed that drug use was appreciably more prevalent among respondents of the online Internet sample compared to the CAPI respondents. A more detailed analysis suggested that this difference was both related to a mode-effect (face-to-face interview versus self completion) and a selection bias. Apparently the respondents of the online Internet panel were not representative of the general Dutch population.

For an analysis of trends from 1997-2005, only data obtained by the CAPI method and for respondents aged 15-64 are used. This is necessary to exclude mode effects as an explanation for differences in prevalence rates between years. It should be noted, however, that the CAPI sample sizes in 2001 and 2005 are small (2,312 and 4,516, respectively). This results in imprecise population estimates especially for the less prevalent hard drugs and a fairly low statistical power to detect (trend) differences in prevalence rates. It should also be noted that due to a re-analysis of data from the 2001 survey, trends in drug use as described in previous National Reports are different.

Trends in drug use

The lifetime and last year prevalence rates of drug use in 1997, 2001 and 2005 are given in table 2.1. In 2005, cannabis was by far the most commonly consumed illicit drug in the past year, followed at some distance by ecstasy, cocaine and amphetamine. LSD and heroin are hardly used in the general population. A trend analysis showed 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 increase between 1997 and 2005 was found. The percentage of last year users of ecstasy also increased; differences between 1997 and 2005 were significant. Last year prevalence rates of the other drugs were fairly stable across the years.

*Table 2.1: 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

The number of cannabis users is sufficient to permit a breakdown by age and gender. Table 2.2 shows that the percentage of recent cannabis users decreases with age. One in ten young people between 15 and 24 years had consumed cannabis in the past year as against one in more than fifty persons between 45 and 64 years. There were little differences between survey years.

Table 2.2: 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

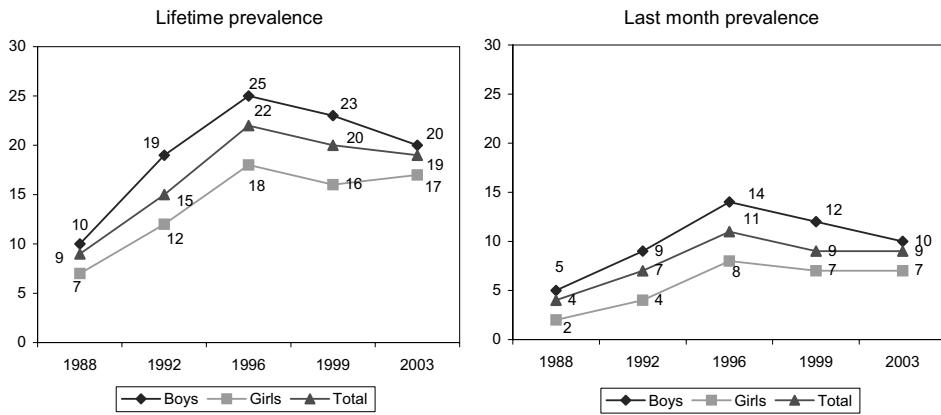
Source: National Prevalence Survey, IVO (Rodenburg et al. 2007).

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 marginally smaller in previous years (almost 2). Apparently the gender gap is not narrowing.

2.2 Drug use in the school and youth population

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 1998 (Monshouwer et al. 2005). The last survey was conducted in 2003 and no new national data are available since then. Findings on cannabis use from the 2005 Health Behaviour in School-aged Children will be published in 2007.

Figure 2.1: Trends in lifetime and last month use of cannabis (%) by gender among pupils of 12-18 years

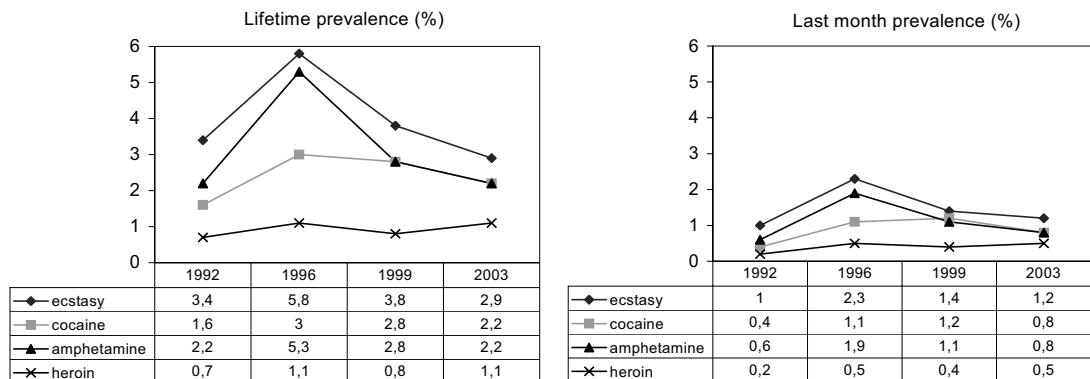


Source: Dutch National School Survey on Substance Use, Trimbos Institute (Monshouwer et al. 2004).

Figures 2.1 and 2.2 show that drug use among pupils generally increased between 1988 and 1996 and stabilised in 1999 and 2003.

- Among boys, the last month prevalence of cannabis use significantly decreased from 14% in 1996 to 10% in 2003 (figure 2.1). There was no significant change in cannabis use among girls (LMP 8% in 1996 and 7% in 2003).
- The proportion of lifetime cannabis users starting at an early age (13 or younger) increased from 21% in 1988 to 40% in 1996, and has remained fairly stable since then (37%) (Monshouwer et al., 2005).
- The percentage of pupils using other drugs, such as ecstasy, cocaine, amphetamine or heroin, also peaked in 1996 and stabilised or decreased since then (figure 2.2). In 2003, 4.5% of the pupils had ever tried one of these drugs and 1.5% was a current user.

Figure 2.2: Trends in the lifetime and last month prevalence (%) of ecstasy, cocaine, amphetamine and heroin use among secondary school pupils



Source: Dutch National School Survey on Substance Use, Trimbos Institute (Monshouwer et al. 2004).

Local or regional surveys

Trends in drug use may be different at the local level. For example, Korf et al. (2003) have noted that the prevalence of cannabis use (ever, current) among pupils in Amsterdam remained at about the same level between 1993 and 2002, with no apparent peaks or troughs (Korf et al. 2003; Verduren et al. 2005b).

Repeated surveys among over 20,000 pupils in the southern part of the Netherlands (South-Limburg) pointed at a general decrease in drug use – both cannabis and ‘hard drugs’ – between 2001 and 2005 (Hajema 2006; see table 2.3). These surveys included all pupils (so no sample) in grade 2 and 4 of secondary education (corresponding with age groups 13-14 and 14-15 years). The response rates were high (90% and 80%, respectively).

Table 2.3 Trend in drug use (%) among pupils of grade 2 and 4 of secondary education in South-Limburg

	Lifetime prevalence				Last month prevalence			
	Grade 2		Grade 4		Grade 2		Grade 4	
	2001	2005	2001	2005	2001	2005	2001	2005
Cannabis	9.0%	4.9%	23.7%	21.8%	5.2%	2.2%	14.2%	10.8%
Ecstasy	1.5%	0.5%	5.2%	3.0%	0.7%	0.3%	2.4%	1.1%
Other hard drugs*	2.6%	1.1%	5.7%	3.2%	1.2%	0.6%	2.3%	1.3%

* cocaine, amphetamine, heroin. Source: Municipal Health Service South-Limburg (Hajema 2006)

It remains to be seen whether these more recent data are predictive of a decreasing trend at the national level.

Possible explanations for trends

The generally stabilising or decreasing trend in drug use among pupils is hard to explain.

Possible factors include:

- effects of (school) prevention programmes
- a ceiling or saturation effect in drug use
- changes in Dutch cannabis policy that may have reduced the availability of cannabis, such as measures to curb the number of coffee shops (see §10.1) and the raising in 1996 in the legal age from 16 to 18 years for admission to coffee shops
- changes in youth culture and fashions.

As far as the third point is concerned, it has been suggested that these policy changes might have resulted in a displacement of the cannabis market at the user level, rather than affecting availability. For example, more youngsters below 18 may obtain cannabis through their older friends or through alternative suppliers (Korf et al. 2001). However, it is not certain that the share of the coffee shop in this market has been fully taken over by other suppliers (Monshouwer et al. 2004). Moreover, the above mentioned policy measures were specific to cannabis but the stabilisation (or decreasing) trend in cannabis use since 1996 coincided with a similar trend in the use of other drugs. This suggests that some other mechanisms may have been at work as well, although it cannot be ruled out that the stabilisation/decrease in other drug use occurred in the wake of the stabilisation/decrease of cannabis use (e.g. gateway by the social environment).

Information on drug use among other youth populations is included in §2.3 (special groups), §8.1 (social exclusion) and §11 (drug use among the very young).

2.3 Drug use among specific groups

Socially excluded people are known to use drugs more often than people in the general population. Paragraph 8.1 reports that the use of various drugs is higher among socially excluded groups like prostitutes, especially young male and female prostitutes; the homeless, especially homeless adolescents; and street youth. Apart from marginalised groups, higher levels of drug use are found among young people in the nightlife scene, who are nonetheless socially integrated. Information on substance use in this group of young people has recently become available for the cities of Zaandam, Amsterdam, Noordwijk, Nijmegen, and Eindhoven.

Table 2.4 gives an overview of the last month prevalence rates found among young people in the nightlife scene in the five cities. Given the differences in the scenes and the age groups that were studied, the findings from the different cities cannot be compared directly. In Amsterdam and in the discotheques in Nijmegen the response rates were rather low (although common in these populations) and therefore the results from these studies should be interpreted with caution.

*Table 2.4: Last month prevalence of the use of different drugs among young people in the nightlife scene in five cities**

Demographic characteristics	City					
	Zaandam	Amsterdam		Noordwijk	Nijmegen	Eindhoven
Scene	Nightlife café-bars	City centre pubs		Pubs & sport canteens	Coffeeshops/ Discotheques	Entertainment district
Year	2006	2000	2005	2004	2005-6 / 2006	2005
Average age (years)	21	25	27	23	27 / 21 yrs	-
Age range (years)	14-44	14-58	15-65	<16 - >50	18-61 / 15-40	14-34
Sample size (N)	549	504	408	917	300 / 171	394
Response rate	-	26%	26%	±90%	68% / 19%	-
Drugs						
Cannabis	21.5%	24%	22%	19%	84% / 11.7%	-
Cocaine	4.3%	8.9%	7.8%	7.8%	10% / 3%	6.3%**
Ecstasy	6.6%	9.5%	7.4%	6.1%	12.7% / 5%	-
Amphetamines	2.4%	1.6%	1.5%	-	5.7% / 3%	-
GHB	2.2%	1.0%	1.5%	-	-	-

Percentage of use during the last month. *These figures cannot be compared directly due to demographic differences between the samples. **Percentage that used cocaine either on a daily, weekly, or monthly basis, which is taken as an estimate of the last-month prevalence. Sources: Zaandam: (Jans 2006), Amsterdam: (Nabben et al. 2006), Noordwijk: (Van Vuuren et al. 2005), Nijmegen: (Roomer et al. 2006b), (Roomer et al. 2006a), Eindhoven: (Van Pareren et al. 2006).

Notwithstanding the reservations that should be made when interpreting the prevalence figures, it is clear that cannabis is the illegal drug used most often by socialising young people. Of the reviewed drugs, amphetamines and GHB are used the least. As a recreational party drug, cocaine is now clearly competing with ecstasy, which used to be the most prominent recreational drug in the near past. Compared to ecstasy, even higher prevalence rates were found for cocaine among the pub-goers in Amsterdam and Noordwijk.

In Amsterdam, drug use among pub-goers scarcely changed between 2000 and 2005. However, qualitative data based on observations from key informants suggest that drug use in trendy clubs has declined and/or moderated (as also supported by figures from previous studies in clubs in 1998 and 2003). This trend has been attributed to the increased enforcement of body-searching policies at the door (Nabben et al. 2006). As a result, people may take their drugs before going out but they may also dose their drugs more cautiously. Another explanation is a changing image: excessive drug use is not cool and is associated with being a loser. Third, the decreasing trend may be related to the growing popularity of urban music at the expense of techno music.

Note that the figures in table 2.4 do not indicate the percentage of young people using drugs *during* the night out. According to the 2005 survey among pub-goers in Amsterdam, substance use during the night out was limited (cannabis 8%, ecstasy 3%, cocaine sniffing 2%, amphetamine 1%). GHB use was not reported at all (Nabben et al. 2006). However, alcohol was consumed all the more. Nine out of ten pub-goers drank alcohol *during* the night out, with an average of 7 units.

During a night out, young people in Zaandam on average were found to consume 13 glasses of alcoholic beverages. Binge drinking, that is taking six or more beverages in a short time during a night out, occurred among 64% of the respondents (Jans 2006).

Among the revellers in Noordwijk it was found that 98% percent of them used alcohol. During the weekend, half of the males drank more than 14 glasses of alcoholic beverages a day, and half of the females drank more than 7 glasses a day (Van Vuuren et al. 2005).

3 Prevention

New developments and trends

Nowadays, an increasing proportion of national funds for preventive activities is directed at public health prevention instead of spending on specific drug prevention activities. These activities aim at reducing risk factors for developing unhealthy behaviours in general and at supporting vulnerable groups or risk groups. Within the field of drug prevention many programmes focus on tobacco and alcohol. This is in line with the European strategy on drug prevention (cf. EU Commission 2006). Moreover, for many years Dutch prevention policy has focussed on health problems associated with a large social burden of disease, namely smoking, alcohol abuse, obesity, diabetes and depression (Ministerie van Volksgezondheid 2000; Ministerie van Volksgezondheid 2006a).

According to the database of the Prevention and Brief Interventions Centre (LSP), today some 250 drug prevention projects and programmes have been developed and implemented, and 180 of these are still running. A minority of these activities are evaluated although the number of evaluations is rising and evaluation quality is improving. A new development concerns preventive interventions via the Internet. It is assumed that e-interventions will become a common mode of prevention and treatment during the coming years.

- After the evaluation of the national addiction research programme of the Netherlands Organisation for Health Research and Development (ZonMw), a second four-year phase of this programme, named "Risk behaviour and dependence", started in 2006. At the launch of the new programme, the results of six studies were presented, summarising the latest scientific literature on the following themes: i) risk factors for drug (ab)use among children and adolescents, ii) neurobiological predictors of chronic drug use, iii) developmental stages of drug dependence, iv) effectiveness and models of good practice in drug prevention, v) comorbidity, and vi) effectiveness of judicial addiction care (Matty et al 2006; De Jong et al 2006; Schippers and Broekman 2006; Cuijpers et al 2006; Van der Stel 2006; Koeter and Van Maastricht 2006). Recommendations for future drug prevention research focus on initiating experimental studies of effectiveness in the Dutch situation and on refining school-based prevention (via student screening and tracing and utilising effective ingredients), family-based prevention (e.g. generic parent education and education of high-risk parents), mass media campaigns (effects of design and content of messages, effects of combinations with other interventions), selective and indicated prevention (e.g. low SES populations, risk factor differences between ethnic or cultural minorities), and community interventions (effects of composite interventions). As these recommendations are meant as the starting point for projects to be funded by the new research programme, more (high-quality) evaluation studies on drug prevention can be expected in the future.

Drug prevention is partly initiated by health prevention departments within municipal health organisations, partly by the 15 drug prevention departments within organisations of addiction care, and partly by other organisations such as the Trimbos Institute, Mainline Foundation Amsterdam, and several user organisations in big cities (e.g. Junkiebond, Drugpunt). The personnel capacity of drug prevention (fte) within organisations of addiction care has increased somewhat during the past three years (18%) but this growth is small compared with the growth in capacity available for mental health prevention (50%). The budget for drug prevention is 3.2% of the total budget of addiction care (Lindt 2005). However, the size of the budget and the capacity allocated to drug prevention differ considerably between organisations for addiction care. Activities in selective

and indicated prevention for (high) risk groups tend to be more frequently applied compared with universal prevention.

3.1 Universal prevention (school, family, community)

Universal prevention is aimed at (subgroups of) the general population, thus including people who do not use drugs and/or have no drug-related problems.

After more than ten years, the Healthy School and Drugs is still the most important school-based prevention programme in the Netherlands. Five years ago some 70% of all schools participated in this project. Nowadays the participation rate is only 50% for secondary schools and 20% for primary schools. Despite this large drop in participation, the programme still reaches some 400,000 to 550,000 pupils. The reduction may be explained by the fact that recently the municipal health organisations (*GGDs*) have shifted their priorities from specific drug prevention activities to general prevention, i.e. combatting health problems in general, for instance reducing obesity among children and youngsters.

In 2006 the Healthy School and Drugs project is moving towards the implementation of *electronically* based school prevention strategies. In 2007 municipal health organisations and regional organisations of addiction care will participate in pilot studies investigating effective implementation of electronic prevention strategies in schools. Electronic prevention strategies will be focussed on young people using alcohol, drugs and tobacco. Finally, a more comprehensive intervention package for parents will be developed for effective discouragement of drug use in their children (Van Diest 2005).

In former years a serious lack of family-based prevention activities has been observed. This contrasts with the available evidence for the effectiveness of these interventions for young drug users (Cuijpers et al. 2006; Rigter et al. 2004; Van Gageldonk et al. 2006). The older multi-component American family-focused preventive programme Strengthening Families is to be tested in three addiction care organisations in the Netherlands. This intensive programme focuses on improving educational skills for addicted parents. In the United States the programme has been shown to be effective. It increases parenting skills, improves family interaction, reduces environmental risk factors and behavioural and psychological problems. The Dutch pilot implementation entails a 14-session incentive-based programme aiming to improve bonding between parents and children of 11 years and older. To enhance compliance, participants can gain rewards for participating in the sessions. This type of work is entirely new for Dutch professionals. Participating parents and children in the Netherlands were very satisfied with the programme and the drop out rate was minimal (Bool 2006).

Since 1996, the National Drugs Information Line (*Drugs Info Lijn*) offers neutral, objective information, free leaflets and a counselling service. As of 2002, a website is also in operation. The number of telephone calls increased from more than 26,000 in 1996 (the initial target was set at 25,000 calls) to over 35,000 in 2000 (a hundred calls a day). Between 2001 and 2005 this number declined drastically from 32,000 to 13,200. This is probably due to the introduction of a voice response system and the success of websites such as drugsinfo.nl and trimbos.nl (142,200 visits in 2004 and more than 300,000 in 2005). Moreover, less publicity was organised compared to former years (Kok et al. 2005; Kok et al. 2006). From 1999 to 2005 the subject of the questions asked changed. Predominant questions in former years were about drugs in general. After 2001 cannabis

became more popular and the number of questions on cocaine and ecstasy also increased. Ecstasy was the most frequently asked subject in 2001, while cocaine gained attention after that year. In 2005 most questions were related to hashish and weed and one-third (32%) of these questions were posed by drug users (32%). Other clients were professionals (18%), family (15%), friends and partners (16%), students (13%) and other people (5%). Questions became more complex to answer during the past decade and consequently the mean duration of the telephone calls increased. In 2004, the web pages most visited were those on general information on drugs (305,958), cannabis (34,105), followed by cocaine (30,989) and ecstasy (28,806) (Kok et al. 2006).

E-health interventions

E-health prevention or treatment interventions are generally offered via the Internet in combination with e-mail. The demand for these electronic intervention options is growing substantially. There is a wide-spread belief that electronic contacts are far less emotional, thus far less effective than face-to-face contacts. Research results suggest that this belief is probably untrue, at least for clients with less severe disorders. Interventions via the Internet probably have more advantages than disadvantages (Copeland et al. 2004; Emmelkamp 2005; Lange et al. 2005; Lange et al. 2001). E-mental health, including drug prevention and addiction care via the Internet, is currently undergoing rapid development. In the field of Dutch addiction care, e-health initiatives are still limited. Examples are "Jellinek online" for self help via the Internet for alcohol or cannabis users, initiated by the Jellinek institute for addiction care and treatment in Amsterdam (www.cyburg.nl/site/projecten/jellinek.html).

These activities are not organised on a national level and no studies on the effectiveness of these programmes have been published until now (Copeland et al. 2004). Most existing studies cover mental health interventions, e.g. treating depression, mood disorders, obesity. The first studies (not necessarily effect studies) on drug prevention or addiction care via the web focus on online assessments of substance abuse (Emmelkamp 2005), smoking cessation (cf. (Cobb et al. 2005; Feil et al. 2003), alcohol or cannabis abuse (Cunningham et al. 2006).

A recent Dutch experimental study compared the effectiveness of an Internet treatment programme ("Drinking less") on reducing alcohol consumption with that of an online brochure containing information about alcohol. Of the 335 initial participants, 268 were enrolled and randomly assigned to one of these two intervention options. The drop out rate after twelve months was fairly high in both groups (30% for the online brochure group and 44% for the Internet treatment group). However, participants of the Internet programme showed significantly better results than those of the brochure-group on drinking pattern, mean alcohol consumption in standard units per week, and percentage abstaining from hazardous drinking (Riper 2005a; Riper et al. 2006).

It is assumed that e-interventions will become a common mode of prevention and treatment within ten years, although several barriers (psychological, organisational, legal, and those concerning health assurance) have to be addressed. E-learning and e-mail counselling may be viewed as (an integrated) part of stepped care arrangements (Riper 2005b). The success depends partly on the coverage that in its turn depends on the spread of Internet in a country. The Netherlands is among the countries with the highest at-home Internet use statistics in Europe. Today more than 80% of the inhabitants of the Netherlands have an Internet connection and most of this group is connected via ADSL (Riper 2005b). One study suggests that, contrary to preconceived ideas, many drug dependent people also use the Internet (Cunningham et al. 2006).

A public campaign targeting cannabis

In November 2006, the Trimbos Institute organised a third public campaign targeting cannabis use among young people. The leading theme was "You are not mad if you are not smoking joints, because 80% of all young people do not do so". New in this campaign is the shift from knowledge enhancement (the main targets of the first campaigns) to socio-emotional information aimed at trying to change perceptions about cannabis use. Many young people think that most peers use cannabis, while the truth is rather that most are not smoking joints at all. Both mass media and regional resources, media and activities are used. Besides posters, leaflets, mirror-stickers and other usual media, photographs and films of young people are important in this campaign because these youngsters tell about their reasons for (not) smoking joints. These messages were available via the website drugsinfo.nl. On this site other information was also available, e.g. extensive (evidence-based) information on cannabis use and regional organisations of addiction care, a digital game on cannabis (the smoking joints quartet), and a chatting opportunity with the Drug InfoLine. The Trimbos Institute took care of nation-wide public relations activities for this campaign. This campaign will be evaluated on its effects. The report will be published next year (Lokman & Wammes, forthcoming).

3.2 Selective/indicated prevention (recreational settings, at-risk groups or families)

Selective prevention targets individuals or groups with higher risk of problems related to drug use. Indicated prevention targets individuals who already have drug-related problems but are not yet dependent (Mrazek et al. 1994)(Mrazek & Haggerty, 1994; (National Advisory Mental Health Council Workgroup on Mental Disorders Prevention Research 1998).

Problems caused by alcohol or drug use are concentrated in different kinds of recreational settings and during the summer in holiday resorts along the coast. More than a third of the Dutch youngsters between 15 and 24 years go to a pub every week and 600,000 youngsters and young adults between 15 and 35 go to a rave party every year. Thus interventions are needed to reduce the risk of an unsafe and unhealthy nightlife. Half of all municipalities with more than 25,000 inhabitants have a Going Out Safety Agreement. This document stipulates closing hours, house rules of recreational settings, admission and refusal criteria for doorkeepers, and specific rules concerning the use of or dealing in illicit drugs (Bolier 2006). The origins of this agreement are to be found in the so called *Stadhuis en House* arrangement originating in the mid-nineties (Uitgaan en Drugs, 2005 'Clubs and Drugs'). Almost all eighteen regular organisations of addiction care are active in drug prevention in recreational settings. Fifteen of the 39 municipal health services are also active in this domain. An evaluation shows that half of the organisations of addiction care and ten percent of the municipal health services have worked with one or more interventions of the Clubs and Drugs project (Lammers 2006).

In the Clubs and Drugs project several tools and interventions have been developed (Bolier et al. 2005; Bolier et al. 2006; Lammers 2006; Sannen et al. 2005; Van Hasselt et al. 2005):

- *Scanner Drug Prevention in Clubs and Pubs.* A survey and policy instrument for analysing and monitoring drug problems at a local level in clubs and pubs. In addition, an overview is published of the roles of various stakeholders and possibilities for prevention activities.

- *Outsider or Ally - Tips for Working Together in Clubs and Pubs.* A manual for agencies that want to establish or improve contact with the major stakeholders in and around clubs and pubs.
- *First Aid at Drug Incidents in Clubs and Pubs.* A course given in cooperation with Edu-care Groningen to addiction care professionals. These are taught to give information or training courses for personnel in clubs, pubs or security agencies.
- *Barcode - Managing alcohol and drugs in clubs and pubs.* A second course for club and pub staff is meant to add to a healthy and safe environment with regard to alcohol and drug use in these recreational settings (to be implemented at the end of 2006).
- *Information for Youngsters at Clubs and Pubs.* Flyers are distributed at settings where party drugs are widely used. These flyers refer youngsters to the Website www.uitgaanendrugs.nl, where more extensive information can be found about recreational drugs. In addition there are leaflets which are only designed to be distributed one-to-one to youngsters who drink or use drugs. A manual gives addiction care services and municipal health authorities instructions and protocols for the selective distribution of the information material.
- The *Handbook Clubs and Drugs - Alcohol and drug prevention in nightlife settings* - gives information on different interventions of this Clubs and Drugs project. It also gives information about an integrated prevention approach in nightlife settings and a plan to realize this.

A recent study with the scanner method on the situation in Zaandam, a smaller city near Amsterdam, describes possible preventive actions that may reduce public nuisance and accidents during weekend nights (Jans 2006). These actions included: mandatory identification and pocket searching when entering recreational settings, refusing new drinks and calling a taxi by bar personnel for people who have already drunk too much. Interviews among key informants (staff, police officers, young visitors, taxi- and bus drivers) showed that current actions at the entrances of recreational settings are considered sufficient (e.g. age selection, preventive pocket searching, no discrimination based on cultural background). The same goes for security measures in buses and the 4-6 regulation for premises (open until six in the morning but no new customers after four). More camera control was considered desirable. Opinions about the police are mixed. On the other hand, some registered a decline in perceived authority of the police force among young people.

The *Drug Information and Monitoring System* (DIMS) tests drug samples supplied by consumers and samples confiscated by security staff (see § 10.3). During the last months of 2005 samples of cocaine mixed with atropine were found. After the launching of several warning campaigns, these contaminated cocaine powders disappeared from the market. Most DIMS information is shared and distributed by the websites of several organisations for addiction care (Van Dijk 2005).

Two guidelines or handbooks were published on *peer education*.

- In 1996, the Jellinek organisation set up the Unity project as a peer education initiative. The *Unity Handbook* (Noijen 2005) aims at an easy transfer of "lessons learnt" during the Unity project of peer education in Amsterdam to other regions and especially for the domain of drug prevention in recreational settings, e.g. dance or rave parties. This handbook gives a problem description, determinants of drug use among young people, a background and explanation of peer education, and a plan to introduce and evaluate peer education step by step. The appendices contain forms for registration during parties, quizzes to test drug knowledge and information on drug use, intake and exit meetings.

- A second guideline publication aims at reducing cannabis use among young people by peer education (Wesselink et al. 2005). It describes in popular language the aims and methods of peer education, the advantages and disadvantages of this method in daily practice and suggestions for improvement.

Other risk groups

Drug and alcohol prevention also targets high-risk groups of vulnerable young people in residential institutions for youth care. Many professionals in youth care do not know how to handle drug and alcohol use among young people. The Trimbos project 'Open and Alert' organises adequate basic training and skills training for professionals in drug prevention. A handbook for trainers has been published. After training, professionals are better equipped for drug preventive activities in youth care institutions, i.e. assessing drug use and skills for handling drug use among this target group (Van Leeuwen 2006).

Initiatives aimed at preventing drug addiction among refugees (asylum seekers and illegal immigrants) are perceived necessary. Within the existing National Platform for Mental Health Promotion, a working group has been set up among refugees. Furthermore, an inventory of existing interventions and a literature survey was initiated. Finally, this Platform aims at exchanging information about refugees and drug use among prevention workers in this field (Al Shebani et al. 2005).

4 Problem Drug Use

4.1 Prevalence estimates

Cannabis

There is no recent estimate of the number of problem cannabis users. According to an outdated estimate of 1996, some 0.5 percent (range: 0.3-0.8) of the general population of 18-64 years is dependent on cannabis (last year prevalence of a DSM-III-R diagnosis of dependence). This translates into about 50,000 (range 30,000 – 80,000) persons, mostly young adults. The large majority is male (0.8% compared to 0.2% female).

Ecstasy and amphetamines

The number of problem users of these drugs is not known. Ecstasy has no strong dependence potential. In spite of this, a minority of persons has a compulsive use pattern with associated psychological and somatic problems. Amphetamine use may be problematic and give rise to dependence and health problems, although in the long run most users seem to gain control over their use (Uitermark et al. 2004). The number of ecstasy and amphetamine users applying for help at treatment centres is fairly low, albeit rising for amphetamine (§ 4.2). However, there is no information on the 'hidden' part of the population of problem users of these drugs staying out of the reach of treatment services.

Opiates and cocaine

Estimates of the number of problem hard drug users in the Netherlands have been conducted several times in the past years. The results are shown in table 4.1. Most estimates are based on registrations of hard drug users who have been in contact somehow with the police or addiction care. For the 2001 estimate, three methods were used, namely the multivariate social indicator method (MIM) (or regression imputation), the multiple imputation method (on the same data), and the treatment multiplier (TM). These methods yielded a central estimate of about 33,500 problem drug users, which implies 3.1 problem drug users per 1,000 inhabitants aged 15 to 64 years (range 2.2 – 4.3). Due to the large confidence intervals, the estimate for 2001 did not differ significantly from the previous estimate for the year 1999. For this previous year the number of problem drug users per 1,000 inhabitants aged 15 to 64 years was estimated at 2.7.

*Table 4.1: 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. 2006b)

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'.

Table 4.2 gives an overview of the estimates of the number of problem hard drug users in various cities and regions in the Netherlands. For some of these estimates the capture-recapture method has been applied. In these cases the number of problem users may have been overestimated because of a violation of the closed population assumption. For example, an estimate for the number of opiate users in Amsterdam in 2004 based on a 3-months observation period (with less risk of migration, death, etc.) yielded 3,524 persons, compared to 3,928 persons based on a 1-year observation period (Van Brussel et al. 2005).

Table 4.2 Local and regional estimates of the number of problem hard drug users

City or region	Year	Method	Case definition*	Estimates (lowest – highest)	Source
Amsterdam	2005	2-sample C-RC	Problem opiate users	3,728	Amsterdam Municipal Health Service (Buster, personal communication)
Rotterdam	2003	3 times 2-sample C-RC	Problem hard drug users	5,051 (4,804 - 5,298)	(Biesma et al. 2004)
The Hague	2000 - 2002	3-sample C-RC	Problem hard drug users	3,200 (annual)	(Burger 2004)
Groningen**	1993 / 2002	Treatment multiplier	Problem opiate users	1,000	(Bieleman et al. 1995)
Utrecht (province)**	1999	Treatment multiplier (a.o.)	Problem hard drug users	1,300	(De Graaf et al. 2000) (Toet, personal communication)
Friesland*** (province)	2001	2-sample C-RC, treatment multiplier	Problem opiate users	1,007	(Biesma et al. 2003)
Enschede	2004	2-sample C-RC	Problem opiate users and poly drug users	606	(Bieleman et al. 2004)
Hengelo	2004	2-sample C-RC	Hard drug addicts	191	(Biesma et al. 2005b)
Almelo	2004	2-sample C-RC	Problem opiate users	229	(Biesma et al. 2005a)
Stedendriehoek ****	2000	2-sample C-RC, treatment multiplier	Problem opiate users	750 (561 - 948)	(Bieleman et al. 2002)
South-Limburg **	1999 / 2002	1-sample C-RC (Chao's estim.) (a.o.)	Problem hard drug users	1,100	(Couvans et al. 2002); (Hoebe et al. 2003)

* Problem opiate users often consume other substances as well (especially crack cocaine). Problem hard drug users consume opiates and/or cocaine and other substances.

** Estimates for the region/province are based on extrapolations from local estimates (cities). City of Utrecht: 570; Parkstad-Limburg: 800.

*** Leeuwarden: 389; North-Friesland: 135; South-West Friesland: 169, Friese Wouden: 314.

**** Deventer, Apeldoorn, Zutphen.

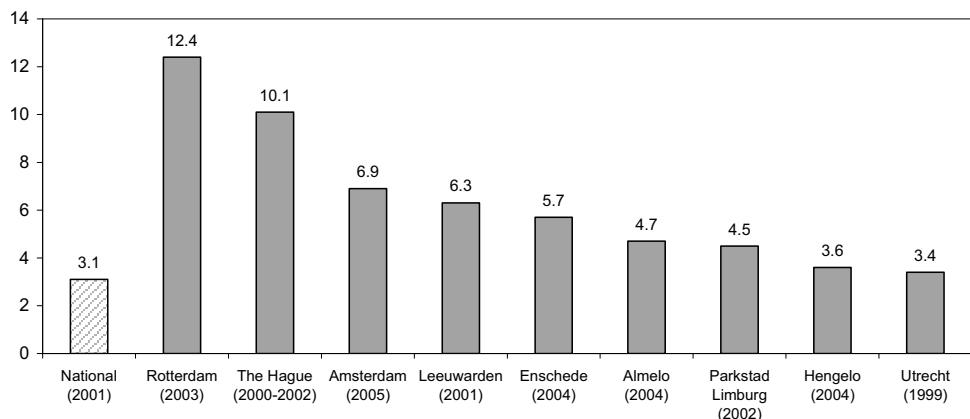
C-RC = capture-recapture. Samples come from treatment and police data.

Figure 4.1 gives the estimated number of problem hard drug users per 1,000 inhabitants aged 15 to 64 years at national level and for some cities and regions. The local estimates show that the highest concentrations of problem hard drug users are found in the three largest cities of Amsterdam, Rotterdam, and The Hague. Besides actual differences, the differences that were found between these cities may also be due to variations in case definitions. For Amsterdam, the estimates are restricted to the opiate users who were sampled from the central methadone register. Compared to Amsterdam, broader inclu-

sion criteria have been applied in Rotterdam and The Hague (Biesma et al. 2004) (Biesma et al. 2004; Burger 2004).

In Rotterdam, two groups of hard drug users were estimated in 2003 by applying three 2-sample C-RCs to various police and treatment sources: 1) the total group of regular users of hard drugs, based on police and treatment registrations (excluding experimental and weekend users), and 2) the group of problem hard drug users, who had used hard drugs (almost) daily in the past year and were criminal and/or caused nuisance and/or had psychiatric co-morbidity and/or were homeless. The former definition, which is close to the EMCDDA definition of problem drug use, yielded an estimate of 5,051 hard drug users. The second estimate resulted in a lower number of 3,000 cases, which is about two-third of the total group.

Figure 4.1: Estimated number of problem users of hard drugs per 1,000 inhabitants (15-64 years) at national level and for some cities and regions



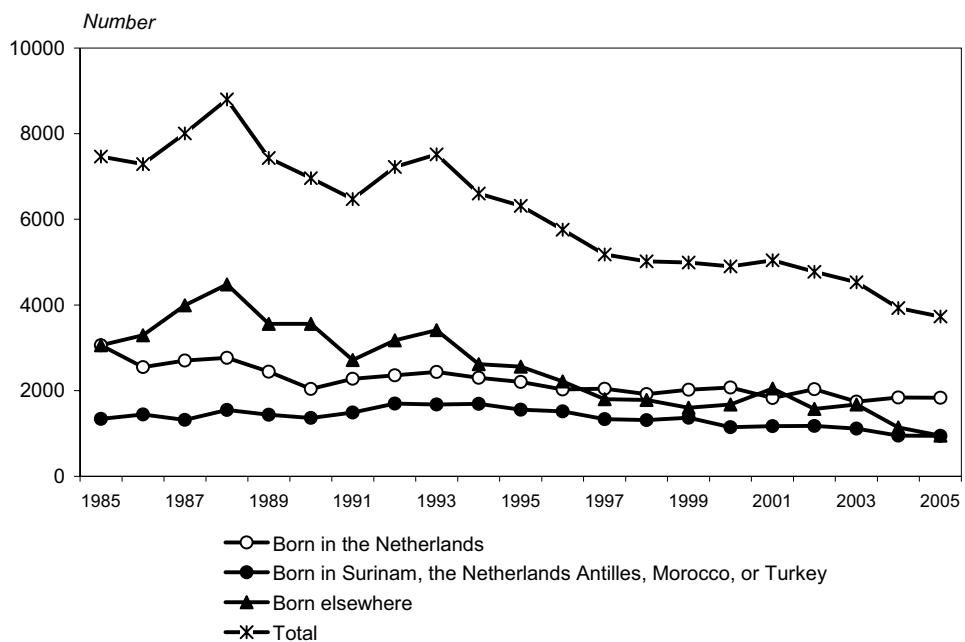
Sources and definitions: see table 4.1 and 4.2. Different case definitions and methods may have affected the comparability of the estimates.

Declining number of opiate addicts in Amsterdam

Estimates for the number of opiate addicts in Amsterdam are available since 1985. Figure 4.2 shows the estimated numbers broken down by country of origin.

- Since 1988 the estimated number of addicts has declined (with a minor fluctuation in the early nineties). The largest decrease can be attributed to the group of foreign drug users (category 'born elsewhere', including Italians and Germans), but in the past years the size of the other groups has also diminished.
- In 2005, the number of opiate addicts was estimated at 3,728 (one-year observation period). Of these opiate addicts 49% were born in the Netherlands, 25% in Surinam, the Netherlands Antilles, Morocco, or Turkey, and 26% were born elsewhere. Addicts of the first and second subgroup usually have a residence permit and maximum access to (methadone) treatment.

Figure 4.2: Estimated number of opiate addicts in Amsterdam by country of origin



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

Injecting drug users

The number of drug users who are currently injecting their drug can be estimated from treatment data given by the National Alcohol and Drugs Information System (LADIS, see also paragraph 4.2), in combination with the estimated number of problem hard drug users at national level. According to the LADIS, 10% of the opiate clients in 2005 injected their drug. There were 16,199 clients who had a primary or a secondary problem with opiates. This implies that there were about 1,620 currently injecting opiate users in treatment.

There were 11,652 clients in treatment that had a primary or a secondary problem with cocaine or crack, who were not yet counted among the clients with a primary or secondary problem with opiates. Of these cocaine/crack clients only 1% injected, whereas 59% smoked, and 40% sniffed the drug. The approximately 4,661 clients who snort their cocaine are less problematic and less marginalised and are not included in the estimated number of problem hard drug users at national level. Of the remaining 6,991 problematic cocaine/crack users who are in treatment, about 117 clients are estimated to be injecting drug users.

All in all, these figures from the opiate and cocaine/crack clients imply that, of the 18,643 problem hard drug clients in treatment, about 1,737 currently inject, which comes down to about 9.3%. Given the estimated number of 33,499 problem hard drug users at national level, it is then estimated that there are about 3,115 currently injecting problem hard drug users in the Netherlands, within a range of 2,211 to 4,321 injectors. Given the

total of 11,008,282 inhabitants aged from 15 to 64 years in 2005, it is thus estimated that among the general population 0.03% are current injectors of hard drugs, within a range of 0.02% to 0.04% current injectors.

Above, the percentage of injectors among the hard drug users that are in treatment was generalised to the whole population of problem hard drug users. This generalisation is warranted as far as the problem users who are in treatment resemble their counterparts who are not in treatment. For the Netherlands, however, there are indications that those problem drug users who come for treatment are more problematic compared to those that do not yet seek treatment. These indications come from local studies that were conducted in Amsterdam (Buster et al. 2004), The Hague (Eland-Goossensen 1997), and the more provincial region of Parkstad Limburg (Coumans et al. 2001). It is likely that there is a higher percentage of injectors among the drug users who are in treatment compared to those who are outside treatment. Therefore, the number of currently injecting drug users as estimated above is most likely an overestimation.

On the other hand, our estimate of the total number of hard drug users probably under-includes the number of crack/cocaine-only users, who do not consume opiates. As the injection rate is very low in this group (by virtue of their predominant consumption of crack cocaine), applying the slightly lower injection rate of 9.3% based on both opiate and 'crack only clients' as against 10% for the opiate clients, may not be fully appropriate. Nevertheless, this difference would scarcely affect the final estimate.

Problem cocaine users

Estimates of the total number of problem cocaine users are lacking. This is partly related to the heterogeneity of the population of cocaine users which includes 1) opiate/crack users, 2) primary crack users who do not consume opiates, and 3) cocaine sniffers. The first group of users corresponds largely to the above mentioned group of problem opiate/hard drug users. The second group is included partly in the estimates for 'problem hard drug use', but probably not entirely. Moreover, the size of this group cannot be reliably estimated separately. The third group is the main missing link. Treatment demand related to cocaine sniffing has grown rapidly in the past years but it is not known whether this trend corresponds to a similar rise in the number of problem users. In the framework of the national Working Group on Prevalence Estimates of Problem Drug Use, a proposal has been developed describing possible methods to estimate these groups and the requirements in terms of the necessary data sets.

4.2 Profiles of clients in treatment

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 most clients are now registered at a central intake location. Some private clinics and those organisations and departments of mental health that have not yet merged with an organisation for addiction treatment, are not represented so far in the LADIS. Complete coverage of all specialized addiction treatment will

be reached as soon as the new registration system of the DBCs (Diagnosis Treatment Combinations) are fully operational.

The data in this paragraph are based on the protocol for the Treatment Demand Indicator (TDI) as established by the EMCDDA. 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 TDI only includes data from clients who subscribed in the year of registration. 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 re-subscribed 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 LADIS Key Figures (Ouwehand et al. 2006). The figures presented here will therefore deviate from the figures reported elsewhere.

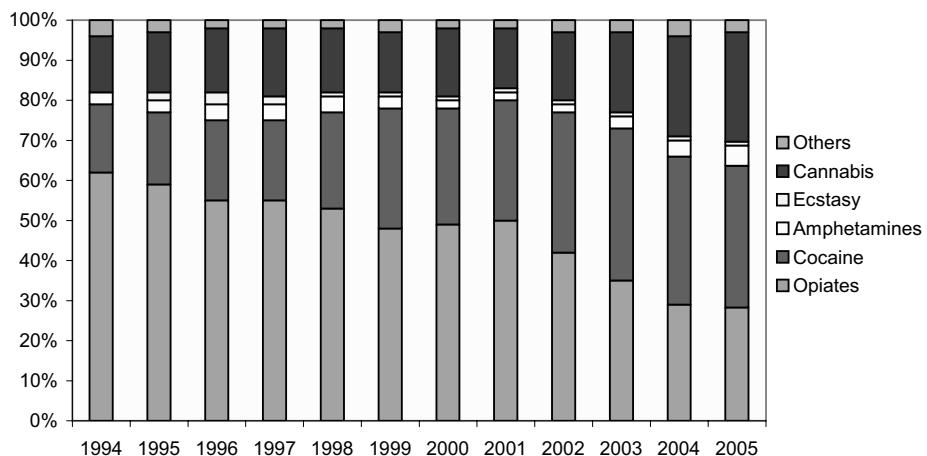
Some further observations should be made:

- Data will be reported from 1994 onwards, since this is the first year for which IVZ could control for double counting of persons.
- 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 Amsterdam Municipal Health Service in the LADIS since 2001.
- Data for 2004 were lacking for one region (South-Limburg) due to a reorganisation of institutions. For this region, data from the registration year 2003 were extrapolated to 2004 in order to obtain nationally representative figures.
- Due to technical complications, data for 2005 were lacking for the Jellinek, a large organisation for addiction care and treatment in Amsterdam. For this organisation, the data from the registration year 2004 were extrapolated to 2005 in order to obtain nationally representative figures. New trends in problem drug use traditionally start in Amsterdam and therefore emerging trends may have become underexposed due to extrapolating the figures from a previous year.
- "Cocaine" refers to both "cocaine HCL" and "crack cocaine".

Trends

Between 1994 and 2005, the annual number of new clients applying for help at the drug treatment services varied between eight and eleven thousand, with an increasing trend (although with some fluctuations) over the years, which has been levelling off in the past two years. Figure 4.4 shows the distribution of the new clients from 1994 to 2005 for the drug that was the primary problem for these clients.

Figure 4.4: Distribution of new clients recorded from 1994 to 2005 at centres for addiction treatment by primary drug*



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

Figure 4.4 shows the following:

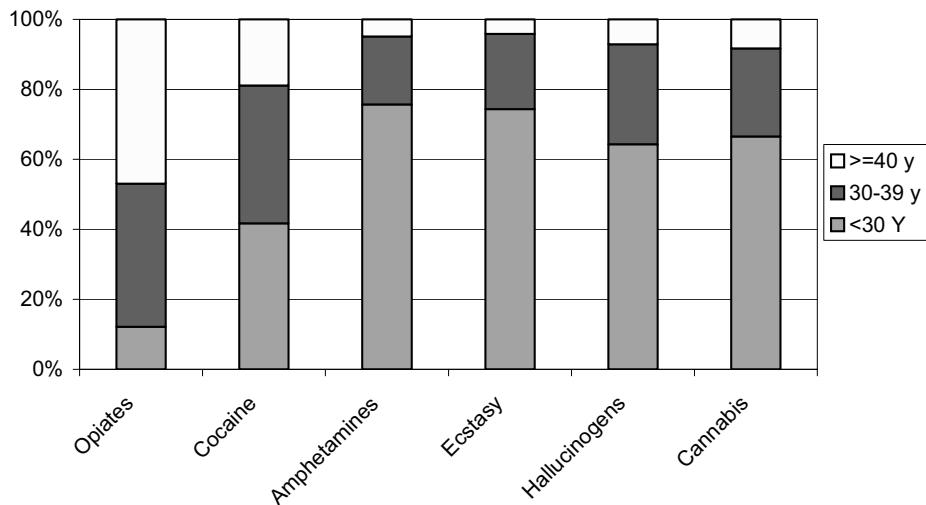
- The percentage of opiates clients among the new drug clients decreased from 62% in 1994 to 28% in 2005. The percentage of cocaine clients increased from 17% in 1994 to 38% in 2003, and slightly decreased thereafter (35% in 2005).
- Since 2003, the proportion of cocaine clients exceeds the proportion of opiates clients.
- The proportion of cannabis clients increased from 14% in 1994 to 27% in 2005.
- When taken separately, the ecstasy and amphetamine clients never accounted for more than 5% of the new drug clients. However, the proportion of amphetamine clients is on the rise in the past years, from 1.5% in 2001 to 4.8% in 2005.

The shift in proportions 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 2005, the proportion of opiates clients was only 10% compared to 35% for the cocaine clients and 42% for the cannabis clients. The proportion of first treatments related to amphetamines was 7%.

Age

For the different drugs, figure 4.5 shows the distribution over the age groups of the clients that demanded treatment in 2005. The opiates clients are on average the oldest, followed by the cocaine clients. Clients who have a primary problem with amphetamines, ecstasy, cannabis, or hallucinogens are on average the youngest.

*Figure 4.5: Clients recorded in 2005 at addiction treatment centres by primary drug and age group**

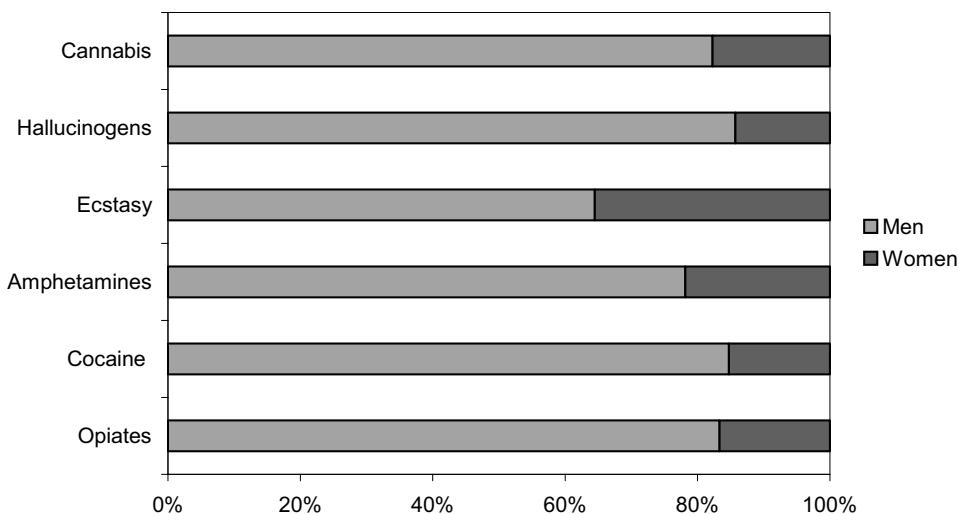


* Selection of clients based on the EMCDDA's TDI protocol. Source: LADIS, IVZ.

Gender

The percentage of females among all the new drug clients has varied over the years by between 16% and 19%. Figure 4.6 shows the gender distribution by primary drug in 2005. The proportion of females was highest among the ecstasy clients (36%) and lowest among the hallucinogens (14%), cocaine (15%), opiates (17%), and cannabis clients (18%). The amphetamines clients fell in between these extremes (22%). The finding that the ecstasy clients show the highest proportion of females is in agreement with the fact that the increase in ecstasy use between 1997 and 2001 in the general population was most pronounced among women. Moreover, the proportion of females among the first ecstasy treatments rose from 21% in 2001 to 38% in 2005.

*Figure 4.6: Gender distribution by primary drug of clients recorded in 2005 at centres for addiction treatment**



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

Route of administration

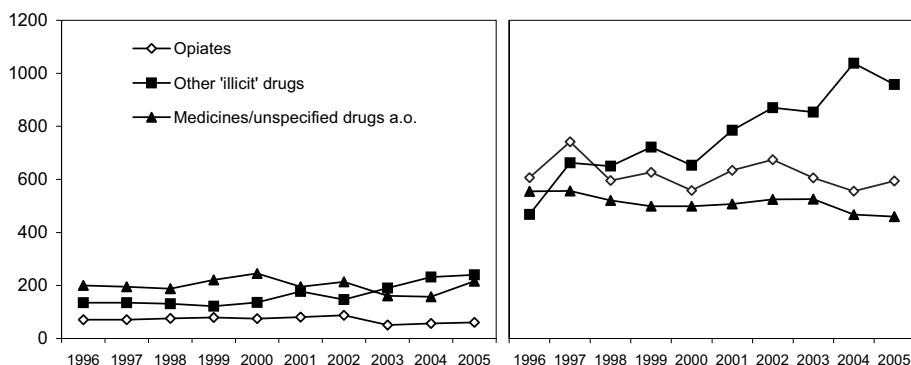
According to the TDI (LADIS, IVZ), injecting drug use among all the new primary drug clients strongly decreased from 12% in 1994 to 3% in 2005. In 2004, the percentage of injectors was still 5%. Among the opiates clients a decrease was found from 16% in 1994 to 9% in 2005. In 2005 the main route of administration for opiates was smoking or inhaling (73%). Of the cocaine clients, 54% smoked or inhaled and 40% sniffed the drug. These different routes of administration probably reflect two different groups of problem cocaine users. On the one hand there are the problem users of crack cocaine, who often also consume other hard drugs like opiates. On the other hand there are the 'recreational' cocaine users who have run into problems because of compulsive sniffing (Stichting IVZ 2004). Cannabis is mainly smoked (97%), while amphetamines are sniffed (67%) as well as swallowed (24%).

General hospital admissions

Admissions to a general hospital in the Netherlands are registered in the Dutch Hospital Registration (LMR). Figure 4.7 shows the number of clinical admissions to a general hospital because of drug dependence or abuse as a primary or a secondary diagnosis.

- In 2005, the LMR recorded a total of 1,699,571 clinical hospital admissions. Drug dependence and drug abuse were counted only 517 times as a primary diagnosis and 2,012 times as a secondary diagnosis.
- Within the category of admissions related to drug abuse and dependence, opiates made up 12% of the primary and 30% of the secondary diagnoses. Other illicit drugs accounted for 46% of the primary and 48% of the secondary diagnoses. In this category, cocaine ranked as the most frequent drug, followed by cannabis. Psychoactive medicines (e.g. benzodiazepines) and unspecified substances accounted for 42% of the primary diagnoses and 23% of the secondary diagnoses.

Figure 4.7: Number of admissions to general hospitals related to drug dependence or nondependent drug abuse (ICD-9 codes 304 and 305.2-9) as primary diagnoses (left) or secondary diagnoses (right), from 1996 to 2005



Other 'illicit' drugs are cocaine, cannabis, amphetamines, and hallucinogens. Source: LMR, 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 (24 in 2000 and 62 in 2005) and cocaine (67 in 2000 and 101 in 2005). A stronger increase was observed for the number of admissions with other illicit drugs as a secondary diagnosis.

- This trend was mainly due to cocaine and to a lesser extent to cannabis. More specifically, cocaine dependence and abuse as a secondary diagnosis increased from 377 in 2000 to 562 in 2002, and has remained at more or less the same level since then. In 2005, 547 secondary cocaine admissions were recorded.
- The number of cannabis related admissions was lower and more varied over time, although an overall increase in secondary diagnoses was observed from 193 in 2000 to 299 in 2005.
- The number of admissions related to opiates as a secondary diagnosis is also more varied, ranging from 550 to 750 cases annually (594 in 2005).

Table 4.3 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 highest for opiates patients and the lowest for cannabis and amphetamines patients.
- With regard to the primary diagnoses, it is quite remarkable that the average number of days during which the patients stayed in the hospital was highest for cannabis patients. The lowest number of days was recorded for amphetamine patients. There is no explanation for these differences.

Table 4.3: Clinical admissions to general hospitals related to drug abuse and drug dependence in 2005*

	Cannabis	Cocaine	Opiates	Amphetamines
Number of primary diagnoses	62	101	61	45
Average number of days	10.5	3.2	5.0	2.5
Number of secondary diagnoses	299	547	594	82
Total number of persons**	329	570	521	110
Average age (years)	30 years	35 years	41 years	29 years
Percentage male	72%	74%	70%	79%

* 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. ** Number of persons who were admitted at least once because of a drug-related disorder assigned as a primary or secondary diagnosis. Source: LMR, Prismant.

4.3 Main characteristics and patterns of use from non-treatment sources

In the past decade, field studies among traditional groups of problem opiate users have shown a strong increase in the importance of crack cocaine, a reduction in injecting drug use and an increase in psychiatric and somatic comorbidity. Recent field studies employing observational methods and interviews among key informants point at new groups of (young) problem drug users, including those consuming crack as their first and main drug, and daily cannabis users, who may be at risk of becoming problem hard drug users. Moreover, these studies confirm the increase in comorbidity and poly drug use (including alcohol) among the traditional ageing population of hard drug users and suggest that the reduction in injecting drug use has halted now. Note, however, that treatment data still point at decreasing injection rates (see § 4.2). A summary of new studies is given below.

Field studies targeting problem drug users have been conducted recently in the provinces of North Brabant and Limburg. In North Brabant, field studies were conducted in the city of Den Bosch and its surrounding region (Stoele et al. 2005), and in the city of Eindhoven and its surrounding region (Van 't Klooster et al. 2006). In Limburg, field studies were conducted in the city of Maastricht (Couvans et al. 2005) and in Parkstad Limburg, which is the region of the city of Heerlen and its surrounding municipalities (Van der Dam et al. 2006a; Van der Dam et al. 2006b). Most studies applied qualitative methods and did not yield statistical data or trends. The qualitative methods implied that interviews were conducted with key informants and members from the target groups, and that participating observations were conducted at public places.

Den Bosch region

For the Den Bosch region, the organisation for addiction treatment Novadic-Kentron and the Addiction Research Institute Rotterdam (IVO) have set up the "Addiction Problems Monitor" (Monitor Verslavingsproblematiek). This monitor has recently focused on marginalised hard drug users and cannabis users (Stoele et al. 2005). The marginalised hard drug users were operationally defined as the group of hard drug users that almost daily use heroin, methadone, and/or crack cocaine. The use of cannabis was especially monitored among young people. For most of the young people who use it, cannabis is a 'tran-

sition drug' that is only used between the age of about 15 and 25 years. However, apart from these still socially integrated cannabis users, there are young cannabis users showing behavioural disorders and/or psychological problems.

For the Den Bosch region, the Addiction Problems Monitor has spotted the following trends:

- Many of the young people that hang around on the streets use cannabis frequently. They are experimenting more often with drugs like cocaine, ecstasy, and amphetamines and more often cause public nuisance.
- There is a group of about 30 to 40 young recalcitrant cannabis users who are using cannabis almost continually and are difficult to place within the existing treatment programs.
- People that have to rely on organisations for social relief more often have addiction problems as well as psychological problems, i.e. they more often have a dual diagnosis.
- Due to the hardening of society and the sharpening of policy, any mentally handicapped people who use cannabis often and sometimes ecstasy, have become at a greater risk of being abused, marginalised, and criminalised.
- Among the hard drug users there is, on the one hand, the traditional group of ageing users who started with the use of opiates and later on started to use crack cocaine as well. On the other hand, there is a new group of hard drug users who started with the use of crack cocaine. Some of these new hard drug users now start using heroin besides crack cocaine. All in all, there is an increasing use of crack cocaine and a decreasing use of heroin.

Eindhoven region

For the Eindhoven region, the organisation for addiction treatment Novadic-Kentron and the Addiction Research Institute Rotterdam (IVO) have set up the "Region Monitor" (REGIO Monitor). With regard to drugs, this monitor focuses on marginalised hard drug addicts and young people from 15 to 25 years who are already marginalised hard drug addicts or are at risk for becoming a hard drug addict. The marginalised addicts are those who almost daily use heroin, methadone, and/or crack cocaine. Young people that use cannabis daily are at risk of ending up as marginalised hard drug users.

- For the Eindhoven region, the Region Monitor has spotted the following trends:
- Most of the marginalised hard drug users are between 30 and 40 years of age and belong to an ageing group. However, the proportion of young people among the marginalised hard drug users is increasing. For the greying hard drug users it can no longer be expected that they will ever be able again to live on their own or to find regular employment.
- Among the ageing group, there are side-users of opiates who are partly replacing the opiates with alcohol. These greying users no longer seek a 'rush', but prefer being continually under the influence, and alcohol can be easily obtained to reach this goal.
- The use of crack cocaine started originally in the larger cities, then spread throughout the country, and during the past years also reached the Eindhoven region. The rise of crack cocaine has also hardened the drug scene in this region.
- There is an increase in addicts who have a psychiatric disorder besides their addiction problem, i.e. there is an increase in addicts that have a dual diagnosis.
- Among the problem youth (15 to 25 years of age), the problem use of cannabis is more frequent than the problem use of other substances. As a result of daily cannabis use, these young people have become very passive and no longer solve their prob-

lems. Some of these young people are at risk of becoming marginalised hard drug users. An increasing proportion of the problem youth is female.

City of Maastricht

During the springtime of 2005, the Addiction Research Institute Rotterdam (IVO) conducted a Quick Scan research in the city of Maastricht among the marginalised hard drug users and the homeless.

For the city of Maastricht the Quick Scan has observed the following trends:

- Organisations for outreach work among young people and for social relief more frequently come across marginalised hard drug users.
- The ageing group shows a high level of co-addiction to alcohol and has become physically exhausted.
- Following the trend in the rest of the country, the use of crack cocaine has increased during the past years. The marginalised hard drug users are poly drug users who often use two or more substances.
- There is an increase in dual diagnosis.
- There is an increase in the number of homeless youth.
- Among the problem youth there is frequent drug use and poly drug use. The young people in this group have hardened and are thrown back on themselves.
- Among the young mothers who live on social welfare, the use of cannabis has become habitual.

Parkstad Limburg

Since 1998 the Drug Monitoring System (DMS) observes the hard drug users in the region of Parkstad Limburg. From April 2004 to December 2005 an ethnographic field study was conducted during which participating observations took place and conversations were held with members from the target group.

The DMS has signalled the following trends for the region of Parkstad Limburg:

- Most hard drug users are now poly drug users and the trends of an increasing use of crack cocaine and a decreasing number of injecting drug users may have stabilized.
- There are indications that a larger part of the hard drug users has started to use large quantities of alcohol in a way that causes public nuisance.
- There is a limited number of new young hard drug users, but the number of new young hard drug users may be increasing. These young people are often abused by the older drug users and run the risk of ending up as marginalised hard drug users.
- Some female drug users earn their income by means of prostitution, but the number of street prostitutes has decreased and prostitution occurs less often in a visible manner in public places.
- There are indications that the drug users commit fewer crimes against property to obtain money to buy drugs.
- The number of drug-tourists that come from Germany to Parkstad Limburg has decreased.

5 Drug-Related Treatment

The three most important developments during the past ten years in Dutch addiction care are probably: a greater research emphasis on neurobiological approaches to addiction (one of the state-of-the-art studies mentioned in chapter 3 was a review study on neurobiological predictors of substance dependence); greater emphasis on psychiatric comorbidity (see §7.3) and the gradual introduction of evidence-based addiction care (Schippers et al. 2005).

5.1 Treatment system

The Netherlands has a network of organisations for addiction care that covers the whole country. A map of the Netherlands with its provinces and major cities is given in the annex of this national report (chapter 15.4). Due to mergers, the number of organisations of addiction care that are funded by public money, has decreased from 32 to 18 during the past six years (cf. (De Beer 2006)). The number of locations or units did not change much, i.e. somewhat more than two hundred.

Traditionally, the provinces of the country used to be covered by the main regular organisations for addiction care as follows: the "Brijder Verslavingszorg", the "Jellinek" and "Triton" cover North Holland; the "Parnassia Group" and "Bouman GGZ" supply South Holland; the "Centrum Maliebaan" takes care of the province of Utrecht; the "Verslavingszorg Noord Nederland" (Care of Addicts Northern Netherlands, VNN) serves Friesland, Groningen, and Drenthe; the "Stichting CAD", "Meerkanten" and "TACTUS" operate in Flevoland and Overijssel; "De Grift" covers Gelderland; Zeeland is under the care of "Emergis Verslavingszorg" and the "Huiskamerproject voor Druggebruikers"; North Brabant is covered by "Novadic Kentron"; the province of Limburg is covered by the "Mondriaan Zorggroep", and "GGZ Noord- en Midden-Limburg". "Stichting De Hoop" and "De Wending" (Salvation Army) offer addiction care on a religious base at national level. Meanwhile, the "Brijder Verslavingszorg" has merged with the "Parnassia Group", and "Stichting CAD" has merged with "TACTUS". All these main regular organisations are members of their sector organization, the Netherlands Association for Mental Health Care (GGZ Nederland), which within the framework of the project Achieving Results (Resultaten Scoren), issues guidelines for treatment, prevention, and harm reduction.

In 2008, as a result of the new Health Insurance Act (Zorgverzekeringswet), the organisations for addiction treatment as well as the health insurance companies will no longer be restricted to offering their services within their traditional territories. Operating on a free market basis, the health insurance companies will then have the opportunity to purchase addiction treatment from all over the country. Consequently, the organisations for addiction treatment may then offer treatment to insurance companies throughout the whole country.

Most people with drug problems are treated in outpatient care (see § 4.2). Recent statistics on *inpatient* addiction care are not available, due to the registration problems relating to the introduction of a new information system for mental health care. Methadone maintenance is a predominant outpatient treatment arrangement for opiate users (see § 5.3).

Effectiveness of treatment

In 2004, a comprehensive report was published on the effectiveness of treatments for drug problems (Rigter et al. 2004). This report has been updated recently (Van Gageldonk et al. 2006). Moreover, a review gives evidence-based recommendations or good practice examples for nine types of comorbidity, i.e. addiction combined with depression, anxiety disorders, bipolar disorder, schizophrenia and psychosis, personality disorder, eating disorder, (quasi)somatic disorder, and smoking (Van der Stel 2006).

An overview of what type of interventions are specifically used nationwide in Dutch addiction care is not available. It is clear, however, that knowledge of effective treatments is now trickling down in most of the 18 major organisations. The long-term policy programme Scoring Results aims to promote the development and implementation of effective treatments (see below in "Quality of treatment"). Lifestyle training and intensive case management techniques are for instance reported to (become) implemented in most organisations (Schippers et al., 2005b; GGZ Nederland, 2005). This does not mean that daily work of professionals is in all cases evidence-based. Professionals may have their own preferences or may for other reasons resist changes in their daily treatment practice. Besides, the still existing complex funding system and organisation of addiction care may inhibit quick and fundamental changes in treatment and care. Still, many criticisms on these shortcomings have been voiced during the past years and changes towards working more evidence-based in Dutch addiction care are and have been initiated in recent years. Meanwhile, current research aims to stimulate the application of effective interventions and evaluation (see below).

Until recently only few cost-analyses relating to drug addiction care had been published. Hardly any registration data are available on which specific interventions are actually applied in daily life at the client level. Thus, in general it remains unknown what the costs and what the effects are of these interventions.

A multidisciplinary guideline is in production on drugs and drug addiction that aims to report recommendations for daily work based on consensus and evidence-based information. The final report is expected in 2007. The development of this guideline is co-ordinated by the Trimbos Institute in co-operation with many stakeholders and experts in this field. The main topics in this guideline will be: youth, fringe groups of chronic drug users, older drug users, drug users and the judicial system, drug use among the mentally handicapped, somatic disorders among drug users, and hidden problematic drug use (personal communication).

Quality of treatment

During the past ten years an increasing number of initiatives were targeting an improvement of quality of addiction care in the Netherlands. Quality assurance of health care in general (including addiction care) was laid down in law in 1996, but politicians and legislators opted for the principle of self regulation (*Kaderwet*). Important parts of this law are directed at the necessity of evidence-based care, specified care policy, quality assurance systems and an annual quality report. During the past years attention has also been given to evaluating the effectiveness of the process of initiating quality care in addiction care. Especially in the framework of the long-term policy programme "Scoring Results" (*Resultaten Scoren*) more than 50 publications were realised: e.g. literature studies, instrument development studies, guidelines and protocols (Van Es 2004). Examples are a tool for drug consumption rooms, a module for treatment indication and routing, a description of short-term clinical crisis intervention, a self help literature study, a guideline for maintenance treatment, and a home-party scenario. New protocols and guidelines will be published in 2006-2007. Four of these deal with treatment and care for different types of *dual diagnosis patients*. Two other publications deal with medically assisted treatment

for alcohol abuse and intensive case management. The website gives an overview of results of the first period of this programme in English (www.ggzkennis.nl/20239). The programme Scoring Results has been extended recently until 2008. The focus in the coming two years will be on the improvement of medical and nursing interventions, on further developing protocols, on the implementation of guidelines and on contacts with professional training and education in order to improve the expertise of future professionals (Van Es 2004).

Several other reports, published recently, target the quality of addiction care in general. First, the National Court of Audit stressed the problem of effectively treating dual diagnosis patients in addiction care (T.K.29660/1-2). Second, the Health Care Inspectorate presented general evaluative data on legal and organisational aspects of mental health care, care for the mentally handicapped, and addiction care. This report also stresses the fact that most patients of addiction care have multiple problems and that one third of the organisations in this field work with multidisciplinary teams, with specified treatment targets and plans, and with evaluative actions for improvement. Most patient records are not systematically recorded and lack specified treatment targets (Inspectie voor de Gezondheidszorg (IGZ) 2004). Third, an independent advisory agency evaluated the quality and feasibility of co-operation in addiction care circuits in three regions (Doornink et al. 2003). The evaluation shows that the initial targets of the policy programme were hardly realised. No region had succeeded in setting up a policy instrument for developing a long-term, regional funding policy. The evaluation further suggests that it is scarcely possible to stimulate voluntary cooperation between funding organisations. The evaluators conclude that non-coercive co-operative arrangements appeared to be a serious limiting factor in reaching the targets and that a policy programme aiming at national addiction care as a whole was probably too ambitious.

In cooperation with many professionals, the National Organisation of Mental Health Care (*GGZ Nederland*) recently developed a vision document on addiction care based on the state of science in this field. A comprehensive *biopsychosocial model* is considered as essential to explaining addiction as a phenomenon, the task of addiction care (key competences), and the relationship between addiction care and mental health care ((GGZ Nederland 2006). The biopsychosocial model has been developed for health care in general. Key competences of addiction care should be:

- knowledge of epidemiology of substance use and information on substances;
- knowledge of the phenomenon of addiction and addictive behaviours;
- knowledge of effective interventions;
- knowledge of how to approach and deal with addicted people effectively;
- knowledge of the relationship between addiction and other problems, illnesses and disorders;
- skills to systematically tackle these problems, illnesses and disorders;
- skills to persuade clients to accept treatments that they do not consider to be of interest for them;
- and experience and skills to combine addiction problems with facts of drug related crime in creating adequate cooperating mechanisms between addiction care and criminal justice.

Furthermore, the Dutch Health Research and Development Council (ZonMw) launched a national action programme Quality Mental Health Care and Addiction Care (*Kwaliteit GGZ en Verslavingszorg*) that aims to support the acceleration of quality improvement activities (ZonMw, 2006). For a three-year period 2005-2007, a budget of € 2,295,750 is set apart for the realisation of this programme (*Verbeter mee*) of which € 207,750 is ear-

marked for addiction care. The main issues for improvement are patient registration systems, safety of patients and the implementation of available Dutch guidelines, including those produced by the programme Scoring Results (see above). The ultimate target is that improvements should be maintained and implemented on a larger scale. Supportive actions will include an interactive electronic guideline version, training in application of the guideline and training of implementation strategies of recommendations in the guideline for professionals.

In November 2006, a set of outcome indicators (*prestatie-indicatoren*) for the broad domain of mental health care and addiction care was presented to the government (GGZ Nederland et al. 2006). Consensus on these indicators was realised by representatives of different interest groups (e.g. health insurances, national professional associations, the Health Inspectorate). This set of indicators will enable the collection of comparable data on the quality of mental health care and addiction care. It has been settled between all parties involved that no additional information will be requested in the future. This was part of the bargain between ministries and organisations of mental health care and addiction care. This agreement was necessary, because the many un-concerted ministerial requests during the past years for information about this broad working field, led to confusion and despair. The indicator set encompasses data on several aspects of effectiveness of care, safety, and client-centred data.

Finally, several university chairs were established during the past five years that include activities for the evaluation of addiction care. Consequently, international contacts on effectiveness and quality have increased over the past year. The most recent chair (September 14th, 2006) is aimed, *inter alia*, at improving the link between research and practice in order to further implement evidence-based interventions (www.novadic.nl/nieuws -> "How to bridge the gap between science and practice?").

The earlier reported need for increasing the number of special education courses in addiction medicine and addiction care has been confirmed empirically by a national survey in universities and higher vocational education (Rodenburg et al. 2006). These special courses or modules are rare or very rare in today's higher education. A taskforce (*Raad voor Bekwaamheids Ontwikkeling in de verslavingszorg*) has been set up to enhance (regional) education networks and likewise activities in higher education in order to meet the need for quality assurance measures in addiction care.

5.2 Drug-free treatment

Drug-free treatment is uncommon in Dutch addiction care. Psychosocial interventions are generally used in addiction care to complement medically assisted treatment (medication) in order to attain longer term effectiveness. There are no specific admission criteria for drug free treatment. Different types of drug-free treatment in use in addiction care include relapse prevention techniques, cognitive-behavioural therapies and family therapies. Choices for one type or another are mainly dependent on individual treatment professionals. An overview of data on drug-free treatment services does not yet exist.

Recent developments focus on treatment modalities for cocaine and cannabis users, in response to the increased treatment demand for these drugs. An experiment for cocaine users (with or without heroin addiction and in or out of methadone maintenance treatment) tests the applicability and effectiveness of the Community Reinforcement Approach combined with voucher-based incentives in the Dutch situation. This experiment is cur-

rently in its last phase. Voucher-based incentives are also implemented experimentally as an adjunct to medical heroin prescription (see § 7.4).

The number of cannabis users seeking treatment has increased in the past years. Moreover, certain groups of young people are especially vulnerable to developing problems related to cannabis use. Young problem users of cannabis usually also have other problems, e.g. they skip school, commit petty crimes, drink too much and may have symptoms of depression, anxiety disorder or behavioural problems. These young people are not helped by care activities focused solely on cannabis. Instead, they need a more comprehensive approach. However, in the Netherlands youth care, mental health care and addiction care are to a large extent separate professional worlds and within the field of addiction care, special programmes for youngsters are still few and far between (see chapter 11). When problems are emerging, short-term cognitive-behavioural therapy may be effective. Youngsters with multiple psychosocial problems, including cannabis use, may best be helped with intensive multidimensional family therapy (Rigter 2006a). Currently, a Dutch experiment with this family-based intervention package is running (see chapter 11).

In 2006 a weekly self-help group has started in Amsterdam, specifically for cannabis users (*Marijuana Anonymous*). Its origin lies in the United States and MA-groups are already active in eight other countries (Van Harten 2005). Most self-help groups operate anonymously. By exception, the Information and Development Centre "Self help Groups for Substance Dependence" (*Informatie- en Ontwikkelcentrum "Zelfhulpgroepen en Verslavingen*) organised a symposium on these groups in December 2006 where interested parties could observe how people in such groups are working with each other.

5.3 Medically assisted treatment

Substitution treatment

In the Netherlands, methadone is mainly used in outpatient drug substitution treatment. A second substitution drug (buprenorphine) is not used on a regular basis (i.e. in only one organisation of addiction care). Methadone is dispensed in outpatient addiction units, methadone posts and in some cases special buses. In Amsterdam, the Municipal Health Service and a number of general practitioners are also involved in methadone distribution. National registration data show that in 2005 methadone was dispensed 2.9 million times to 12,564 persons.

Table 5.1 shows an increase in the number of heroin addicts in methadone maintenance treatment until 2000. These data also reveal an increase of the daily average dosage from the mid-nineties until registration year 2002/2003 (Ouwelhand et al. 2006). Increased dosages are consistent with the results of an experiment with high methadone doses, showing that these high doses are in general more effective than lower doses (Driessen et al. 2002).

Table 5.1: Methadone distribution in outpatient addiction care, from 1994

Year	Number of people	Daily average dose (milligram)
1994	8,882	46
1995	8,817	37
1996	9,068	38
1997	9,838	40
1998	9,754	42
1999	10,666	45
2000	10,805	48
2001	12,538 ¹	54 ¹
2002	12,805	57
2003	12,048	57
2004	12,493	56
2005	12,564	54

I.The increase in the number of people as compared with 2000 is due to the first supply of data from the Amsterdam Municipal Health Service (GGD Amsterdam). The increase in the average methadone dose may also be (partially) related to this. Source: LADIS, IVZ.

During the past decades, attitudes to and practice of methadone maintenance treatment in the Netherlands have changed. The shift from the initial conception of care for opiate addicts to merely methadone distribution has been criticised over the years (Loth et al. 2003) and solutions have been proposed (Loth C.A. 2003a; Loth C.A. 2003b). As a consequence, maintenance treatment is now increasingly administered in keeping with transparent (explicit) medical treatment standards, and the dispensing of methadone during the first phase is being supervised (Merkx et al. 2005).

6 Health Correlates and Consequences

6.1 Drug-related deaths and mortality of drug users

General Mortality Register: direct deaths

The main source for official Dutch statistics on drug-related deaths is the General Mortality Register (GMR) or Causes of Death Statistics held by Statistics Netherlands (CBS) (Van Laar et al. 2003). Causes of death are classified according to the International Classification of Diseases, Injuries and Causes of Death (ICD). The 9th edition of the ICD was used from 1979 through 1995, and the 10th edition of the ICD has been in use since 1996. This register has national coverage, but only includes residents of the Netherlands, and provides data especially on acute mortality due to drug use or drug 'overdose', i.e. 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 (e.g. various synthetic drugs). Nonetheless, the registered cases can be selected according to the EMCDDA definition of acute drug-related death.

Overall trend

Figure 6.1 shows the number of cases recorded from 1985 through 2005 according to the EMCDDA selection of ICD-codes.

- The *total* number of recorded drug-related deaths increased between 1995 and 2001, decreased in 2002 and 2003, increased again in 2004 and stabilized in 2005. The increasing trend can be attributed to various factors, such as the change from ICD-9 to ICD-10 in 1996 (ICD-10 includes more cases), and the rise in acute cocaine deaths, which seems to parallel an increase in the problem use of this substance.
- From the 122 cases in 2005, a total of 42 cases were coded to unspecified substances, compared to 54 in the 2004 registration year. Although the specific substances are not known, an inquiry at Statistics Netherlands (CBS) revealed that these cases are related to hard drugs and to polydrugs, and are therefore rightly included in the selection of drug-related deaths. From 1996 to 2005, the trend in unspecified substances parallels the trend in the total number of drug-related deaths. The number of unspecified cases ranges from 18 in 1996 to 54 in 2004.

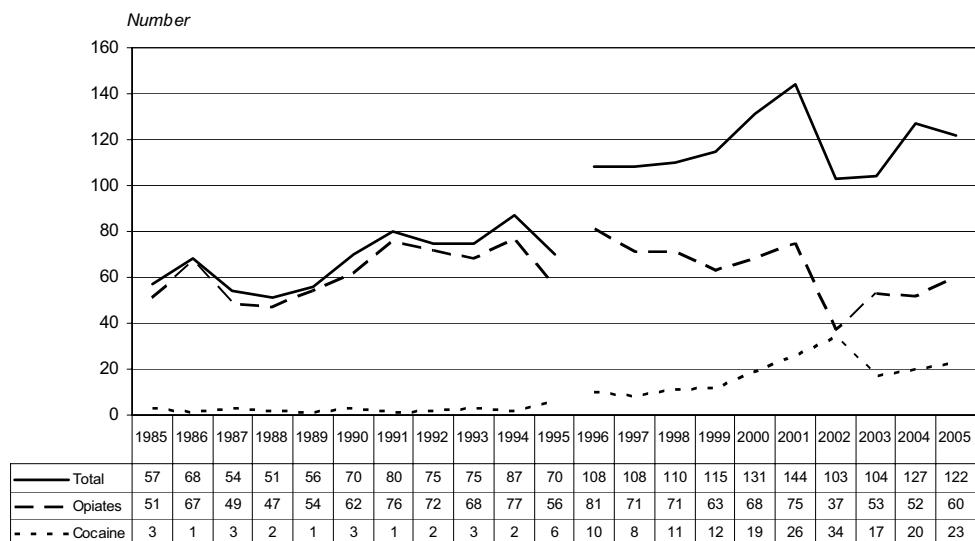
Substance specific trends

- Cases of "opiates" and "cocaine" refer to cases in which these substances were explicitly mentioned on the death certificate. Between 1985 and 2001, opiate intoxications were the most common causes of death recorded among Dutch residents. In this period, the casualty rate fluctuated between 47 and 77 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. However, since 2003 these converging trends have diverged. Since that year the number of cocaine deaths has slightly decreased and the number of opiate deaths has slightly increased.
- In 2005 there were 4 cases that were coded to an acute psychostimulant intoxication. Whether these fatal intoxications concerned amphetamines, MDMA, or other psychostimulants is not known.

Despite fluctuations over the years, the total number of drug-related deaths in the Netherlands has remained relatively low. This might be explained by protective factors, such

as the nationwide availability of methadone-maintenance treatment and the low rate of injecting drug use in the Netherlands. There are, however, some indications that not all cases of drug-related deaths are recognised in the GMR (De Zwart et al. 2001).

Figure 6.1: Number of acute drug-related deaths in the Netherlands according to the EMCDDA selection of ICD-9 codes (1985-1995) and ICD-10 codes (1996-2005)



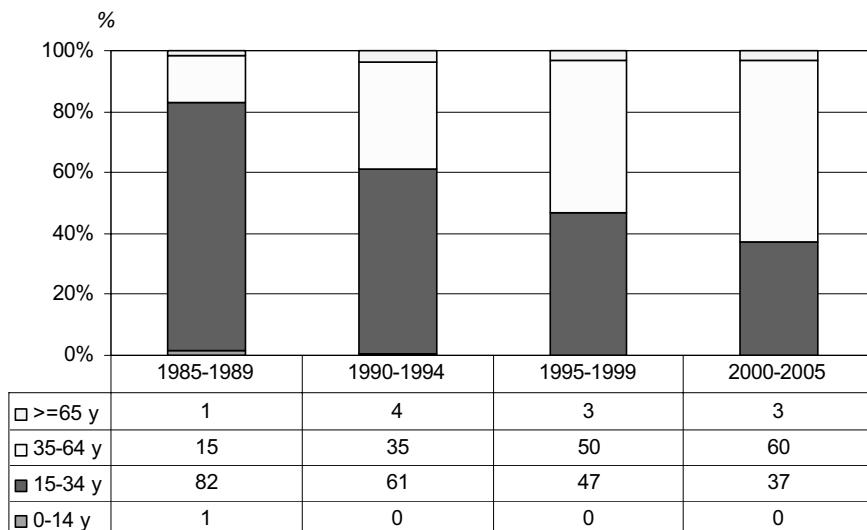
ICD-9 from 1985 through 1995: 292, 304.0, 304.2-9, 305.2-3, 305.5-7, 305.9, E850.0, E850.8, E854.1-2, E855.2, and E858.8, E950.0, E950.4, E980.0, E980.4 (selected in combination with N965.0, N968.5, N969.6 or N969.7). ICD-10 from 1996 onwards: F11-F12, F14-F16, F19; and X42, X41, X62, X61, Y12, Y11 (selected in combination with T40.0-9, T43.6). Source: Causes of Death Statistics, Statistics Netherlands (CBS). The break in lines between 1995 and 1996 indicates the switch from ICD-9 to ICD-10.

Age and gender

The population of problem hard-drug users is ageing and this trend is reflected in the increasing age of drug users that have died from drugs. Figure 6.2 shows that the percentage of victims aged 35 years and above increased from 16% in the late eighties to 63% at the beginning of this century.

Between 1985 and 2005, the percentage of female cases varied from 10 to 27% per year, without showing a clear trend.

Figure 6.2: 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).

Forensic data

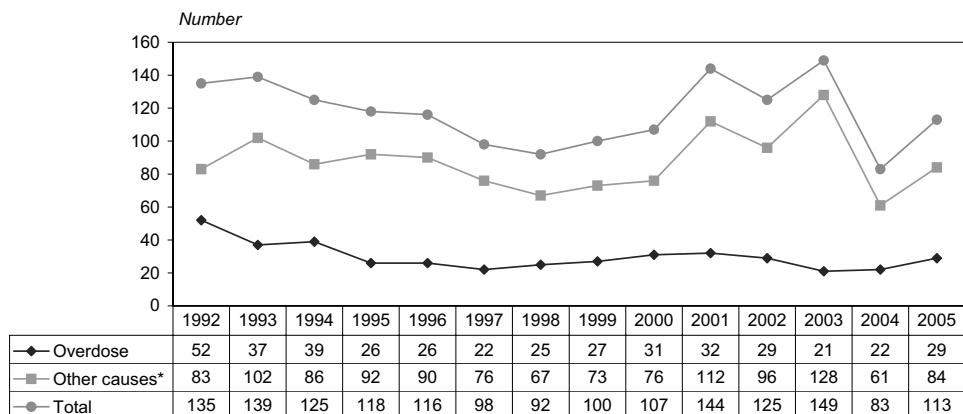
The Netherlands Forensic Institute (NFI) investigates suspected cases of death for which the Public Prosecutor has ordered a forensic examination by means of autopsy and/or toxicological analysis. In some of these cases illegal drugs are suspected and then found as a direct or indirect cause of death. In general, deaths among drug users who were known to be a problem drug user are not examined forensically in the Netherlands. Nonetheless, the toxicological examinations that are conducted at the NFI may give more insight into the drug-related deaths in the Netherlands. Research is now in progress on all cases that were examined at the NFI from 2003 to 2005 in which toxicological analyses showed the presence of drugs (Croes et al. 2006). In the 2005 registration year, a total of 35 cases were found at the NFI in which an illegal drug was assessed as a direct cause of death. From this total of 35 cases, 33 cases were found to be registered in the General Mortality Register at Statistics Netherlands, 9 cases of which did not concern inhabitants of the Netherlands. Of the remaining 24 cases, 14 cases were coded to a drug-related cause of death. This indicates that the NFI offers valuable additional data on drug-related deaths.

Mortality among drug users in Amsterdam

Each year the Amsterdam Municipal Health Service (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 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 6.3 gives the number of deaths that were found according to this procedure among the drug users in Amsterdam.

Figure 6.3: Number of deaths among drug users in Amsterdam

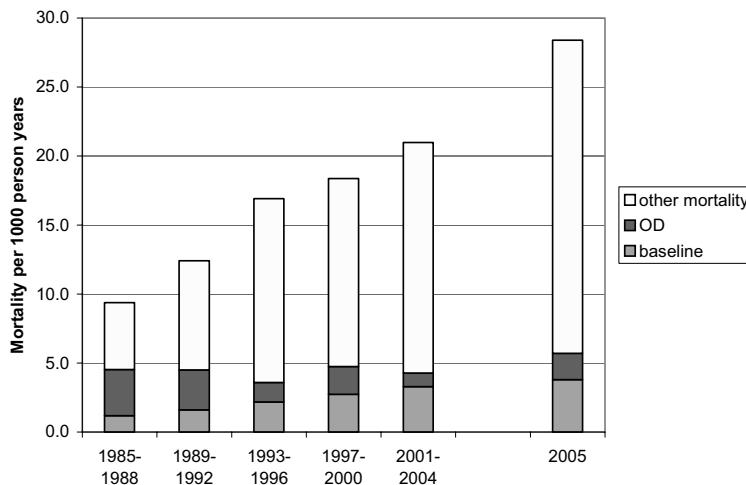


* Other causes include infectious diseases, violent deaths, accidents and suicide. Cases are counted among all drug users who have (ever) been registered in the Central Methadone Register of the Amsterdam Municipal Health Service. This may result in an overestimation of the number of cases in the category 'other causes'.

Each year more deaths were due to "causes other than overdose". Between 2003 and 2004 the number of deaths decreased, but between 2004 and 2005 the number increased again. This recent increase is mainly due to other causes of death.

Apart from the number of deaths per year, the Amsterdam Municipal Health Service also calculates 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 calculation. Only 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 6.4 gives the mortality per 1000 person years of observation for the four-year periods from 1985-1988 to 2001-2004, and for the registration year 2005. In accordance with the increase in the number of deaths in 2005, the highest mortality rate for causes other than overdose was also found in the 2005 observation period.

Figure 6.4: Mortality per 1000 person years among Amsterdam methadone patients from 1985-1988 to 2001-2004 and during 2005



The baseline mortality indicates the mortality among the Amsterdam population of the same age as the methadone patients. OD = overdose. Source: Amsterdam Municipal Health Service.

Direct and indirect deaths for the whole of the Netherlands

It was already mentioned above that the Amsterdam Municipal Health Service not only monitors the mortality that is directly related to drugs among its methadone patients, but also the mortality that is indirectly related to drugs. In order to estimate the total of direct and indirect deaths for the whole of the Netherlands, the mortality figures from the Amsterdam methadone cohort have been extrapolated to the national level (Cruts et al. 2008). Due to a higher average age and a higher percentage of HIV infection among the methadone patients in Amsterdam, the mortality level will be higher in Amsterdam compared to the rest of the country. When generalising the figures from Amsterdam to the whole of the country, adjustments were therefore made for these differences in age and percentage of HIV infection. After these adjustments the total mortality among problem drug users for the whole of the Netherlands was estimated at 479 deaths, within a range between 340 and 664 deaths. From the estimated total mortality, 11% was considered to be a base-rate mortality which is not related to drugs, 23% was attributed directly to drugs, and 66% was attributed indirectly to drugs.

6.2 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. Until recently, 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 injecting drug users of the National Institute of Public Health and the Environment (RIVM). Other sources include the HIV/AIDS registration (containing HIV

treatment data), notification data (for hepatitis B and C; reported by the municipal health services to the RIVM) and data from a local (Amsterdam) prospective study on infectious diseases among drug users. For various reasons, the latter sources do not give unbiased estimates of prevalence rates, but they may (in the long run) give additional indications of trends on the incidence of infectious diseases.

HIV

The Dutch HIV surveillance involves repeated surveys among drug users in four fixed cities (Amsterdam, Rotterdam, Heerlen/Maastricht and Arnhem) and two optional cities. In these surveys, frequent hard drug users (heroin, cocaine, methadone, amphetamines) are recruited in methadone centres and on the street. Saliva samples are collected and tested for HIV antibodies. The last survey including drug users as well as others was held in Rotterdam in 2002/ 2003. In 2005 the HIV survey was conducted in The Hague and was restricted to prostitutes and migrants. Few data on HIV positive drug using prostitutes were included (see below). The 2006 survey in Rotterdam only included migrants. It is uncertain when a new study among injecting drug users (IDUs) will take place.

- In total, approximately 3500 IDUs participated in the 16 surveys held between 1994 and 2003 in the various Dutch cities. HIV prevalence rates ranged from 0.5% to 26%, with the highest prevalence rates found in Amsterdam (26%) and south Limburg (22%) (De Boer et al. 2006).
- In the survey conducted in The Hague in 2005, the overall HIV-prevalence among the 201 surveyed prostitutes was 3.5% (Van Veen et al. 2006). However, HIV positives were only found in drug dependent and ever-in-life injecting prostitutes (2 of 9; 22%) and transgenders (5 of 25; 20%). All HIV cases were found among prostitutes working on the street (as opposed to working in a club). Apart from injecting drug use, other factors may have contributed to the increased HIV prevalence in the drug dependent prostitutes: they were older (median 40 years, versus 34 years for the total group), had the longest career in prostitution (median 10 years, versus 3.3 years for the total group) and used more risky sexual techniques.

Treatment data

Another source of information is the national HIV/ AIDS registration of the HIV Monitoring Foundation (SHM), which was appointed by the Dutch Ministry of Health Welfare and Sports as the executive organisation for the monitoring of HIV in the Netherlands in 2002. This registration includes data on HIV-infected patients who are seen regularly by HIV/ AIDS treating physicians in one of the 23 collaborative HIV treatment centres throughout the country. This registration also includes data from a prior project on HIV positive patients treated between 1998 and 2001. Together they form the ATHENA national observational cohort on HIV. The data are used to monitor changes in the HIV epidemic and the effect of treating infected patients with antiretroviral combination therapy.

- On June 1, 2006 11,866 HIV-infected individuals were registered by the treatment centres and the HIV Monitoring Foundation. Note that the RIVM estimated that 17,500 HIV-infected persons were living in the Netherlands (Op de Coul et al. 2006).
- For 596 patients (73.4% male) the reported mode of transmission was injecting drug use.
- Of 112 injecting drug users with a known HIV-1 subtype, the majority (106, 95%) were infected with subtype B (which is the most prevalent subtype in Europe and North-America); subtype A was found in 3 patients, 2 patients had subtype AE and 1 had subtype G.

- In 2005, 970 new HIV diagnoses were reported (23% females), of which 10 were injecting drug users (1%; 2 of 10 being female). The median age at diagnosis in the injecting drug users was 39 years in 2005 (De Boer et al. 2006).

Table 6.1: Number (%) of recorded HIV infections by year of diagnosis and by route of transmission

Transmission group	<=2000	2001	2002	2003	2004	2005
Homo-/bisexual	3,812 (56%)	401 (45%)	444 (45%)	429 (44%)	512 (49%)	501 (52%)
Heterosexual	1,850 (27%)	379 (42%)	427 (43%)	429 (44%)	419 (40%)	374 (39%)
Injecting drug use	520 (8%)	18 (2%)	15 (2%)	23 (2%)	10 (1%)	10 (1%)
Blood (products)	130 (2%)	9 (1%)	11 (1%)	8 (0.8%)	4 (0.4%)	3 (0.3%)
Mother to child	59 (0.9%)	18 (2%)	13 (1%)	19 (2%)	11 (1%)	6 (0.6%)
Needle stick injury	12 (0.2%)	1 (0.1%)	5 (0.5%)	2 (0.2%)	3 (0.3%)	3 (0.3%)
Other/unknown	407 (6%)	69 (8%)	70 (7%)	77 (8%)	93 (9%)	73 (8%)
Total	6,790	895	985	987	1,052	970

'Year of HIV diagnosis' refers to the date of the first HIV positive blood sample known by the HIV Monitoring Foundation. Figures are adjusted constantly because of reporting delays. Source: (De Boer et al. 2006).

- Sixty-seven percent of all registered HIV-infected injecting drug users originated from the Netherlands and 17% from other Western European countries; 99% of HIV infected Dutch IDUs with a known country of infection (n=335), were infected in the Netherlands, while 59% of non-Dutch IDUs with a known country of infection (n=134), were infected in the Netherlands.
- Although mortality in HIV-infected patients has decreased dramatically since the introduction of highly active anti-retroviral treatment (HAART), data from the ATHENA national observational cohort shows that, besides CD4 cell count and plasma viral load, infection via injecting drug use is a strong predictor for progression to death (Van Sighem 2005). Compared with non-injecting drug users, mortality was 6 times higher in injecting drug users. Although co-infection with hepatitis C virus was not taken into account in the analyses, it may contribute to the increased hazard for injecting drug users. Other factors such as lifestyle may further explain the higher mortality.

The prospective Amsterdam Cohort Studies (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). Participants are followed-up every 4 to 6 months, with questionnaires on risk behaviour, and blood samples for virological and immunological testing.

- HIV incidence dropped from 7/ 100 person-years in 1986 to 2/ 100 person-years in 1995 (Lindenburg et al. 2006). From 1999 until 2004 no new HIV infections were found. In 2005, two HIV cases were diagnosed (incidence 1.2/ 100 person-years). The decline in HIV incidence has been accompanied by a reduction in injecting drug use and needle sharing. Sexual risk behaviour continued, and the few new HIV seroconversions in the last years are related mainly to unprotected heterosexual contacts. In

- this way, injecting drug users may function as a bridge group through which HIV can be transmitted to the general population.
- HIV seroprevalence in all young drug users dropped from 31% (in ever-injectors 33%) in the period 1985-1989 to 16% in 1998 and lowered further to 3% (in ever-injectors 7%) in the period 2000-2004 (Van de Laar et al. 2005; Welp et al. 2003).

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 Diseases Control).

- By the end of 2005, the cumulative total of reported AIDS diagnoses was 6,931, and 4,398 AIDS deaths (122 deaths in 2005). The annual number of AIDS cases peaked between 1992 and 1995 (from 480 to 533 cases) and then dropped to around 280 cases in recent years. The decrease since 1996 is related to the availability of HAART, which slowed progression from HIV to AIDS. The estimated numbers of AIDS patients alive is 2,540 (De Boer et al. 2006).
- In 2005, 278 new AIDS diagnoses (of which 17 (6%) related to injecting drug use) were made, but this number is subject to change due to reporting delay (de Boer et al. 2006).
- In previous years, the number of cases related to injecting drug use peaked in 1995 (74), dropped to 9, 8, 13 and 6 cases in 2001, 2002, 2003, and 2004 respectively. Until 2005, 659 AIDS patients were registered as being infected through injecting drug use. The annual proportion of injecting drug users varied between 2% and 14% (De Boer et al. 2006).
- In patients treated with HAART, time to first AIDS event did not differ between injecting drug users and homosexual men, but a significantly shorter time to death was observed in injecting drug users (Gras 2006). After a follow-up of 10 years since HIV diagnosis, 17% of injecting drug users receiving HAART had died, while 9% of homosexual men died in this period.

Hepatitis B and C

The HIV surveillance system of the RIVM among local samples of injecting drug users, mentioned above, does not systematically test for HBV and HCV. Occasional local assessments carried out between 1994 and 2000 revealed high infection rates of HBV and HCV, varying between 35% and 67% (HBV) and between 47% and 79% (HCV).

Notification data

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.

- In 2005, 1,779 cases of hepatitis B were diagnosed, of which 299 (17%) acute, 1,443 (81%) chronic cases, and 37 (2%) of cases of unknown nature (Koedijk, article in preparation).
- In 2005, 1,244 of 1,779 cases had a known route of transmission. In 20 of these cases (1.6%), injecting drug use was the most likely route of transmission. Nineteen of 20 cases (95%) were male, and 75% were aged 35 years or older.
- Table 6.2 shows the number of acute cases by route of transmission from 2002 up to 2005. Injecting drug use was among the least important transmission routes (in 2005,

0 of 299 notified acute HBV cases with known transmission route were injecting drug users). These findings are in line with the results in previous years: both in the chronic and acute cases notified between 2001 and 2005 (n=7017), the contribution of injecting drug use was limited (1.3%) (Koedijk, article in preparation).

- Note that the percentage of cases with an unknown transmission route is high (27% in acute infections and 32% in chronic cases notified in 2005) (Koedijk, article in preparation).
- In a detailed study on the transmission routes and source of infection in new patients with a hepatitis B virus infection, it was confirmed that sexual transmission is the most common route of transmission of acute hepatitis B in the Netherlands (Veldhuijzen et al. 2005). The study further showed that introduction of infections from abroad plays a key role in the current epidemiology of hepatitis B virus infections. In contrast with reports from other low-prevalence countries in Europe in which injecting drug use is a major route of acquisition, such as the UK and Sweden, none of the patients in this study acquired a hepatitis B infection through injecting drug use. Possibly, a selection bias at intake may explain this finding (injecting drug users may not have been asked to participate in the study as it was assumed that they were less willing to participate). Also a decline in prevalence and initiation of injecting drug use, as previously observed in Amsterdam, may partially explain the low number of acute hepatitis B infections attributable to injecting drug use in the Netherlands.

Table 6.2: Notifications of HBV acute infections by route of transmission

Acute infections	2002		2003		2004		2005		Total	
	N	%	N	%	N	%	N	%	N	%
Injecting drug use	3	1.2	7	2.1	3	1.0	0	0	13	1.1
Accidental exposure incidents	2	0.8	8	2.4	8	2.7	4	1.3	22	1.9
Mother to child	-	-	2	0.6	2	0.7	4	1.3	8	0.7
Sexual contact	148	59.9	202	61.8	177	60.0	190	63.5	717	61.4
Other	24	9.7	20	6.1	29	9.8	21	7.0	94	8.0
Unknown	70	28.3	88	26.9	76	25.8	80	26.8	314	26.9
Total	247	100	327	100	295	100	299	100	1168	100

Source: RIVM (Koedijk, article in preparation)

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. The figures mentioned below should be interpreted with caution. As acute infections are often asymptomatic, an unknown rate of missed diagnoses and underreporting is possible. Underreporting also occurs because until 2004 data from the Amsterdam Municipal Health Service are lacking. The registration system also changed in 2002, which hampered the analyses of data even further, and the transmission route is missing for a substantial number of cases.

- In table 6.3 the numbers of notified acute hepatitis C infections are listed from 2002 to 2005. The reported increase in 2004 has not been sustained and the absolute number of reported cases in 2005 is similar to that in previous years. The observed peak in 2004 is most likely explained by an outbreak of lymphogranuloma venereum among men having sex with men. In 2005, the transmission route of 11 of 19 cases has been reported. Injecting drug use is still the most common route of infection (45%).

Table 6.3: Notifications of HCV acute infections by route of transmission

Acute infections	2002		2003		2004		2005	
	N	%*	N	%*	N	%*	N	%*
Injecting drug use	7	50.0 (77.8)	6	31.6 (37.5)	12	31.6 (44.4)	5	26.3 (45.5)
Accidental exposure incidents	0	0 (0)	3	15.8 (18.8)	0	0 (0)	1	5.3 (9.1)
Sexual contact	1	7.1 (11.1)	4	21.0 (25.0)	11	28.9 (40.7)	2	10.5 (18.2)
Vertical transmission	0	0 (0)	0	0 (0)	0	0 (0)	1	5.3 (9.1)
Other	1	7.1 (11.1)	3	15.8 (18.8)	4	10.5 (14.8)	2	10.5 (18.2)
Unknown	5	35.7	3	15.8	11	28.9	8	42.1
Total	14	100	19	100	38	100	19	100

* In brackets percentage of total cases with a known route of transmission

Source: RIVM (De Boer et al. 2006).

Treatment data and other sources (hepatitis B and C)

Screening of drug users in treatment is no routine procedure, but various pilot studies assessing the feasibility of screening and vaccination or treatment programmes are running (see also chapter 7.2).

Since 2003, the Municipal Health Service (GGD) of Amsterdam collects information on hepatitis C virus antibodies in methadone clients participating in low threshold services. In 2005, HCV antibodies were detected in 57 of 89 (65%) tested injecting drug users. Eighty percent of the tested women were found positive, compared with 51% of the males. The highest proportion of positives was found among the oldest drug users and those with the longest history since first injecting (see also Standard Table 9).

A further source of information is the national hepatitis B vaccination campaign for behavioural risk groups. See also § 7.2.

- From November 2002 until the end of September 2006, 10,502 drug users (including current, ever and never injectors, mean age 39 years) received a first vaccination. During this visit, a blood sample was taken to screen for a previous hepatitis B infection. Eighty (0.8%) drug users were chronic carriers, and immunity (implying a previous infection, which has been cured) was found in 1,555 (14.7%) drug using participants. The data presented are preliminary and subject to change, since the campaign is ongoing (data are provided by M-L Heijnen, Netherlands Association for Community Health Services). See also § 7.2.
- In 2004 and 2005, blood samples of acute cases of hepatitis B have been collected for molecular typing of the virus strain (RIVM et al. 2006). Of the 305 determined genotypes of the collected isolates, only one was associated with injecting drug use, and

was found to be genotype A (the most prevalent genotype). Genotypes in *chronic* carriers of hepatitis B will be determined in the near future.

Former injecting drug users may be a source of transmitting the hepatitis C virus to the general population through blood transfusion. To study the origin and spread of the hepatitis C virus in the general population, the risk profiles of voluntary Dutch blood donors were examined (Van de Laar et al. 2006). From 1997 to 2002, confirmed anti-HCV-positive donors were interviewed on hepatitis C-associated risk behaviour with a standardised questionnaire. Also, hepatitis C virus isolates were genotyped, partially sequenced, and compared to sequences obtained from Dutch injecting drug users. The risk of transmitting the hepatitis C virus was calculated to be 1 in 30 million donations, reflecting the extremely low hepatitis C prevalence and incidence rates among Dutch donors. Former injecting drug users (21%), transfusion recipients (30%), and immigrants (>12%) were identified as the major hepatitis C transmission risk groups. Half of the hepatitis C positive donors were infected with hepatitis C virus genotypes that are usually related to injecting drug use, i.e. subtypes 1a and 3a (Van de Laar et al. 2006).

6.3 Psychiatric co-morbidity

Recent data on the prevalence of psychiatric co-morbidity are not available. According to local field studies, mental problems are fairly common among problem hard drug users. In Rotterdam (2003), 33% of this group reported severe mental problems in the past month and/or received medication and/or had been hospitalised for psychiatric problems (Jansen et al. 2003). In Parkstad-Limburg (2002), more than half (51%) of the problem hard drug users reported mental problems (45% depression, 15% severe anxiety, 16% concentration problems) (Couvans et al. 2002) (see also § 4.3). These problems might be a consequence of a hard drug use career but might also be one of the causes.

Preliminary findings of a study among 162 opiate dependent methadone clients of an addiction centre in North-Brabant (see map 15.4), illustrate the high lifetime and current co-occurrence of mental disorders and opiate dependence. The main instrument was the MINI, which generates proxy DSM-IV diagnoses. Most common were substance use disorders (other than opiate dependence) diagnosed among 79% of the clients. Alcohol, cannabis and cocaine were the most frequently used substances. Almost 8 in ten clients (78%) had ever had, or currently had, a mental disorder (see table 6.4). Almost half of the clients had a current mood disorder. Current anxiety disorders (especially generalised anxiety disorders) were about equally prevalent. Moreover, over one in three clients had previously had a psychotic disorder. Furthermore, 123 clients were assessed for ADHD. A probable diagnosis of current ADHD was made among 21% of the clients. In addition, almost 26% of the clients had a probable childhood diagnosis of ADHD, but in these cases the level of clinical symptoms did not allow a current diagnosis.

Table 6.4: Prevalence of mood, anxiety and psychotic disorders among opiate dependent methadone clients (N=162)

	Lifetime, not current (%)	Current (%)
Any mood disorder	60%	46%
Any anxiety disorder	12%	43%
Any psychotic disorder	37%	9%

Source: (Van Gogh et al. 2006)

The Amsterdam Municipal Health Service signals an increase in psychiatric co-morbidity among heroin users compared with the start of the heroin epidemic (Van Brussel et al. 2005). The following reasons were put forward to explain this trend:

- Self-selection (natural recovery is more common among addicts without psychiatric co-morbidity compared to double diagnosis patients)
- Harmful effects of a chronic life on the streets
- Harmful effect of frequent interruption of methadone treatment, for example in prison
- Trends in drug use, i.e. use of crack without concomitant use of heroin.

Cannabis use and mental disorders

In the past year or so, there has been scientific and political debate on the association between cannabis use and mental disorders (see also chapter 3). National and international studies (Van Os et al. 2002); (Henquet et al. 2005); (Arseneault et al. 2004; Smit et al. 2004) tend to provide converging evidence on the etiological role of cannabis in the onset of psychotic disorders. In general, the findings suggest that cannabis use increases the risk of the incidence of psychosis in the 'general population' by a factor of 2 on average. This risk increases with the intensity of use and is much higher among vulnerable people with a history of psychotic disorders. Recent findings suggest that people with the Val/Val type of the COMT gene are especially vulnerable to developing a psychosis if exposed to cannabis use (Caspi et al. 2005; Henquet et al. 2006). This genetic variant occurs in 25% of the population, suggesting that other factors will also play a role.

International data also point at a possible causal relationship between cannabis and major depression, but the evidence is less strong compared to the cannabis-psychosis relationship. Results from the longitudinal Dutch NEMESIS study (Netherlands Mental Health Survey and Incidence Study) also suggest a weak relationship between cannabis use and the incidence of major depression (OR 1.6) but the influence of unobserved confounders (such as genetic predisposition or heavy tobacco use) can not be excluded. A stronger relationship was found between cannabis use and the incidence of bipolar disorder (OR 5.0; (Van Laar et al. 2005). In line with this finding, a separate study on the same data set revealed that cannabis use was associated with the first onset of symptoms of mania (Henquet et al. 2006).

6.4 Other drug-related morbidity

Drug-related emergencies

There is no national registration system for drug-related emergencies in the Netherlands. Various systems give information on some of the cases, such as hospital admissions (LMR, see chapter 4) or cases reported by the Central Post for Ambulance Transports in Amsterdam (see below). In addition, the injury information system of the Consumer Safety Institute gives information on the number of people treated annually at the emergency departments of hospitals. The data are derived from a representative selection of hospitals and are extrapolated to yield national estimates.

- Averaged over 2001-2005, it is estimated that 2,900 people are treated annually at a hospital emergency department following an accident, violent incident or self-mutilation related to drug use (cp. 13,000 on account of alcohol).
- Forty-two percent are aged between 20 and 29 years and 73% are male.
- Poisoning is the most frequent cause of emergency and the proportion of cases requiring hospitalisation is relatively high (33%).

- Cocaine is the most frequently cited drug (35%); cannabis is involved in 18% of the cases with a known substance. Lower proportions are found for ecstasy (12%), heroin (4%), hallucinogenic mushrooms (4%) and amphetamines (2%). Note, however that it was not possible to specify a drug in 29% of the cases. The proportions of different drugs among valid cases is therefore higher.
- These figures are likely to be an underestimate of the true number of emergencies related to drugs due to underreporting.

Drug-related non-fatal emergencies in Amsterdam

The Amsterdam Municipal Health Service keeps a record of non-fatal emergencies brought to its attention (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 6.5 gives the annual number of emergencies per drug from 2000 to 2004.

- In 2005, the total number of drug-related requests for emergency assistance was 874, which is slightly more than in 2004.
- Most requests are related to opiates, followed by cannabis and - at some distance - GHB, hallucinogenic mushrooms and ecstasy. LSD and amphetamines are hardly associated with emergencies.
- In the past years, slight increases were seen in the number of emergencies related to cannabis, ecstasy and hallucinogenic mushrooms. The increase in the number of GHB emergencies seen in 2004 did not continue in 2005.
- The proportion of cases requiring transportation to a hospital varied between 35% (cannabis, amphetamine) to 75% (ecstasy) and 84% (GHB). This latter substance is difficult to dose because of the small safety margin.

Table 6.5: Number of non-fatal emergencies due to hard drugs and recreational drugs recorded by the Amsterdam Municipal Health Service*

	2000	2001	2002	2003	2004	2005
Opiates/cocaine	188	208	216	226	239	230
Cannabis	141	289	285	257	320	342
Hall. mushrooms	24	49	50	60	55	70
Ecstasy	36	42	39	39	59	63
Amphetamine	30	6	5	7	9	3
LSD	2	3	1	1	7	1
GHB	25	69	67	74	98	76
Unknown	20	37	38	29	54	89
Total	466	703	701	693	841	874

Source: Amsterdam Municipal Health Service.

Information requests on acute intoxications

Another source of information on trends in emergencies is the number of information requests from physicians, health authorities and others on acute intoxications recorded by the National Poisons Information Centre (NVIC) of the RIVM. Note, however, that these data are just indicative and do not reliably represent the actual number of acute intoxications.

Table 6.6: Information requests related to drugs at the National Poisons Information Centre

	2000	2001	2002	2003	2004	2005
Ecstasy	164	194	184	208	246	217
Amphetamines	42	39	39	47	51	128
Cocaine	150	184	217	247	227	254
Cannabis	71	129	141	144	191	202
GHB	91	174	194	212	190	241
Opiates	51	42	95	112	112	129
Ephedra	16	28	61	110	127	67
Hallucinogenic mushrooms	34	58	49	65	52	62
Other smart (shop) products	37	56	43	65	89	83
Total drugs	656	904	1,023	1,210	1,285	1,383

Source: NVIC, RIVM.

- Table 6.6 shows that the total number of information requests related to drugs increased over the years, especially between 2000 and 2001.
- In 2005, most information requests were related to cocaine, GHB, ecstasy and cannabis. From 2004 to 2005, the increase in the number of information requests was strongest for amphetamine (150%), GHB (+27%) and cocaine (12%).
- In contrast, the number of questions on intoxications with ephedra almost halved from 2004 to 2005. This might be related to the changed legal status of this substance. Since April 2004, products containing ephedra are controlled by the Medicines Act and smart shops or drugstores are not allowed to sell them anymore.

Health effects of ecstasy

In the context of the main 'Netherlands XTC Toxicity Study', the question was addressed whether ecstasy use alone and in the context of poly substance use had lasting effects on brain functioning (Jager 2006). Seventy-one subjects with variable substance use patterns were included in the study. They belonged to one of five groups: heavy ecstasy poly substance users; selective ecstasy and cannabis users; poly substance users with a history of frequent amphetamine and/or cocaine but very limited ecstasy use (<5 times lifetime); ecstasy-naïve cannabis users and 5) drug naïve (except for alcohol or tobacco) controls. Subjects had abstained from drug use for at least two weeks and from alcohol for at least one week before testing. Various brain imaging techniques and cognitive tests were used to measure (residual) effects of ecstasy and other substances on memory, attention and brain activity. The contribution of different (specific) substances was torn apart by means of multiple regression analysis. The results revealed deficits in associative memory performance, but not working memory and attention in poly substance ecstasy users compared to ecstasy naïve controls. When the drugs were torn apart, this effect appeared to be largely due to amphetamine and not to ecstasy. Both drugs did, however, change brain activity in the prefrontal and posterior regions. Interestingly, these effects were in opposite directions, suggesting that different mechanisms were at play, possibly associated with serotonin (ecstasy) and dopamine (amphetamine).

A second study addressed the question whether incidental use (single and/or low dose) of ecstasy is harmful for the brain (Jager 2006). This was done by using a prospective study design, in which 25 first ecstasy users were assessed in a follow-up session relatively soon after their first ecstasy use. The mean cumulative dose was 2.0 (± 1.4 tablets) and the time since the last tablet was 11.1 (± 12.9) weeks. Their data were compared to those of ecstasy-naïve controls. fMRI findings showed that a single or low dose of ecstasy

did not have lasting effects on brain activity. Moreover, there were no differences between naive ecstasy users and controls on measures of memory and attention.

Health effects of cannabis

The possible effects of cannabis use on mental health were already discussed above in § 6.3. Two recent studies employing cognitive tests and fMRI suggest that frequent but moderate cannabis use does not produce major lasting effects on brain functioning. The first study showed that cannabis users, who had consumed on average 1,300 joints in a lifetime and 350 in the past year, performed equally well as controls on tests of working memory and attention when tested one week after abstinence. They also displayed similar fMRI patterns of general brain activity in regions associated with performance in these tasks, although a subtle change in activity was found in a specific region of the parietal cortex, associated with working memory (Jager 2006). In a subsequent study, minor changes in activity in regions of the hippocampus and prefrontal cortex, involved in associative learning, were found in abstinent frequent cannabis users. It was suggested, however, that these changes reflected non-cognitive variables associated with frequent cannabis use (Jager et al. 2006).

The increasing THC content of Dutch-grown cannabis (see § 10.3) has prompted research into the health consequences of high potency cannabis.

- A crucial issue in this discussion is the question whether the increase in THC content in cannabis also results in increased internal (body) THC exposure or whether consumers change their smoking patterns to adjust for this high potency. A field study among coffee shop visitors profiled three types of users: those who seem to titrate their dose (adjust amount consumed for increasing strength), those who use at a stable level; and a third group, of relatively young users, who tend to consume more, the stronger the cannabis (Korf et al. 2004c). This last group might have a relatively high risk of dependence. However, there are no data on the prevalence of these user types.
- Experimental research into the acute health effects of cannabis with high percentages of THC (33, 51, 70 mg of smoked THC) showed that serum concentrations of male healthy volunteers showed a dose-dependent increase in THC, after being instructed to smoke the whole joint (Mensinga et al., 2006). Moreover, dose-dependent physical effects (increased heart rate and hypotension) and impairment of cognitive and psychomotor performance were found.
- In 4 out of 72 non-placebo exposures in 2 subjects, heart rate exceeded the defined safety limit of 170 beats per minute (bpm). Moreover, in 2 exposures in 2 subjects, a serious drop in blood pressure occurred. In these conditions, subjects were asked to refrain from smoking until their heart rate had dropped. Although healthy volunteers can tolerate these changes without complications, it can be expected that patients with a pre-existing disease are at risk when smoking these high doses of cannabis.
- The long term effects of exposure to high doses of THC are not known. The second research programme on addiction of the Dutch Health Research and Development Council (ZonMw) has identified this topic as a research priority.

7 Responses to Health Correlates and Consequences

The broad lines of drug policy at the national level aimed to limit the health consequences of drug use are put into practice by many local or regional initiatives.

7.1 Prevention of drug-related deaths

Interventions that aim to prevent mortality due to overdose include First Aid courses for workers in addiction care and in general health care, publicly propagated pill testing by the websites of several organisations of addiction care, and dedicated drug consumption rooms. A guideline has been published for the prevention of suicide among clients in addiction care, describing risk factors for suicide and possible pharmacological and drug-free interventions that may prevent suicide or may be used during crisis intervention (De Jong et al. 2006).

7.2 Prevention and treatment of drug-related infectious diseases

Many initiatives on the prevention and treatment of infectious diseases among drug users have been realised in former years and many are ongoing. Examples are: peer support for drug-using immigrants; drug consumption rooms, HIV counselling and HIV tests; HIV treatment; hepatitis B vaccination and prophylactic vaccination of early stage syphilis among (drug-using) sex workers. On the website www.infectieziekten.net this information and several fact sheets in Dutch are downloadable (hepatitis B and C, HIV and tuberculosis) that give basic information about these diseases, do's and don'ts, and information about treatment.

In the Netherlands, the organisation of prevention and treatment of infectious diseases is rather complex. Activities for all those who are (at risk of becoming) infected, thus encompassing a much broader group than drug users, are within the remit of the Municipal Health Services (*GGDs*) and its National Coordinating Agency (*GGD Nederland*). Activities targeted specifically at drug users are often offered by organisations for addiction care, because these organisations are the primary agents in motivating addicts to join preventive and treatment activities. Co-operation in this domain is crucial, especially for drug dependent groups. To date the Prevention and Brief Interventions Centre (*LSP*) coordinates the National Network Infectious Diseases and Drug Use. Most Organisations of Addiction Care and some Municipal Health Services that feel responsible for drug users are members of this network. A recent survey (response > 90%) showed that more than 90% of the organisations of addiction care cooperate with the municipal health services on issues of infectious diseases. Frequent mutual contacts exist but in some cases cooperation still appears to be difficult. Explicit work plans are necessary, specifying responsibilities and divisions of tasks between the two sectors. More exchange of knowledge is needed as well as additional training (personal communication Hoogenboezem). A feasibility study on the screening and treatment of hepatitis C among drug users in three organisations for addiction care, also showed that there are still some important limiting factors that have to be overcome before these interventions can be implemented successfully.

HIV-treatment among drug users

Of the 607 known injecting drug users that were HIV-positive, 488 started Highly Active AntiRetroviral Therapy (HAART) between 1996 and 2005. Over the period 2002-2005, only 96 drug users received HAART. A large number of HIV-infected drug users eligible to initiate HAART are still not receiving this therapy. This is despite the fact that drug users who are treated with HAART are shown to have a similar early response to HAART (measured as the effect on HIV RNA levels and CD4 count) as homosexual men and can be treated effectively. Furthermore, drug users who are treated with HAART do not increase their risk behaviour. Nevertheless, in the long run it is likely that therapy will be less effective, since drug users in this cohort study started HAART at higher HIV RNA levels and lower CD4 cell counts than homosexual men, and only 36-55% of drug users were fully adherent to therapy (Smit et al. 2006a).

National hepatitis B vaccination campaign

In line with a recommendation of the Dutch Health Council, free vaccination of behavioural risk groups (drug users, men having sex with men, heterosexuals with multiple sex partners, including commercial sex workers) is taking place nationwide since 2002. Since 2004, there is a formal cooperation with penitentiary institutions, which also provide vaccinations. This cooperation has proven to be very fruitful, since 12% of the total number of participants has been vaccinated in the 50 participating penitentiary institutions. In 2005, the World Health Organization awarded the WHO Award Health in Prisons Project (HIPP) to the national hepatitis B vaccination campaign. See also § 6.3

- From November 2002 until the end of September 2006, 10,502 drug users received a first vaccination. Compliance of those drug users with the indication for a second vaccination (susceptible, *and* the first vaccination more than a month ago) was 82.5%. Compliance for the third vaccination (six months after the first vaccination) is currently 57.4%. These data imply that the protection rate of the 10,502 drug users taking part in the campaign until now is 64%, including individuals receiving the full vaccination schedule and those tested as either immune or carriers. As it is currently unclear whether an incomplete series of vaccinations - two or one vaccination(s) - may also be effective, the actual number of protected drug users may be higher. The data presented are preliminary and subject to change, since the campaign is ongoing (data are provided by M-L Heijnen, Netherlands Association for Community Health Services).
- To assess the effectiveness of the hepatitis B vaccination campaign the number of reported acute hepatitis B infection cases in Amsterdam has been compared in the 6 years before and 6 years during the implementation of the vaccination programme (Houdt 2006). Overall, a significant decrease was observed in the incidence of reported acute hepatitis B infection patients in Amsterdam, which was largely due to a reduction of transmission through injecting drug use and heterosexual contacts. The contribution of the vaccination programme to the decrease in acute hepatitis B infection in drug users may be limited though, since only 16% of the estimated total population of 4,500 drug users in Amsterdam was reached by the program. A more likely explanation is the decreased popularity of injecting drug use in the same period.

Needle exchange

There are only limited data on needle exchange. Data from Amsterdam show that from 1990 to 1993 around one million needles were exchanged. After that this number gradually declined to some 500,000 in 1999, more than 300,000 in 2003 and only around 200,000 in 2004 and 2005 (M. Buster, personal communication). The total number of needle exchange programmes in the Netherlands is not known, nor are there national registration data on the number of exchanged syringes or needles. The website of

Mainline (the grassroots organisation of drug users in Amsterdam) only presents some 120 exchange points in different cities (www.mainline.nl; updated in January 2005).

7.3 Interventions related to psychiatric co-morbidity

There is growing attention for co-morbidity in addiction care and mental health care. However, spotting dual diagnosis patients in psychiatric or addiction care is still sub-optimal and information on effective treatments is scarce. This knowledge lag may be caused by the number of combinations of addiction (severity and kind of drugs) and mental disorders (ADHD, schizophrenia, etc.), the complex effects of psychoactive substances on dual diagnosis patients, and the complex pharmacological interactions between psychoactive substances and prescription drugs. A guideline was published on diagnostics and treatment of dual diagnosis as part of the policy program Scoring Results. This guideline contains a brief conceptual analysis of dual diagnosis, its aetiology, epidemiological data, a literature review and screening and assessment instruments (Posthuma et al. 2003). Effect studies for specific client categories were strongly recommended but have not yet been funded. Recently, however, a state of the art study (Van der Stel, 2006) was published by the Dutch Health Research and Development Council (ZonMw) on the same subject as part of a series of six state of the art studies, that were meant as starting point for funding research in the addiction field (see chapter 3).

Nonetheless, professional responsibility for these patients is still insufficiently recognised by both fields. Due to incompatibilities between professionals in mental health care and addiction care, dual diagnosis patients are often moved to and from psychiatry and addiction care, without finding adequate care for their problems. There is a growing awareness that mono-therapies (treating addiction and psychiatric problems separately) are insufficient for helping these people, and co-operation between both domains is considered a condition sine qua non to develop integrated care for this dual diagnosis group. Although this was rarely done six years ago (Meeuwissen et al. 2000), several activities have been initiated that indicate that this situation is changing. Both domains are in most cases part of the same merged regional organisation, and in all Dutch regions agreements have been signed with a view to improving co-operation between mental health care and addiction care for dual diagnosis patients. Nevertheless, in 2000 more than half of this patient group indicated that this had not resulted in improved care (Van Rooijen 2001).

The Trimbos Institute organises training courses for the treatment of dual diagnosis patients aimed at professionals in both addiction care and mental health care. This institute also developed and tested protocols for the diagnosis and treatment of addicted clients with Attention-Deficit/Hyperactivity Disorder or ADHD (Eland et al. 2001). Recently, a protocol has been developed with targets, tasks for and suggestions for training of medical nurses in order to cope more effectively with schizophrenia and addiction (De Jonge et al. 2006).

In several regional centres, projects are now in place to take care of this target group (Huygen et al. 1997; Lohuis et al. 1998; Noorlander 1997; Polstra et al. 1999; Van Nes 1999; Van Weeghel et al. 1997). Several specialised inpatient wards for dual diagnosis exist nowadays, offering integrated care e.g. in Parnassia (The Hague), Portugaal (near Rotterdam) and Den Dolder (near Utrecht). Furthermore, new clinics for integrated care will probably soon be opened in the Eastern part of the country (Tactus/Adhesie) and Dordrecht (Stichting De Hoop). In Parnassia, a study is running that compares in- and

outpatient treatment for dual diagnosis patients. This study will be published in 2008 (www.parnassia.nl). Below, we briefly describe the two longest-running dual diagnosis treatment programmes.

The clinic in the Rotterdam region (Portugaal) opened in 1999. Most of the clients were long-term addicts (15 years and more), 70% suffered from severe mental disorders (psychosis, affective disorders, anxiety disorders, ADHD, posttraumatic stress disorder, neurological disorder or Korsakoff syndrome). Thirty percent had a personality disorder. Most of the clients had a history of long neglected physical problems (venereal diseases, Hepatitis B and C, HIV, and other illnesses). Many had financial problems, were homeless, or without meaningful relationships. Almost all women and some of the men had experience with prostitution. Some 85% of the clients came voluntarily to this special ward. These people were not admitted to regular settings because specialised diagnostic and treatment knowledge was not available; compulsory admission targeting abstinence or time out and stabilisation was necessary but impossible to organise; family care was absent, or care professionals were plagued by burnout. In short, the absence of adequate help for these clients led them to this ward (Noorlander 2002).

The second dual diagnosis clinic (Roosenburg) also opened around 1999 in Den Dolder in the Utrecht region. It provides twelve beds for a three months stay. The first phase is to observe each client for several weeks during different activities to enable a valid diagnosis. Cure and care are in the hands of professional therapists, a psychiatrist, a physician specialised in addiction problems, and psychiatric nurses. What needs to be treated first is important (mental illness or addiction problems). In most cases it is clear within six weeks which treatment path could best be chosen. Longer detoxification periods are tolerated and relapses are not punished but talked about and treated (Van Rooijen 2001).

There is also increasing attention for psychiatric disorders among opiate addicts in particular methadone clients. There is considerable co-morbidity of opiate addiction and psychiatric disorders (see 6.3; (Loth et al. 2005)). Furthermore, poly-drug use is very common among opiate addicts (§ 4.3). It has also been shown that both psychiatric comorbidity and poly-drug use reduce the effectiveness of treatment options exclusively directed at one disorder (Fischer et al. 2005). An updated systematic review study concluded that integrated treatment for dual diagnosis patients may reduce both mental disorder and substance disorder, but positive results are largely dependent on the type of comorbidity and the conditions involved (Van Gageldonk et al. 2006). Specified integrated treatment options for specific comorbidity combinations (e.g. addiction plus ADHD or schizophrenia) should be developed in order to enable a more effective approach of this large target group (Goossensen et al. 2006; Van Gogh et al. 2006).

Finally, a new initiative on the national level is that in January 2007 an inpatient centre for 120 homeless drug addicts with psychiatric problems is planned in Hooghalen in the Northern part of the Netherlands (see also 9.1). There have been many objections from the municipality and its inhabitants.

7.4 Interventions related to other health correlates and consequences

Drug consumption rooms aim to reduce public nuisance, e.g. publicly using illegal drugs, leaving used needles around in the neighbourhood, or drug dealing. These rooms are also supposed to reduce the risk of transfer of infectious diseases and drug-related death,

because drugs can be used in a safe, non-harassing and supervised environment with clean syringes and medical support on request. The number of *drug consumption rooms* in the Netherlands increased from some 20 to 32 in 2003. After that period some new rooms were initiated and others disappeared. The total number in 2006 was around 40.

Medical heroin (co)prescription aims to improve the physical and psychosocial situation and to reduce drug-related crime within a selected group of opiate addicts. In the Netherlands it is also supposed to reduce drug-related nuisance and crime. An evaluation of the experiment with medical heroin prescription for treatment resistant opiate addicts showed that for more than 75% of the initial participants, the physical and psychosocial health situation improved substantially during the two years after the experiment. Criminal behaviour had become almost absent among this group. Moreover, thirteen percent voluntarily embarked on abstinence-based treatment or methadone maintenance treatment (Van den Brink et al. 2002). Therefore, medical heroin prescription will be continued and expanded for three years. The Ministry of Justice has offered a once off amount of 6 million euro for the enlargement of this project. The Ministry of the Interior and Kingdom Relations has offered two times 3 million Euro. The Ministry of Health, Welfare and Sport funds the current 300 places. In the autumn of 2006, a total of 815 treatment places in 20 treatment units spread over 18 municipalities were approved by the Minister of Health, Welfare and Sport. They are supposed to be in operation by the end of 2007 (personal communication, Ministry of Health, Welfare, and Sport). A substantial part of the costs has to be arranged by the municipalities.

Most opiate addicts are polydrug users (see §4.3). In many cases they also use cocaine, in most cases crack. The Central Committee on the Treatment of Heroin Addicts proposed to introduce financial rewards for new participants in medical heroin prescription when they abstain from cocaine (Central Committee on the Treatment of Heroin Addicts (CCBH) 2006). The rewarding strategy in this experiment has been altered into a voucher-based intervention. A 14-month experiment is currently running during which all the medically prescribed heroin is registered consistently.

8 Social correlates and consequences

8.1 Social exclusion

General trends in the Netherlands

In 1995, poverty and social exclusion were officially recognized as a social issue in the Netherlands. Thereupon the Social and Cultural Planning Office of the Netherlands (SCP) and Statistics Netherlands (CBS) set up the Poverty Monitor (*Armoedemonitor*). In its seventh edition the Poverty Monitor covers the developments up to the observation year 2005 (Vrooman et al. 2005). The poverty rate has been defined as the percentage of households that have an income below a certain threshold. From 2002 to 2003 the poverty rate increased from 8.8% to 9.8% and continued to rise in 2004 and 2005 to 10.5%. The Poverty Monitor has identified the following groups as being at risk of a low income: "single-parent families", "households in receipt of benefit", and "households with a non-Western background". Due to the deteriorating labour market situation, in particular the households with a non-Western background show a rather unfavourable trend. In 2003, one third of Moroccan households had a below-threshold income, followed by Turkish (29%), Antillean (28%), and Surinamese (23%) households. New immigrant groups appear to be in an even worse position. The Poverty Monitor signals that "more than half of Somalian, Afghan and Iraqi households had a low income in 2003".

In 2004, The Scientific Research and Documentation Centre of the Dutch Ministry of Justice (WODC) in co-operation with Statistics Netherlands (CBS) started the Integration Monitor (Integratiekaart). The purpose of this monitor is "to develop an instrument, which can be used to track the integration over time of first and second-generation people of non-Dutch origin". The Integration Monitor "targets *actual behaviour* and the *actual positions in society* that apply to people, and does not concern itself with attitudes, perceptions, subjective experience and opinions" (Bijl et al. 2005). The Integration Monitor confirms the trend that was found above by the Poverty Monitor in that "the progress of persons of non-Dutch origin in Dutch society may in certain areas break the trend, but is a source of continuing concern to an overwhelming degree". Instead of progressive integration, the ethnic minorities still show major social exclusion by being less educated, participating less in the labour market, not marrying a native Dutch partner, and by engaging more often in criminal activities. A ray of hope is that the second generation of immigrants shows a higher level of labour market participation than the first generation of immigrants.

Drug use among socially excluded groups

The Amsterdam "Antenna" monitors the use of drugs among outgoing adolescents and young adults in Amsterdam (Nabben et al. 2006). Part of the Amsterdam Antenna is a continuing panel study which collects qualitative data. In 2005, further indications were found for the relationship between social exclusion and problem drug use. Field workers that participate in the Antenna panel are in close contact with the neighbourhood youth in East and South Amsterdam. The largest percentage of the neighbourhood youth is made up of ethnic Moroccan youths, some of whom have police records. The Antenna signals that the "excessive use of cannabis further weakens their already vulnerable status in the labour market". The Antenna also monitors the problem youth represented by homeless adolescents, young hard-drug users and female or male prostitutes. Many of

the young hard-drug users began smoking crack cocaine at an early age. Romanian youths are the largest group among the male prostitutes. Among the male prostitutes the "fortune hunters" mainly use cannabis, the "occasional hustlers" have some experience with ecstasy and cocaine, the "professional business boys" have the most experience with ecstasy and cocaine, whereas many of the "online callboys" are willing to use drugs during sex work.

For the Dutch province of Gelderland, the use of drugs among adolescents and young adults is monitored by the "Tendens" organisation (Roomer et al. 2006b). Similar to the Amsterdam Antenna, the Tendens in Gelderland collects qualitative data by means of a panel. Also similar to Amsterdam, higher levels of drug use were found among the socially excluded. With regard to the socially excluded youngsters, in the period 2005-2006 the Tendens particularly monitored young people that hang around as well as problem youth. For the youngsters that hang around, the panel observed that they more often use larger numbers of ecstasy pills and greater amounts of amphetamines. Problem youngsters are even more socially excluded than youngsters that 'only' hang around. For the problem youngsters, crack and heroin were found to be the most important drugs.

The Drug Monitoring System (DMS) is a local research system that combines qualitative and quantitative research methods (Van de Mheen et al. 2006). From 2004 to 2006 the DMS monitored the frequent use of hard drugs among young adults in the provincial region of Parkstad Limburg (Van der Dam et al. 2006a). Young people under 30 years of age who were homeless as well as addicted, were found to suffer from a special form of social exclusion, namely "institutional exclusion". Residential institutions for young people were found to exclude these addicted youngsters entirely from inpatient treatment because of addiction being a "contraindication". Moreover, it was found that the addiction care in general did not receive young people in an understanding manner. The researchers recommend that specialised crisis relief be set up to cater for addicted homeless young people.

Quantitative data on substance use are not available from these studies. However, previously reported studies have shown relatively high rates of substance use among homeless youth (Korf et al. 1999). In a sample of 95 homeless young people (15-22 years) interviewed in 1999, it was found that 22% were heavy smokers and 10% drank alcohol daily, often in large quantities. Almost half (43%) used cannabis daily, often in large amounts. Only a small minority took heroin - injecting heroin or cocaine being rare. Increased last-month prevalences were found for the use of cocaine or crack (36%), ecstasy (18%), amphetamines (10%), and magic mushrooms (18%), although only a minority used these drugs daily. Addiction was mentioned as a top-five problem by 29% of the young drifters.

In general, it is an established sociological fact that in Western societies illegal drugs are more often used among socially excluded groups (McKee et al. 2005). Therefore, it will come as no surprise that likewise in the Netherlands higher percentages of drug use are found among the socially excluded.

In large sections of the population, prostitution is currently accepted as a given social phenomenon. Nonetheless, as Van der Helm has observed, those who actually practice this profession will still live in social isolation, due to having to hide it from their social environment. Social exclusion in this case takes the form of having to lead "a double life" (Van der Helm 2005). Within the framework of the European Intervention Projects in AIDS/STI Prevention for Prostitutes (EUROPAP), in 2002-2003 three municipal health

services in the Netherlands investigated the health risks that prostitutes are confronted with, including the use of drugs. A total of 200 prostitutes were interviewed of which 80 in Amsterdam, 80 in the city of Heerlen, and 40 in the region of Twente. Taking soft- and hard drugs together, it was found that 34% of the prostitutes used drugs. The experience of the Dutch national co-ordinator for EUROPAP is that these women are "multi users", for example in the form of using cannabis on a daily basis in combination with the regular use of ecstasy and sniff cocaine (Thérèse van der Helm, Amsterdam Municipal Health Service, personal communication).

In Rotterdam in 2002, the use of drugs was assessed among 109 prostitutes. It was found that 32% of them had used hard drugs in the last 6 months, during which 26% had used sniffable cocaine, 24% had used crack, and 20% had used heroin. Compared to their colleagues that work in clubs, social exclusion is even more prominent among the prostitutes that have to work in the streetwalkers' district, which in Dutch is called the "Tippelzone". In line with the relationship between social exclusion and drug use, a higher percentage of drug use was indeed found among the more socially excluded prostitutes. From the prostitutes working in the streetwalkers' district, 54% had used hard drugs in the last 6 months, compared to a lower percentage of 10% among the prostitutes working in clubs.

In Amsterdam, a field study was conducted in 2004 among 92 street prostitutes (Korf et al. 2005b). The age of the respondents ranged from 13 to 58 years, the median age being 40 years. During the last month, 96% of the street prostitutes had used tobacco, 52% used alcohol, 51% had used cannabis, 9% had used sniff cocaine, 89% had used crack cocaine, and 68% had used heroin. The majority of the addicted prostitutes already used hard drugs before actually starting to work as a prostitute. This applies to 80% of the cocaine sniffers, 55% of the crack smokers, and 63% of the ever users of heroin. Some of the prostitutes become trapped in a vicious circle of doing sex work for being able to buy drugs and using drugs for being able to do the sex work.

Besides prostitution in the streetwalkers' district, homelessness is another extreme variant of social exclusion. Drug use among the homeless was investigated in 2001-2002 by interviewing 500 street people in 20 municipalities of the Netherlands. For 62% of all the street people, an addiction problem was a cause of having become homeless. During the last month, 52% of the homeless had used cannabis, 47% had used crack, 40% had used heroin, 29% had used methadone, 10% had used sniff cocaine, 6% had used amphetamines, 5% had used ecstasy, and 3% had used hallucinogens. A third of the street people used heroin as well as crack, whereas 13% used crack without using heroin, and 6% used heroin without using crack (De Bruin et al. 2003).

Treatment demand

The National Alcohol and Drugs Information System (*LADIS*) each year registers how many clients demand treatment at an organisation for addiction care and treatment. Table 8.1 gives some social characteristics of the clients demanding treatment in 2001 and 2005.

*Table 8.1: Social characteristics of new clients in addiction treatment in 2001 and 2005**

Social Characteristic	Cannabis		Opiates		Cocaine (incl. crack)		Ampheta- mines		All drugs	
	2001	2005	2001	2005	2001	2005	2001	2005	2001	2005
Ethnic**	17%	18%	35%	33%	29%	26%	3%	4%	29%	24%
Secondary or higher education	44%	44%	34%	36%	37%	39%	32%	39%	37%	40%
Employed	43%	45%	21%	19%	38%	44%	47%	51%	31%	37%
Cohabitation	58%	61%	41%	42%	51%	53%	62%	62%	47%	53%

*Selection of clients based on the EMCDDA's TDI protocol (all new clients). Source: LADIS, IVZ.

**According to the perception of the client. Source: LADIS, IVZ.

In 2005 the opiates clients most often show unfavourable social characteristics. Among these clients the percentages of being secondary or higher educated, employed, and living together with others are the lowest. Conversely, the percentage of ethnic minorities is the highest among the opiates clients, which gives the ethnic minorities a prominent place among the clients who are the most socially excluded. Compared to the opiates and cocaine clients, the cannabis and the amphetamines clients show more favourable social characteristics in that a higher percentage is secondary or higher educated, employed, and living with others. Consequently, the percentage of ethnic minorities is the lowest among the cannabis and amphetamines clients.

The social characteristics that were found in 2005 show a similar pattern to the social characteristics that were already found in 2001. However, especially for the cocaine clients, there is a slight indication that the drug clients that demanded treatment in 2005 show more favourable social characteristics with regard to education, employment, and living situation. This might be related to the increasing proportion of clients who sniff cocaine and are more socially integrated compared to crack users (see chapter 12, table 12.5).

Drug dealing among socially excluded groups

Keeping a tail on the retail market of heroin and cocaine in the city of Rotterdam, the Drug Monitoring System (DMS) in 2000 revealed that 70% of the respondents to a street survey bought their drugs by calling a dealer on his mobile phone. A so-called 'mobile dealer' can deliver at the client's home and at another outdoor location. A majority of about 75% of the mobile dealers turned out to have an ethnic Moroccan background. Most of the Moroccan dealers were about 28 to 30 years, and about 40% were under 25 years of age (Barendregt et al. 2006). The researchers explain that the Moroccan mobile dealers became successful for two reasons. On the one hand, the fixed premises where drug-dealing took place were closed down. On the other hand, according to the researchers, cultural factors played a role in that young Moroccan dealers are not confronted directly by their community about their behaviour and the Koran only refers to alcohol and not drugs.

8.2 Drug-related crime

The criminal justice system in The Netherlands has to deal with several thousands of drug offences each year. These consist specifically of offences against the Opium Act in which possession, trafficking, production and cultivation – not drug use – are criminal acts. The main findings are:

- In 2005 the total number of Opium Act cases registered by the Police¹ and the Public Prosecution decreased, after four years of substantial and consecutive increase. The proportion of all cases decreased slightly. This decrease concerns hard drug cases only.
- Whereas, last year, in 2004, the percentage of hard drug cases brought before Court decreased sharply, this increased substantially in 2005.
- Especially in cases of hard drug trafficking at Schiphol Airport, the prosecutor decided more often not to prosecute in 2004, as part of the so-called temporary drug oriented approach to drug traffickers at Schiphol. In 2005 the effects of this policy seem still present but to a somewhat lesser extent: the number of cases prosecuted increased again.
- As in 2004, the number of prison sentences and detention years imposed for Opium Act cases decreased substantially in 2005.
- In 2005 soft drugs account for almost half of all Opium Act cases. In particular, the number of cases of preparation, production and trafficking of soft drugs has substantially increased compared to 2004. In recent years the percentage of prison sentences and detention years for soft drug crimes among all crimes has roughly doubled. In 2005 one in every eight to nine custodial sentences for Opium Act crimes and one in every ten to eleven Opium Act detention years concern soft drugs.
- Between 2000 and 2005 the proportion of investigations concerning organised drug crime seems to be increasing.

These developments, which are explained in more detail below, must be seen in the context of the policy programme of the Dutch cabinet aimed at enhancement of law enforcement efforts in the Netherlands. Three special policy programmes on drugs were still running in 2005 (see also Chapter 1):

- The programme 'A combined effort to combat ecstasy', which started in 2001, continued in 2005 (T.K.23760/14). Law enforcement with a special focus on production and trafficking of ecstasy and chemical raw materials/precursors is intensified in this programme.
- The 'Plan to combat drug trafficking at Schiphol' which aims at combating cocaine trafficking via airplanes coming in at Schiphol Airport, was in full implementation in 2005 and was intensified further (T.K.28192/1;T.K.28192/23;T.K.28192/36). As part of this plan, further extension of 100%-controls of high-risk incoming flights were carried out by customs and Royal Military Police at Schiphol Airport. In addition, the so called 'drug oriented approach' has been applied to drug couriers who carry only a small amount of drugs and who are first offenders with regard to the Opium Act. Their drugs are seized and their name is put on a black list to prevent future flights to the Netherlands, but they are not prosecuted. This measure was still in force in 2005.
- The Dutch cabinet launched proposals to intensify law enforcement on cannabis crimes from April 2004 (T.K.24077/125) These efforts are mainly directed at organised crime behind the cannabis cultivation.

¹ The police figures for 2005 are preliminary and should be used carefully.

Although conclusions about causal relationships between these policy programmes and the 2005 data on drug offences cannot be drawn, this political framework is relevant in interpreting and understanding the data.

Offences against the Opium Act

An indicator for offences against the Opium Act is the number of Opium Act cases registered in the files of the Public Prosecution Service. The data are shown in table 8.2. A distinction is made between cannabis ('soft drugs') and all other illicit drugs ('hard drugs'). The rising trend in the number of Opium Act cases between 2001 and 2004 came to a halt in 2005: the numbers of Opium Act cases have decreased in this year.

- In 2005, after four years of substantial and consecutive increase, the total number of Opium Act cases has decreased to 20,105: -8% in comparison to 2004. This drop concerns only hard drug cases, however, while soft drug cases still continued to increase to 9,298 cases in 2005: +2% compared to 2004. The number of soft drugs cases now is twice the number in 2000.
- Hard drug cases now account for less than half of total cases: 48% in 2005 (53% in 2004). Soft drug cases now make up 46% of all cases (41% in 2004). And 5% of the cases concern both hard and soft drugs.
- In 2005 Opium Act cases make up 7.5% of the total number of cases recorded by the Public Prosecution Service, slightly less than the year before (8.0% in 2004)
- For the year 2004 and 2005 a rough breakdown of Opium Act offences has been made, distinguishing between possession on the one hand and the total of preparation, production and trafficking on the other. This classification makes it possible to explain the decrease in Opium Act cases mentioned above in more detail. Further research is currently being conducted, in order to validate these findings and to gain more detailed insight and understanding.
- It was found that seven out of ten Opium Act cases (2004: 71%, and 2005: 69%) concern preparation, production and trafficking of drugs, the rest concerns possession only.
- Moreover, two out of three cases of possession concern hard drugs (64% in 2004, and 66% in 2005).
- The absolute number of possession cases remains unchanged in 2004 and 2005. But the number of cases of preparation, production and trafficking decreased by 10%. This drop involves hard drug cases only: cases of preparation, production and trafficking of hard drugs in 2005 are 25% below the level of 2004. In the meantime those for soft drugs increased - by 8%.
- As a result of this development in 2005 more than half (53%) of the cases of preparation, production and trafficking concern soft drugs. The year before in 2004 hard drugs made up more than half (57%).
- Finally in Opium Act cases, women seem to be relatively more often involved in production and trafficking than in possession offences (in 2005; 18% versus 10%).
- Based on police data the following overall drug act offender profile can be made (per registration year; not shown in table): between 2000 and 2005 the percentage of female offenders rises from 13 to 17%; in 2005 roughly four out of five are male offenders (83%); from 2000 to 2005 around seven out of ten offenders are older than 24 years; between 2000 and 2004 the percentage of offenders living abroad rises from 18 to 28%; in 2005 this percentage drops to 21%; About half of the domestic offenders have their habitat in cities with more than 100,000 inhabitants.

Table 8.2: Number and percentage of Opium Act cases recorded by Public Prosecutions Service, by drug type (2000-2005)

	2000	2001	2002	2003	2004	2005
Hard drugs	6,412	7,704	9,301	10,045	11,728	9,716
Hard and soft drugs	780	802	797	964	1,113	1,091
Soft drugs	4,493	5,445	6,525	7,164	9,099	9,298
Total	11,685	13,951	16,623	18,173	21,940	20,105
Hard drugs	55%	55%	56%	55%	53%	48%
Hard and soft drugs	7%	6%	5%	5%	5%	5%
Soft drugs	38%	39%	39%	39%	41%	46%
Total ^{II}	100%	100%	100%	99%	99%	99%
Proportion of Opium Act cases in all cases recorded	4.9%	5.9%	6.5%	6.6%	8.0%	7.5%

Source: OMDATA, WODC. Note that more than one case may be recorded per suspect and that cases may have been 'filtered' at the level of the police (only cases with a reasonable chance of being prosecuted will be sent to the public prosecutor). II Due to rounding differences percentages do not always add up to 100%.

Organised crime

Efforts of law enforcement organisations have been focusing on more serious cases in recent years; this is reflected in figures from the National Investigation Information Services (see Table 8.3):

- In (January-November) 2005 there were 176 investigations into more serious forms of organised crime.
- Between 2000 and 2005 the proportion of investigations concerning organised drug crime seems to be increasing. In 2005, almost three out of four (72%) of the 176 investigations involve trafficking or production of drugs. The majority of these investigations targets hard drugs (85%); 41% concerns soft drugs; and 26% both hard and soft drugs.
- More than half (56%) of the 108 criminal organisations involved in trafficking or production of hard drugs, concentrate on one (hard)drug type.²
- In 36.5% of the 52 soft drug investigations the trafficking concerns only one drug type (not in table).
- In 58 investigations cocaine trafficking is involved, i.e. more than half (54%) of the hard drugs investigations. 48 (44%) of these hard drug investigations concern the production or trafficking of synthetic drugs; and 31 (29%) concern trafficking of heroin.
- The investigations into soft drugs concern mostly trafficking or growing of "nederwiet", Dutch-grown weed, (29; 56%) or else trafficking of hashish 17 (33%) (not in table).

² Synthetic drugs are categorized as one drug type.

Table 8.3: Investigations into more serious forms of organised crime, percentage of drug cases, and type of drug involved, 2000-2005^{I/IV}

	2000	2001	2002 ^{II}	2003	2004	2005 ^{III}
Total number of investigations	148	146	185	221	289	176
Number of drug cases (% of total investigations)	78 (53%)	90 (62%)	117 (63%)	146 (66%)	200 (69%)	127 (72%)
Number of drug cases (% on all drug cases):						
Drug cases with hard drugs	64 (82%)	75 (83%)	97 (83%)	121 (83%)	168 (84%)	108 (85%)
of which						
- Cocaine (%)				60%	57%	54%
- Heroin (%)				17%	18%	29%
- Synthetic drugs (%)				54%	39%	44%
Drug cases with soft drugs	43 (55%)	37 (41%)	53 (45%)	57 (39%)	53 (27%)	52 (41%)
Drug cases only with hard drugs	35 (45%)	53 (59%)	64 (55%)	89 (61%)	137 (69%)	75 (59%)
Drug cases only with soft drugs	14 (18%)	15 (17%)	20 (17%)	25 (17%)	22 (11%)	19 (15%)
Drug cases with hard and soft drugs	29 (37%)	22 (24%)	33 (28%)	32 (22%)	31 (16%)	33 (26%)

I. It should be noted that these figures also always depend on the activities and priorities of enforcement agencies as well as completeness of the registrations. Figures and trends should be interpreted carefully. II. Since 2002 a new format is used and data from 2000-2002 and 2003-2005 are not fully comparable. III. Data from 2005 concern January-November and not the whole year of 2005. IV. Investigations may involve trafficking or production of several drug types, therefore the numbers in the table categories cannot be added up. Source KLPD-DNRI, 2006.

Decisions made by the Public Prosecution for Opium Act offences

Table 8.4 shows the decisions made by the Public Prosecutor in Opium Act cases between 2000 and 2005:

- In 2005 the Schiphol drug courier measures still show their effect, although to a lesser extent: the percentage of cases brought to court increases again to 65% - which is still below the 72% level in 2003, while the percentage of cases not prosecuted for policy reasons decreases to 8% (3% in 2003).
- Between 2000 and 2003 the Public Prosecutor's Office decides to bring 70% of all Opium Act cases to court. In 2004 this percentage has dropped from 72% in 2003 to 61%. This is due to the fact that fewer Opium Act (hard drug) cases were brought to court by the prosecutor. Instead, particularly in cases of hard drug trafficking at Schiphol Airport by drug couriers, the prosecutor decided more often not to prosecute, as part of the so-called temporary drug oriented approach of drug traffickers at Schiphol (see also introduction): the percentage of cases not prosecuted for policy reasons increases from 3% in 2003 to 10% in 2004.
- The Schiphol drug courier policy targeted hard drugs. Accordingly, it was the percentage of hard drug cases taken to court that dropped from 80% in 2003 to 61% in 2004 resulting in the overall decrease. In 2005 the percentage of hard drug cases taken before court has increased again to 64%. In the same period the percentage of soft

- drug cases taken before court increased: from 58% in 2003, and 58% in 2004, to 63% in 2005 (not in table)
- The percentage of Opium Act cases in which the Public Prosecutor has decided to end the case with a financial transaction increases sharply from 2000 - by 10% - up to 2002 by 19%. After that the figure fluctuates between 18% and 20%. In 2005 19% of Opium Act cases ended with a financial transaction
 - Moreover, the percentage of hard drug cases with a financial transaction increased from 10% in 2004 to 13% in 2005. And the percentage of soft drug cases with a financial transaction decreased from 34% in 2004 to 27% in 2005 (not in table).
 - The percentage of cases ending with financial transaction or brought before court can be seen as a rough indicator of the effectiveness of the judicial system: the higher the percentage, the less cases put aside (dismissal). Between 2000 and 2003 this percentage had increased from 82 to 90%. In 2004 the percentage decreased to 81% mainly due to the Schiphol drug courier policy. Recently, in 2005 the percentage rose again to 84%.

Table 8.4: Decisions by the Public Prosecution in Opium Act cases (2000-2005)

	2000	2001	2002	2003	2004	2005
Total Opium Act	11,480	13,115	16,058	17,935	21,047	20,094
Brought before court	73%	71%	70%	72%	61%	65%
Financial transaction	10%	15%	19%	18%	20%	19%
Case dismissal for policy reasons	5%	4%	3%	3%	10%	8%
Case dismissal for technical reason	9%	7%	5%	5%	7%	6%
Joinder of charges	3%	3%	3%	3%	2%	2%

Source: OMDATA , WODC.

Court sentences and convictions, sanctions for Opium Act offences

The total number of Opium Act cases handled by the court showed a slight increase: +1%; from 12,196 in 2004 to 12,262 in 2005 (not in table). The percentage of hard drug cases dropped from 56% in 2004 to 50% in 2005. The percentage of soft drug cases increased from 37% in 2004 to 42% in 2005. The vast majority of all cases taken to court result in a conviction with a custodial sanction, a financial sanction or a community service order. These sanctions together with the financial transactions by the Public Prosecutor (see also above) are described in Table 8.5.

Table 8.5: Number of sanctions in Opium Act cases imposed by the courts and financial transactions of the Public Prosecutor (2000-2005)^I

	2000	2001	2002	2003	2004	2005
Community service order ^{II}	2,340	2,533	2,864	3,769	4,093	4,789
Unconditional prison sentence	3,416	4,086	5,481	6,270	5,436	4,839
Financial transaction	1,122	1,997	2,982	3,140	4,183	3,770
Fine	1,512	1,622	1,797	1,943	2,039	1,823

I. There can be combinations of sentences. II. This order applies to relatively minor offences. It can consist of work, treatment, education or a combination of these. Source: OMDATA, WODC.

- In 2005 the number of community service orders increased by 17% compared to 2004. Between 2000 and 2005 the number of community service orders more than doubled: from 2,340 (in 2000) to 4,789 (in 2005).
- In 2005 the number of unconditional prison sentences has decreased by 10% compared to 2004.
- Between 2000 and 2003 the number of unconditional prison sentences increased by 78%, from 3,416 (in 2000) to 6,270 (in 2003). The past two years a substantial decrease was found of 13% in 2004 compared to 2003 and, as already mentioned, 10% in 2005 compared to 2004.
- In 2005 for the first time in years a drop occurred in the number of transactions and fines: -10% for transactions, -11% for fines. Between 2000 and 2004 the number of financial sanctions continued to rise. Particularly financial transactions increased: almost fourfold (+270%) in 2004 as compared to 2000. But also fines showed a considerable increase: by more than one third (+35%) in the same period.

Sanction severity is described in terms of euros for a transaction/fine and days for a community order/prison sentence (not in table):

- In 2005 the mean number of community order days decreases to 113. Between 2000 and 2004 the mean duration of the community order varies around 122 days (+/- 2 days) with the exception of 2003 at 127 days.
- In 2005 the mean duration of unconditional prison sentences decreases to 351 days. The mean duration of unconditional prison sentences varies around 400 days between 1999 and 2004 (+/ 10,11 days).
- In 2005 the median amount of money in financial transactions increases to 270 euro. The median amount of money in financial transactions increased substantially between 2000 and 2003/2004: from 113 to 250 euro. The median amount of money in fines was about 50 euro lower in 2000/2001 (454 euro) as compared to 2002 up to 2005 (500 euro), with the exception of 2004 (450 euro).

Custodial sentences

In 2005 the number of prison sentences and detention years imposed for Opium Act cases has decreased sharply (-22% and -26% respectively). The same is true for all prison sentences and detention years. Table 8.6 describes all total custodial sentences and detention years and also the percentage of Opium Act sentences and detention years, between 2000 and 2005. Numbers are broken down by main drug types and all other crimes.

- The percentage of Opium Act cases of all prison sentences remains constant at 16%. Since 2002 this percentage has been unchanged. However, the percentage of detention years for Opium Act cases is declining from 32% in 2002 to 26% in 2005.
- This decline is explained for a major part by drug courier crimes. The proportion of detention years for drug couriers in the total amount of detention years decreased by 4% in 2004 (T.K.24077/125).
- The number of prison sentences and detention years for Opium Act offences predominantly involve hard drug cases. The percentage of prison sentences for soft drug crimes doubled between 2000 and 2005 from 1% to 2% in all prison sentences. The number of detention years for soft drug crimes in all detention years increased from 1.4% to 2.5% in the same period. In other words: in 2005 one in every eight to nine sentences for Opium Act crimes concerns soft drugs, and so does one in every ten to eleven Opium Act detention years.

- In 2005 the percentage of prisoners detained for Opium Act offences decreases: 16% are Opium Act offenders. From 2001 to 2004, Opium Act offenders make up around 20% of the total number of prisoners (Source: CBS; number of detainees on every 30th of September).
- Over a 5-year period from 1999, 45% of Opium Act offenders show recidivism, 22% committed an Opium Act offence again (T.K.24077/125).

Table 8.6: Total custodial sentences and detention years and percentage of Opium Act sentences and detention years; 2000- 2005^I

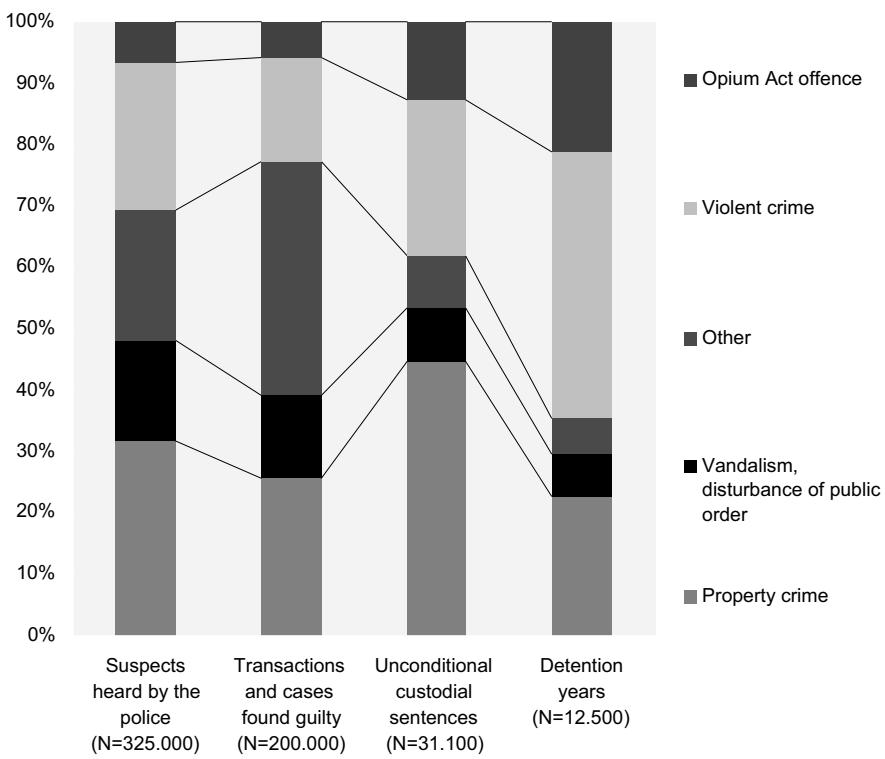
	2000	2001	2002	2003	2004	2005
Number of prison sentences	25,746	27,332	31,163	34,262	29,650	23,052
Opium Act total	12%	13%	16%	16%	16%	16%
- hard drugs ^{II}	11%	12%	15%	15%	14%	14%
- soft drugs ^{II}	1%	1%	1%	1%	2%	2%
All other criminal cases ^{III}	88%	87%	84%	84%	84%	84%
Detention years ^{IV}	9,193	10,318	12,500	13,171	11,917	8,787
Opium Act total	25%	28%	32%	31%	28%	26%
- hard drugs ^{II}	23%	26%	31%	30%	27%	24%
- soft drugs ^{II}	1%	1%	1%	1%	2%	2%
All other criminal cases ^{III}	75%	72%	68%	69%	72%	74%

I. Excluding youth detention. II. Cases involving a soft drug offence as well as a hard drug offence are classified as hard drug cases. III. 'Other criminal cases' contain the sentences/detention years for all crimes except Opium Act crimes IV. Detention years are calculated by adding all unsuspended parts of sentences and deducting early releases. Source: OJD, WODC.

Opium Act crimes in the criminal justice chain

Opium Act cases have a relatively high chance of passing through the total criminal justice chain as is illustrated by Figure 8.1 (for the 2005 registration year). Opium Act offenders booked by the police have a relatively high chance of ending up in prison for a relatively long time. Opium Act offenders booked by the police account for 7% of the total number of offenders booked by the police. But their proportion in custodial sentences is higher (13%) and their proportion of detention years is even more substantial (21%).

Figure 8.1: Proportion of offence categories in the criminal justice chain, 2005



Source: CBS; update by WODC (Eggen et al. 2005)

New developments in 2006

- By the end of 2006, the special programme 'A combined effort to combat XTC' on ecstasy and chemical raw materials/precursors will have come to an end. In the first half of 2007, the results of the evaluation report will become available. In November 2005, a Criminality Picture Analysis for Synthetic Drugs revealed, in accordance with the interim research evaluation, that there are signals that the production of ecstasy in the Netherlands is decreasing when compared to other countries (Huisman 2005; T.K.30100VI/6). The programme will continue with different accents.
- The special programme on cocaine smuggling and trafficking will continue (T.K.24077/125). Since the 1st of January 2006 all drug couriers are prosecuted again.
- For cannabis, new interventions for law enforcement aimed at the criminal organisations behind production of Dutch-grown weed will be developed and implemented. Concrete preparations started in 2006 in the south of the country, guided by scientific research. Police and municipalities work together already in combating and dismantling cannabis farms, in particular when located at residences.
- In the future, there will be more focus on organised crime (see chapter 10).

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

Offences 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 illegal. The designation "drug user" is accorded by the Police to a suspect only 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 while drug use is not assessed systematically, its validity is disputable. According to recent (not published) analyses of the Research and Documentation Centre (WODC) of the Ministry of Justice, the classification gives a very substantial underestimation of the number of drug using offenders and misses a considerable proportion of the drug using offenders. Drug using offenders that are recorded as such seem to be mainly users of opiates who are known to the police. Cases that are not recorded as such seem to concern (younger) offenders with a lower frequency of offending or who do not live in the city where they were arrested.

Between 2000 and 2005 the Police Record System registered from 9,000 to 10,000 suspects each year who are classified as drug users for committing one or more crimes. In 2005, there were more than 9,000 drug users recorded as such. Based on those police data the following rough offender profile for registered drug users can be made:

- Nine out of ten recorded drug users among suspects are male; this male/female distribution remained constant between 2000 and 2005;
- Nine out of ten drug users are older than 24 years; between 2000 and 2005 the group of drug using offenders between 25 and 34 years of age decreased substantially: from two out of five drug users in 2000 (40%) to somewhat less than three out of ten in 2005 (28%);
- More than half of the drug users live in the largest cities (250,000 or more inhabitants) or live abroad. Between 2000 and 2005 the percentage of drug users living abroad rose from 6% to 14%. In the same period the percentage of drug users living in the largest cities decreased from 47% to 38%.
- Between 2000 and 2005 seven out of ten drug users had been suspected of committing a crime on more than 10 previous occasions, and one out of five even more than 50.
- In 2005 almost seven out of ten (67%) suspected drug users living abroad were suspected of committing a crime on more than 10 previous occasions, and almost one out of every five (19%) more than 50. Such numbers of crimes could not have been committed without regular and prolonged stays in the Netherlands. According to Tolleenaar et al. (2006) second-generation Moroccans, Somalians and persons from the Netherlands Antilles or Aruba are overrepresented in the population of repeat offenders.

We know from research studies that drug users who are repeat offenders have not only drug problems, but also problems with relationships, education, work and housing; there is also a group with psychiatric co-morbidity. Opiates are the most prevalent primary problem drugs, cocaine/crack comes second (Van Ooyen-Houben 2004).

- Drug users form 71-73% of the group of repeat offenders - defined as being convicted to a custodial sentence or measure at least 3 times in 5 years (Wartna et al. 2004b; Wartna et al. 2004a).
- WODC started a study in September 2006 to gain better insight into the validity of the classification 'drug using offender' in the police registration by merging the police database and the database of outpatient addiction care and reviewing the literature. Results will be available in 2007.

Types of offences

- In 2005 54% of the suspects registered by the police as 'drug users' are suspected of property crimes without violence; this is less than in 2004 (see table 8.7). The percentage of drug users suspected of a property crime shows a decreasing trend over the years.
- Property crimes with violence are reported for 8% of suspects. This percentage shows a decreasing trend since 2002.
- In 2005, like in 2004, 24% are suspected of "other violence (against persons)". Between 2000 and 2004 the percentage of drug users suspected of "other violence (against persons)" has increased: from 19% to 24%.
- Moreover, 22% are suspected of vandalism or disturbance of public order; 22% are suspected of an Opium Act offence and 22% of a traffic offence; 1% of all suspects are suspected of a sexual offence.

Table 8.7: Number of suspects classified by the police as drug users by type of offence, by year (2000-2005)

Type of offence ^I	2000	2001	2002	2003	2004	2005
Property crimes without violence	63%	63%	63%	58%	56%	54%
Property crimes with violence	11%	11%	12%	11%	10%	8%
Other violence (against persons)	19%	20%	22%	23%	24%	24%
Opium Act offence	18%	18%	19%	22%	23%	22%
Vandalism, disturbance of public order	20%	21%	23%	23%	23%	22%
Traffic offence	10%	10%	10%	10%	11%	11%
Sexual offence	1%	1%	1%	1%	1%	1%
Other	10%	10%	10%	11%	11%	10%

I. Suspects may commit more than one type of offence; percentages do not add up to 100. Source: HKS, KLPD/DNRI, group Research and Analysis.

Drugs and violent crimes

Violence and violent crime is a topic which is addressed by several policy measures. In November 2005, a specific Policy Action Plan against Violence started (Wartna et al. 2004b).

Whereas property crimes can be seen as economic-compulsive crime – crimes committed in order to obtain money (or drugs) to support a drug habit - violence can be seen as psychopharmacological crime: crimes committed under the influence of a psychoactive substance.

Korf et al. (2005) conducted an exploratory study amongst 394 offenders in youth detention centres and among school drop outs. In this study, they looked at the use of alcohol and drugs and especially at the role of alcohol and drugs in violence against persons, as reported by the youngsters themselves. Although alcohol and drug use was relatively high amongst these youngsters, only roughly one third of them had used alcohol or drugs before the serious violent events they were involved in. Most of them say that the use of alcohol or drugs did not have a significant influence on the violence; the violence would have taken place anyway, even without being preceded by substance use. More serious forms of violence are more often drug-related than less serious forms. Other factors, such as impulsiveness or the presence of personality or conduct disorder, however, seem to play a more important causal role than alcohol or drugs. Lünneman and Bruinsma (2005) studied 2,072 files of police reports of violent crimes. They discovered that the

files do not contain systematic information about the role of alcohol or drugs. Only when alcohol or drug use plays an abundantly evident role, will the police register details of this. 339 reports contain information about alcohol use and 94 about drug use. In most cases, it is the suspect who drank alcohol or used drugs. But in a relevant number of cases the victim (too) used alcohol or drugs, especially in cases of public violence.

Drugs and driving

Driving under the influence of drugs is also an example of a crime that has to do with the psychopharmacological characteristics of drugs. Information about drugs and driving is given in Chapter 13.

8.3 Drug use among prison inmates

No new studies are available in 2006. One new study has been completed but not yet published: Bulten et al. conducted a study amongst 191 inmates of a regular prison. They used the MINI to measure drug- and alcohol dependence in the year before imprisonment. The results show a prevalence of pre-prison drug dependence of 30% and a prevalence of alcohol dependence of 28%.

In July 2006, a new prevalence study on problematic drug and alcohol use and gambling amongst prison inmates started. It was initiated by the Ministry of Justice and is carried out by the Addiction Research Institute in co-operation with two other institutes under the supervision of the WODC. Results are expected in April 2007. Also in 2007, the effect study on drug users in the Judicial Placement of Addicts facility will be ready.

Table 8.8 gives an overview of all studies 2000-2006.

Table 8.8: Studies on pre-prison drug use among prisoners 2000-2006

Facilities studied	Author(s) and year ^I	Group studied
Forensic psychiatric facilities	(Hildebrand 2004)	N=98 forensic psychiatric patients
	(Van Emmerik et al. 2001)	N=1105 forensic psychiatric patients (reference date 1-1-2000)
Youth detention centres	(Korf et al. 2005a)	N=205 detainees 14-17 years old
	(Vreugdenhil et al. 2003)	N=204 12-18 years old
Regular detention centres	(Vogelsang et al. 2003)	N=355 detainees
	(De Vruyt 2000)	N=554 detainees known to the psychological-medical services in prison
	(De Vruyt 2000)	N=191 detainees in a regular prison
	Addiction Research Institute Start: July 2006, ready: 2007	detainees in regular prisons
Special detention centre	(Van 't Land et al. 2005); (Van 't Land et al. 2005)	N=190 detainees in Judicial Placement of Addicts (SOV)

I. Year of publication. Source: WODC.

Table 8.9 concentrates on the main results of two studies on *representative* samples of inmates of *regular* penitentiary institutions since 2000. These studies show a prevalence of pre-prison problematic drug use or drug dependence of 30-64% (Vogelsang et al. 2003). 61% of the inmates used hard drugs in the 6 months before imprisonment, 39% used soft drugs. A considerable proportion of prisoners (64%) had problems with drug use ever in their life, mainly with hard drug use. 40% report serious or very serious problems. 30% of the inmates can be considered drug dependent and 28% meet criteria for alcohol dependence. Inmates that used hard drugs before their imprisonment are significantly less motivated to change their drug using behaviour than those that used soft drugs.

Table 8.9: *Studies on pre-prison drug use amongst representative samples of prisoners in regular penitentiary institutions and their main outcomes*

Author(s) and year ¹	Group studied	Main findings
(Van Emmerik et al. 2001)	N=355 detainees	Cannabis use last 6 months: 39% daily: 33% Hard drug use last 6 months: 61% daily use cocaine/crack: 32% daily use heroin: 21% Problems with drug use lifetime: 64% serious or very serious: 40%
(Korf et al. 2005a)	N=191 detainees	Drug dependence last 12 months: 30% Alcohol dependence last 12 months: 28%

8.4 Social costs

The World Health Organization (WHO) has issued international guidelines for estimating the costs of substance abuse (Single et al. 2003). The WHO makes a distinction between tangible and intangible costs on the one hand, and between private costs and social costs on the other hand. Intangible private costs are, for example, the pain and suffering resulting from drug abuse. Estimates of the costs associated with substance abuse generally do not include intangible costs and private costs. Estimates usually include tangible social costs. The WHO further distinguishes four categories of tangible social costs:

1. Health and welfare costs due to the treatment of substance abuse, prevention and research.
2. Productivity costs due to lost employment and lost productivity and due to premature mortality.
3. Law enforcement and criminal justice costs.
4. Other costs such as property damage or destruction.

The four categories as distinguished by the WHO are a further breakdown of a prevailing distinction that is usually made between direct and indirect costs (Hakkaart-van Roijen et al. 2004). Health and welfare costs and law enforcement and criminal justice costs are *directly* related to drug abuse. Productivity costs and other costs like property destruction are *indirectly* related to drug abuse. Costs that are directly related to drug abuse become visible as expenditure. Indirect costs like travel costs also become visible as expenditure. However, costs that are indirectly related to drugs do not always become visible as actual expenditure. For example, due to public nuisance caused by drug abuse the market value of premises near the drug scene may decrease. This decrease in value counts as a cost

indirectly related to drug abuse in the form of property loss. However, such a cost will not always become visible as an actual financial expenditure.

Expenditures can be studied from a top-down approach and from a bottom-up approach. A top-down approach follows the financial resources that are allocated by the government and governmental institutions to drug-related treatment and law enforcement. A bottom-up approach follows, for example, drug abusers that are in treatment, in order to assess the financial resources that are actually spent on their treatment. A bottom-up approach can also show how much is being spent on law enforcement in targeting a group of drug abusers.

From a top-down approach, government spending on treatment, prevention, harm reduction, and law enforcement has been studied for the year 2003 (Rigter 2006b). Total drug policy spending was estimated at 2,185 million euro of which 42 million euro were allocated to prevention, 278 million euro to treatment, 220 million euro to harm reduction and 1,646 million euro to law enforcement. As Rigter (2006) concludes from these figures, for the Netherlands, "law enforcement is clearly the dominant expenditure".

A bottom-up approach has been applied to compare the costs of methadone maintenance treatment to co-prescribed heroin treatment (Dijkgraaf et al. 2005). It was found that the co-prescription of heroin reduced law enforcement costs and the costs of damage to victims. This results in a saving of 12,793 euro per patient per year. Since co-prescribed heroin treatment is only applied experimentally in the Netherlands, these savings are not yet taken into account when estimating the costs made by a methadone patient. Given the unit costs of 2001 for the different social costs, the mean annual costs per methadone patient were estimated at 1,412 euro for the methadone maintenance programme, 1,126 euro for addiction treatment and other healthcare, 12,885 euro for law enforcement, 34,991 euro for damage to victims and 146 euro for travel costs, resulting in a total of 50,560 euro per patient. It is very likely that the costs would be much higher in the event that these drug addicts were not to receive methadone, but this difference in costs is not known.

By means of the Injury Information System (*LIS*) the Consumer Safety Institute (*Stichting Consument en Veiligheid*) has also applied a bottom-up approach. The LIS contains data from a representative sample of Dutch hospitals. This enabled an estimation of the medical costs incurred by treatment for alcohol- and drug-related accidents at the emergency departments of the hospitals (Eckhardt 2006). For the period 2001 to 2005, it was estimated that a yearly average of about 13,000 victims of *alcohol*-related accidents and about 2,900 victims of *drug*-related accidents were treated at the emergency departments. The direct medical costs for the alcohol-related accidents were estimated at 31 million euro per year, whereas the direct medical costs for the drug-related accidents were estimated at 5.5 million euro per year. Patients are known to underreport the use of alcohol and drugs, and therefore these estimations are probably underestimations.

In January 2006, a new Health Insurance Law (*Zorgverzekeringswet*) came into force in the Netherlands. According to this law, outpatient addiction care and clinical addiction care up to one year will be financed by health insurance companies (T.K.29660/5-6). Addicts will receive specific treatment programs in the form of a Diagnosis Treatment Combination (DTC). The health insurance companies will finance each Diagnosis Treatment Combination that has been applied by an organisation for addiction care and treatment. It is expected that in the near future the registration of the Diagnosis Treatment

Combinations will allow a more complete bottom-up approach to estimate the actual treatment costs of drug abuse.

9 Responses to Social Correlates and Consequences

9.1 Social reintegration

To prevent or reduce the social exclusion of (former) drug users, housing, work, social contacts and improved financial habits are important. Partly for this reason social care for drug dependent persons includes a wide range of services mostly, but not exclusively, initiated by the Municipalities. Other initiators are NGOs and prevention professionals from organisations of addiction care. These services range from boarding houses or hostels, drop-in centres for (drug dependent) sex workers in the street, drug consumption rooms or farm work for drug addicts.

A new Social Support Act (*Wet Maatschappelijke Ondersteuning* or *WMO*) will take effect in January 2007. This act will replace various rules and regulations for handicapped people, the elderly and people with chronic psychiatric problems including addiction. It encompasses the Services for the Disabled Act (*WVG*), the Social Welfare Act and parts of the Exceptional Medical Expenses Act (*AWBZ*). Policy responsibility for setting up social support will be delegated to the municipalities. Thus, care activities or social support for addicted immigrants and refugees will be added to the municipal responsibilities.

A new initiative at the national level is that in January 2007 an inpatient centre for 120 homeless drug addicts with psychiatric problems is planned in Hooghalen in the Northern part of the country (see also § 7.3). There have been many objections from the municipality and its inhabitants.

Immigrants and drug users are especially vulnerable to social exclusion and immigrants who use drugs even more so. Thus social re-integration activities are (although of course not exclusively) especially useful for this group. Moreover, drop out rates from treatment are higher among immigrants compared with Dutch addicts in outpatient addiction care (Vrieling et al 2000). Estimating the nature and extent of problem hard drug use among illegal immigrants, refugees, and asylum seekers is difficult among these hidden populations. A pilot study in two Dutch cities using the Rapid Assessment and Response method, focussed on opinions and needs for these target groups. The interviews showed that preventive activities are thought to be especially important in centres for asylum seekers, because here this target group can be most easily reached. Preventive interventions for this target group are cited in the literature on intercultural social work. However, this knowledge is rarely transferred to these centres or to professionals working with this target group. There is a need for adapting existing interventions in order to stimulate discussion on hard drug use and to make these interventions applicable for asylum seekers. This need is considered most urgent, because adult drug users are in danger of social expulsion in many of the cultures that are present in this heterogeneous target group (Hoogenboezem et al. 2005).

9.2 Prevention and reduction of drug-related crime

Crimes committed by drug users

Within the criminal justice system, there are several types of assistance available for drug using offenders. The general aim of the assistance is to improve reintegration in society by reducing drug problems and other problems which drug users have to cope with, in order to reduce drug-related crime and prevent recidivism. Since 2004, however,

responses with elements of incapacitation are possible too, for certain groups of prolific offenders (Stb 2004/351). Assistance is aimed at all drug users, but hard drug users have the most serious problems (Vogelsang et al. 2003) and prolific offenders amongst the drug users get a lot of explicit attention in recent policy programmes.

The services available for drug users in the criminal justice system in 2006 are:

- addiction probation services
- (reintegration) programmes and facilities in prisons
- alternatives to imprisonment for drug users.

Special judicial measures applicable for drug using prolific offenders are:

- Measure of Placement in an Institution for Prolific Offenders/ISD (since end of 2004)
- Measure of Judicial Placement of Addicts/SOV (until end of 2004, since then included in ISD).

In recent years, major changes have been carried out in the field of prevention and reduction of drug-related crime, as a consequence of policy developments that include responses to crimes committed by drug users.

Policy developments

Prevention and reduction of drug-related (and other) crime is a topic in the comprehensive policy programme 'Towards a safer society'/Naar een veiliger samenleving, which started in 2002 and is still ongoing in 2006 (T.K.24077/125). The Dutch Cabinet launched this programme because of deficiencies in safety: a lack of co-ordination in activities of different actors, a deficit in law enforcement, poor visibility of the enforcing services and too much tolerance of criminal behaviour and nuisance, especially with regard to prolific offenders with high criminal recidivism. The aim of the programme is a reduction of 20-25% in crime and public nuisance in the period 2008-2010. The focus is on property crimes, violent crimes, destructive behaviour and violations of public order. 2006 is the last year of the programme (T.K.28684/1-2). The programme, which is coordinated by the ministries of Justice and Internal Affairs, consists of a total of 150 measures to be taken. Several of these affect drug-related crime.

With regard to drug-related crime the following specific measures are running in 2006 (see also table 9.1):

- A firm line is taken with prolific offenders³ of over 18 years old (T.K.28684/1-2). An estimated 71% of the prolific offenders are drug addicts (T.K.28684/1-2). They are subject to special measures, like systematic screening and assessment, supervision and guidance. In 2004, the judicial measure 'Placement in an Institution for Prolific Offenders/Inrichting voor Stelselmatige Daders (ISD)' (Stb 2004/351) was introduced (T.K.28980-1-2; T.K.28980/16; T.K.28980/3). This measure facilitates sentencing a person to imprisonment for a maximum of two years, even for minor crimes, given the fact that these crimes are committed repeatedly. ISD-places are made available stepwise to a total of 1,000 places in 2007. Those who receive a measure of ISD will get an assessment. The outcome can be either the placement in programmes geared towards behavioural change - intensive or less intensive intramural programmes followed by extramural programmes in a continual approach - or the placement in a standard regime with the focus on incarceration (if there is no starting point for care or treatment). Incarceration is compulsory, participation in a programme can

³ Prolific offenders are defined as persons who have been convicted to a custodial sentence or measure at least 3 times in 5 years, who persist in their criminal behaviour and get into contact with the police again and again (T.K.28684/10)

be optional or quasi-compulsory. Participation in programmes for behavioural change is preferred (Stb 2004/351). Prolific offenders are overrepresented in the category of property crimes, and also in the category of property crimes in combination with violence (T.K.28684/1-2).

- A condition for the success of these measures is adequate co-operation in the chain of actors who are involved. (Addiction) Probation Services are undergoing far-reaching changes and the penitentiary system is aiming at a more efficient use of resources (T.K.28684/1-2). In general, policy and strategies are evolving towards a more stringent selection of (addicted) offenders who receive programmes and treatment. Furthermore, a smooth transition from the criminal justice system to extramural care programmes should be realised (T.K.24077/125). Judicial interventions and care programmes should form a well-coordinated chain of services, in which not only the police and the justice system, but also other partners like welfare services, education services, housing services, mental health care and social work take part (T.K.28684/1-2).
- A local approach prevails; municipalities have a leading role.
- An example of a different approach to chronic hard drug users with high criminal recidivism is the medical prescription of heroin. This approach is very effective with regard to reduction of crime among participants (Van den Brink et al. 2002). In the autumn of 2006, a total of 815 treatment places in 18 municipalities were approved; they are due for implementation by the end of 2007 (see also paragraph 7.4).

Besides prolific offenders, the Safety Programme also focuses on another category of drug-related crimes⁴:

- Violence and violent crime is a topic which is addressed by several measures. In November 2005, a specific Policy Action Plan against Violence was commenced (Wartna et al. 2004b). Alcohol is seen as a risk factor for violent crimes. These crimes can be prompted or aggravated by alcohol use. Registration of the involvement of alcohol in violent crimes is not de rigueur, however. The same is true for drug use. The police only registers alcohol or drug use in cases where use plays a very explicit role and where it is very clear that the crime is committed under the influence. In police files alcohol use is more often recorded than drug use (Stb 2004/351).
- An experiment will start in two municipalities in 2006, in which alcohol and drug use related to violent offences will be systematically assessed, using newly developed tests for drugs. The final aim is the development of adequate responses to alcohol- and drug-related violence (Wartna et al. 2004b). If the experiment works out well, the approach will be adopted at a national level. Research will accompany the experiment (Wartna et al. 2004b).

⁴ Another measure in the programme concerns prevention of drug addiction amongst youngsters. An approach for youngsters is set up, which is incorporated in a more general approach of early intervention and prevention and is not specified for drug users.

Table 9.1: Plans with regard to drug-related crime in the Policy Programme 'Towards a safer society' 2002-2006 and activities running in 2006

Plans 2002-2006	Activities in 2006
Tackling prolific offenders Judicial Measure of Placement in an Institution for Prolific OffendersI (ISD) Systematic assessment and selection of detainees for reintegration programmes	Placement in special prison facilities ISD since 2004 ^{II} Implementation and research of systematic screening and assessment, improving effectiveness of interventions and improvement of co-operation between addiction probation services and penitentiary system More quasi-compulsory treatment Improvement of aftercare
Combating violent crimes related to alcohol or drug use	Action Plan on violent crimes, (experimental) assessment, registration and prevention of alcohol and drug use related to violent crimes

I. Of whom an estimated 71% are drug addicts. II. With optional participation in programmes.

Addiction Probation Services

Addiction probation officers are employees of regular addiction care organisations (Addiction Probation Services are a national foundation). In 2006, Addiction Probation Services are in the process of implementing new approaches to their work:

- Financing of services of (addiction) probation by the Ministry of Justice is only possible if this service is ordered by the justice system. Financing is based on output.
- There is a more stringent selection of cases for programmes. Addicts are systematically screened and diagnosed with newly developed instruments.
- The focus of the Addiction Probation Officer's role is now more on reporting and supervising, being a guard instead of being a social worker and trustee of the detainee. New forms of cooperation between the prison system and (addiction) probation services are being developed. (Addiction) probation services and the prison system will be co-responsible for the re-integration pathway of an addicted detainee. Communication is still difficult in 2006 and responsibilities should be allocated.
- New Advisory and Distribution Units for Probation Services/"Advies en Distributie Punten" are created, which will have a central role in the selection of cases that probation services will target (Van Bostelen et al. 2005).

The activities carried out in 2002-2005 are shown in table 9.2.

Table 9.2: Types of assistance offered by addiction probation services and number of times the service was provided, 2002-2005⁶

Type of assistance	2002	2003	2004	2005
First visit to arrestee/prisoner in remand	3,629	4,305	4,110	3,962
Report to judge with advice regarding continuation of remand custody	995	922	889	1,152
Devising, coordinating and evaluating a plan of approach following a systematic method ^{II}	10,048	9,156	1,028	-
Referral to care programmes	1,568	2,115	2,254	2,081
Supervision of clients in framework of judicial decision	2,407	3,726	4,919	5,454
Interventions/Reintegration programmes	1,696	2,566	2,929	2,806
Supervision of working sentences	3,382	4,098	4,650	4,904
Supervision of learning sentences	139	217	241	286
(Advisory) reports	7,587	8,746	8,369	8,454
Diagnoses ^{III}		10,615	10,605	11,504

I. No figures on case level, no specification for type of drug/alcohol/gambling II. Service is discontinued in 2004. III. Newly defined service in 2003. RISC's included (136). Source: Foundation of Addiction Probation Services, 2006.

- Some activities show an increase, others a decrease, but in general there are no major changes in 2005. The figures reflect the policy priorities for probation services on supervision and assessment/diagnoses mentioned above. The service of 'devising, coordinating etc.' has clearly been discontinued. Diagnoses, which aim at systematic assessment and selection of drug users in the criminal justice system for care programmes were introduced in 2003, as part of the new policy.
- The largest increase is seen in the supervision of clients in the framework of a judicial decision. This has increased since 2002 and is clearly in line with policy priorities.
- Early visits to addicted arrestees and prisoners remanded in custody also occur with a reasonably high frequency: almost 4,000 times in 2005. This is, however, slightly less than in 2004.
- A report to the judge with a recommendation to continue remand imprisonment has been made more than 1,000 times, which is more often than in 2004.
- Referral to care programmes – often this concerns referral to care programmes as an alternative to imprisonment - took place more than 2,000 times, less than in 2004.
- Interventions/reintegration programmes were provided + 2,800 times, slightly less than in 2004.
- Supervision of working and learning sentences show a continuous increase since 2002.
- Advisory reports were made more than 8,000 times; these consist of written information to the judge or (judicial) organisation in consideration of a specific question or a decision about prosecution, sentencing or the execution of a sentence.
- Diagnostic activities are carried out most frequently: more than 11,000 times in 2005, more often than in 2003 and 2004. Diagnoses are carried out partly by using the former procedures and partly by using the newly introduced standard instruments of Quick Scan⁶ and RISC. These instruments are still undergoing development and are the subject of (validity) research. In addition to these two instruments, a special more comprehensive assessment instrument for drug using offenders is being developed:

⁶ The usability of the Quick Scan has been evaluated (Von Bergh et al. 2006). 40% of the users considered the instrument to be intrinsically quite usable. The instrument is user-friendly, but the Excel program is not. The pre-determined administration time is feasible. Recommendations for improvement were given.

MATE-Crimi (*Meten van Addicties voor Triage en Evaluatie/Assessing Addictions for Indication and Evaluation*) (Van Bostelen et al. 2005).

Table 9.3 shows some characteristics of addiction probation clients.

Table 9.3: Clients of addiction probation services 2002-2005^I

Clients:	2002	2003	2004	2005
Total number	12,399	14,579	14,875	15,574
Percentage of clients who alternately use voluntary outpatient addiction care	7,794 (63%)	8,501 (58%)	8,489 (57%)	8,734 (56%)
Mean age ^{II}	35	35,3	35,6	36,1
Male	92%	92%	92%	92%
Primary problem is alcohol	38%	40%	43%	46%
Primary problem is opiates	25%	21%	18%	16%
Primary problem is cocaine/crack	26%	27%	25%	24%
Primary problem is cannabis	6%	6%	7%	8%

I. Figures from one large addiction care centre are not included; dummy-figures are imputed. Source: Information Services for Addiction Care/SIVZ, 2006.

- In 2005, the addiction probation services coached over 15,500 addicts, more than in 2004. The trend is upward.
- More than half of the addicts shifted in 2005 from regular outpatient addiction care to addiction probation services (or vice versa).
- The total number of contacts in 2005 is over 65,000, which is more than in 2004.
- The mean age of clients is 36 years, the largest group (26%) being between 40 and 49 years old.
- 92% are male and 8% female.
- The majority is single (52% in 2005, not in table). 47% have only primary school education, 45% have a high school qualification, 5% have no education and 3% have higher education (not in table).
- In 2004, 46% of the clients of addiction probation services had a primary problem concerning their alcohol use, 16% concerning their use of opiates, 24% had a cocaine/crack problem and 8% a cannabis problem. Alcohol- and cannabis-related (primary) problems increased, opiates- and cocaine/crack-related problems decreased. In 74% of the cases, the problems had a duration of more than five years.

Programmes and facilities in prison

During their stay in prison, drug users can participate in intramural programmes. It is important to note the prison system is changing its policy (Ministerie van Justitie 2004;T.K.29200/167). New strategies and methods are being developed, with the aim of attaining greater selectivity and differentiation in imposing and executing sentences. The plans include:

- Selectivity: resocialisation programmes will be offered to those offenders for whom an improvement can be expected.
- Differentiation: offenders in remand custody stay in a basic regime. For convicted offenders with a relatively short custodial sentence (3-4 months), no resocialisation programmes will be available. The reason is that within these short sentences there is not enough time to invest in care. The Dutch Parliament, however, expressed the wish to continue to offer interventions for this group with short sentences (T.K.29200VI/167). For every detainee, aftercare is prepared by social service workers in the prison facility. Those convicted to a longer sentence can participate in resocialisation pro-

- grammes, if improvement is expected. If not, they will stay in a basic regime. Systematic assessment will show the chances for improvement.
- More attention is to be given to effectiveness of sanctions. Guidance, treatment, after-care, other forms of sanctions in addition to or as an alternative to sanctions are applied if this improves effectiveness and resocialisation.
 - In 2005, an accreditation commission was set up to evaluate the effectiveness of judicial interventions, using the ten criteria shown in table 9.4 (T.K.29200/167).

Table 9.4: Quality criteria for judicial behavioural interventions aimed at reduction of criminal recidivism

Criteria:
Theoretical basis: the intervention is based on an explicit change model the effects of which are scientifically proven
Selection of target group: the type of offenders who form the target group of the intervention are clearly specified and selected
Dynamic criminogenic factors: the intervention aims at changing risk factors that correlate with the criminal behaviour
Effective treatment methods: the methods applied are demonstrably effective or likely to be effective
Abilities and protective factors: the approach aims at learning practical, social and coping abilities
Phasing, intensity and duration: intensity and duration of the intervention match with the problems of the participant
Commitment and motivation: commitment and motivation of the participant should be increased and stimulated
Continuity: there should be a clear connection between the intervention and the subsequent supervision and coaching of the offender
Integrity: the intervention is implemented the way it is conceived
Evaluation: a continuous evaluation gives insight into the effectiveness of the intervention

Source: Gedragsinterventies 2005

Interventions that do not meet the criteria will no longer be financed by the Ministry of Justice and will not be offered to (ex-)detainees. Since its inception, the committee has given preliminary accreditations to five interventions ("preliminary" because they do not yet meet all the quality criteria) (see table 9.5).

Table 9.5: Programmes for detainees with a (preliminary) accreditation, situation as of October 2006

Programme	Date of preliminary accreditation
Training on Cognitive Abilities	December 2005
Training on Cognitive Abilities plus ^I	June 2006
Behavioural intervention for Work	June 2006
Lifestyle training	October 2006
Aggression Regulation Therapy	October 2006

I.This training is aimed at persons with an intelligence level (IQ) between 70 and 90. Source: Ministry of Justice, policy dept for Sanctions and Prevention.

- In some prison facilities drug users can participate in resocialisation programmes in Drug-free Addiction Support Units (*Verslaafden Begeleidingsafdelingen, VBA*). These are fifteen drug-free units in prisons which offer a programme for addicts who are motivated to stop their drug use, and who are eligible for a programme preparing them

- for treatment outside detention. By the end of 2005, 284 clients had participated in such a programme (not only addicts).
- Substitution treatment is possible for short-term detainees who already used methadone before imprisonment (T.K.24077/112). A recent study in two Dutch prisons showed that daily practice is variable. Whether detainees receive methadone depends on the policy of the prison and of the individual prison physicians (Gezondheidsraad 2002).
 - Participation in extramural 'penitentiary programmes' for resocialisation is possible at the end of the detention period. However, addicts rarely participate in these programmes.
 -

Alternatives to imprisonment for drug users

Since the late nineteen-eighties, the Netherlands has an explicit national policy to divert drug users to care programmes (T.K.20415/1). This policy is still strong (T.K.20415/1). Referral to care programmes is explicitly stimulated by programmes within the Ministry of Justice (T.K.20415/1). The idea behind this is that recidivism of drug users can be reduced when they participate in a care programme. The criminal justice system offers a unique possibility to divert criminal drug users to care programmes under the judicial pressure of a conditional sentence. There are some recent developments:

- The measure of Placement in an Institution for Prolific Offenders/ISD, implemented since the beginning of 2005, is assumed to have an influence on quasi-compulsory referral to care. Under this measure, imprisonment for a maximum of two years is possible. If an addict chooses to participate in an extramural programme under ISD, his period of supervision from the criminal justice system can be quite long and the pressure from the criminal justice system on finishing the programme and meeting the conditions is much stronger (T.K.20415/1).
- The law offers possibilities for conditional release from remand and conditional custodial sentences. 75% of the cases involving a complete conditional custodial sentence complied successfully with the conditions; in cases of a partial conditional sentence, the success rate was 39% (T.K.20415/1). Although these options for conditional release grew in popularity between 2000 and 2004, policy makers want to broaden these conditional releases and conditional sentences even further; Jacobs' study showed that broadening is possible and it pointed at concrete improvements in this direction. These improvements will be implemented in the near future (T.K.20415/1).

Table 9.6 gives an overview of options for alternatives to imprisonment under criminal law.

Table 9.6: Options for quasi-compulsory referral to treatment and care programmes within the criminal justice system, 2006

Phase in judicial process:	Options under criminal law:
During remand in custody and police custody without extension (police phase)	No legal pressure possible
During pre-trial detention	<ul style="list-style-type: none"> • (Conditional) decision not to prosecute by the Public Prosecutions Department (Article 167 of the Code of Criminal Procedure [<i>Wetboek van Strafvordering</i>]) • Suspension of pre-trial detention under certain conditions (Article 80 of the Code of Criminal Procedure)
During court hearings	<ul style="list-style-type: none"> • Stay court hearing/postpone judgment delivery (Article 281 of the Code of Criminal Procedure and Article 346 of the Code of Criminal Procedure) • Imposition of (partially) suspended sentence, subject to completion of a care programme proposed during the court hearing (Articles 14a and 14c of the Criminal Code [<i>Wetboek van Strafrecht</i>])
During detention ⁷	<ul style="list-style-type: none"> • Participation in a care programme, where necessary outside the penal institution in institutions intended for this purpose (non-custodial treatment (Article 43 of the Prisons Act [<i>Penitentiaire beginselenwet</i>])) • Participation in an extramural care programme, when conditions for improvement are present (Article 38m-u of the Criminal Code; [<i>Maatregel tot Plaatsing in een Inrichting voor Stelselmatige Daders</i>]) • • Participation in a penitentiary programme (Article 4 of the Prisons Act)⁸
After detention	<ul style="list-style-type: none"> • In preparation: conditional release

Source: Van Ooyen 2004; adaptation by WODC, 2006

Statistics about alternatives to imprisonment are scarce. Registration of judicial clients in addiction care facilities is incomplete; they are not visible as a separate category. Unfortunately, we cannot follow up these clients and we cannot evaluate their subsequent history.

We only know some fragments:

- In 2005, about 2,000 referrals of addicts (alcohol, drugs and other addictions) to extramural care programmes were carried out by addiction probation workers. Most referrals concern placement in outpatient/semi-residential addiction care (37%; slightly more than in 2004) or residential addiction care (35%, less than in 2004).
- In 2005, 135 addicted detainees were placed in treatment under article 43 of the Prisons Act. Almost all of them (94.6%) completed the extramural treatment (figures Addiction Probation Services 2006).

According to a research review, quasi-compulsory treatment for addicts is not implemented to the full extent, and there are no definitive results about its effectiveness in the Netherlands (Van Ooyen-Houben 2004). A study in five European countries (the Netherlands not included) revealed that clients under quasi-compulsion do as well as clients who enter care on a voluntary basis (Van Ooyen-Houben 2004).

⁷ During detention, the detainee may also be placed in a drug-free addiction support unit.

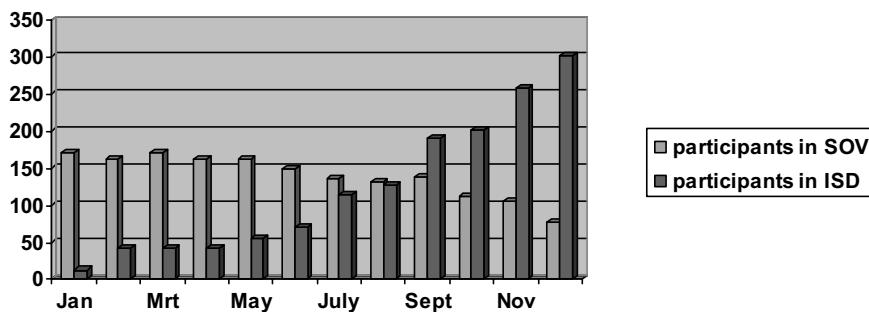
⁸ In the case of a penitentiary programme, detainees are able to make supervised use of external facilities at the end of the detention period, or take part in social activities outside the care programme.

Judicial Placement of Addicts (SOV)

The experiment with the compulsory measure of Judicial Placement of Addicts/Strafrechtelijke Opvang Verslaafden (SOV) started in 2001. It will have ended by 31st of December 2006. In 2004, SOV was incorporated in the new measure of Placement in an Institution for Prolific Offenders (ISD). Since then, SOV is no longer a separate measure, but is still operational as a programme within ISD in Amsterdam, Utrecht, The Hague and Rotterdam.

- Drug users in the SOV follow a stepwise reintegration programme into society. There is a first closed phase (day-and-night in SOV), followed by a second half-open phase (extramural during daytime, in SOV during the night) and a final open extramural phase. Each phase lasts 6 to 9 months.
- In 2005, between 77 and 171 addicts participated monthly in the 'old' compulsory SOV (see figure 9.1). The mean number per month was 140. It is clear that the number of participants in the SOV was declining.
- Those who do not want to participate in the programme are placed in 'unit 4', in which a basic regime is applied; 4 persons were in this unit (in August 2005).
- In January 2005, there were 101 persons in phase 1, 65 in phase 2, and 5 in phase 3. In December 2005, there were 26 persons still in phase 1, 47 in phase 2 and 4 in phase 3.
- In 2003 the first participants left the programme on a regular basis. Since then, there has been a continuous outflow.
- As of 1 January 2005 there were 544 places for ISD available and intake to the ISD started. From 2006 on, 844 places are available.
- The number of participants in ISD is increasing (see figure 9.1). The mean number of participants per month was 122 in ISD in 2005. The capacity is not fully used. In July 2006, 51.9% of the places were occupied (Tollenaar et al. 2006).
- In December 2005, there were 301 participants in the ISD.
- The effect study on SOV is in preparation; it will be ready by the end of 2006 and available in early 2007.

Figure 9.1: Number of participants per month in Judicial Placement of Addicts and in an Institution for Prolific Offenders, 2005



Source: Service for Judicial Facilities/Dienst Justitiële Inrichtingen, 2006.

Aftercare

Aftercare is identified as a very important issue for the successful reintegration of (addicted) offenders, but is also considered a bottleneck (T.K.28684/44; T.K.28684/51). A report of the Netherlands Court of Audit 2004 showed that aftercare is badly organised (T.K.29660/1-2). Many actors should be involved in effective aftercare. In 2005, efforts on aftercare were intensified in the framework of the programme 'Towards a safer society'. Municipalities will be in charge with regard to aftercare. Recent research looked at possible 'best practices' for the approach to prolific offenders and especially for aftercare (T.K.29660/1-2).

New developments

- A system of conditional release will be introduced. Until now, detainees are unconditionally released when they have finished 2/3 of their sentence. This release will be replaced by a *conditional* release (T.K.20415/1). The proposal for the new law is now being discussed in Parliament (T.K.20415/1). This change will enhance the possibilities for imposing conditions for release, in order to improve reintegration under the supervision of the criminal justice system.
- In order to realise a better and smoother transition from the criminal justice system to care facilities, the Ministry of Justice needs better steering options (T.K.24077/125). In January 2007, the Ministry will get its own budget, with which it can 'sell' extramural capacity for detainees with mental health and addiction problems (T.K.20415/1). This construction should improve the availability of extramural treatment capacity for these target groups.
- The most recent Progress Report of the programme 'Towards a safer society' (May 2006) concludes that the focus of the programme will be more on prevention of crime and on combating nuisance and degeneration in neighbourhoods, with special attention for drug dealing, drug tourism and drug use in neighbourhoods (T.K.24077/125).
- Other sectors, such as social welfare services, education services or housing services should become more involved in the programme, as well as local and private parties. Further input of police and the justice system should be more in line with the input of other partners. Performance agreements will be made between partners. The (leading) role of municipalities in the organisation of (after)care will be strengthened.
- End of 2006/beginning of 2007, a policy document on Judicial Addiction care will be available. It is conceived by the Ministry of Health, Welfare and Sports and the Ministry of Justice.
- The developments described above, tackling prolific offenders and drug-related violent crimes, will be further implemented in 2007 (T.K.20415/1).

10 Drug Markets

10.1 Availability and supply

Availability

There is no new information on the availability of drugs. According to the Dutch National School Survey (2004), pupils of 12-18 years perceive cannabis as the most easily available substance (30%), followed by both ecstasy (10%) and cocaine (9%) (Monshouwer et al. 2004). More boys than girls rated these drugs as being easily or very easily available. Moreover, perceived availability strongly increased with age.

As far as the sources are concerned where pupils obtained cannabis, "through friends" is the most frequently reported option (67% of the last month or current users). One in three pupils obtained cannabis in coffee shops (35%). Dealers (12%) and indirect sources (e.g. through other people; 9%) were mentioned by one in ten pupils; 6% reported other sources. Friends are a more important source for girls than for boys while coffee shops are more important for boys than for girls. A surprising number of pupils between 15 and 17 years reported buying cannabis in a coffee shop (22% of the pupils between 12-15 years; 57% for boys of 16-17 and 37% for girls of 16-17) although the age limit for entrance to a coffee shop is 18 years (see also § 2.2). However, it is possible that some pupils indicated this source, while in fact they meant that others had bought cannabis for them in a coffee shop.

Coffee shops

Cannabis can be obtained in coffee shops that adhere to certain criteria (AHOJ-G; see chapter 11). From 1995 onwards, Dutch policy has focused on controlling public nuisance problems associated with coffee shops. As a result of strict enforcement and various administrative and judicial measures, the number of officially tolerated coffee shops has decreased in the past years (table 10.1).

- This trend was most pronounced between 1997 and 1999 (-28%), especially in the smaller towns and Rotterdam.
- Since 1999, the annual reduction in the number of coffee shops is smaller: 4% from 1999 to 2000, 1% from 2000 to 2001, 3% from 2001 to 2002, 4% from 2002 to 2003, 2% from 2003 to 2004, and 1% from 2004 to 2005.
- In 2005, coffee shops were present in 105 municipalities. This is 22% of all municipalities, about the same level as in previous years. Thus, almost eight in ten municipalities do not have any coffee shop.
- The majority of all coffee shops (52%) was located in the largest five cities with more than 200 thousand inhabitants.

Table 10.1: Number of coffee shops in the Netherlands

Number of inhabitants	1997*	1999	2000	2001	2002	2003	2004	2005
< 20,000	±50	14	13	11	12	12	10	10
20-50,000	±170	84	81	86	79	73	77	75
50-100,000	±120	±115	109	112	106	104	101	103
100-200,000	211	190	168	167	174	168	166	161
>200,000 (total)	628	443	442	429	411	394	383	380
- Amsterdam	340	288	283	280	270	258	249	246
- Rotterdam	180	65	63	61	62	62	62	62
- The Hague	87	70	62	55	46	41	40	40
- Utrecht	21	20	18	17	18	18	17	17
- Eindhoven**			16	16	15	15	15	15
Total	1,179	846	813	805	782	754** * *	737	729

* Estimated number of coffee shops. ** Eindhoven exceeded the category of 200,000 inhabitants in 2000. This partly explains the slight decrease in the number of coffee shops in cities with 100-200,000 inhabitants. ***In 2003, 3 coffee shops were not allocated to a municipality. Source: (Bieleman et al. 2006c).

Non-tolerated cannabis markets

As indicated above, not all cannabis users obtain their cannabis in or through officially tolerated coffee shops. According to a study of the University of Amsterdam (Bonger Institute of Criminology), there are two main categories of non-tolerated sales points: 1) fixed sales points, such as house dealers and under-the-counter dealers primarily at clubs or pubs, and 2) mobile sales points, including home delivery after cannabis has been ordered by phone, and sales in the street and at spots where people hang around (street dealers). It has been estimated that in the municipalities with officially tolerated coffee shops, about 70% of the local cannabis sales go *directly* through the coffee shops. In addition, coffee shops are indirect suppliers of cannabis, through friends of users but also through non-tolerated sales points.

Moreover, the higher the coffee shop density, the greater the percentage of local sales that go directly through coffee shops. In municipalities with an average coffee shop density, it is estimated that there are about ten non-tolerated cannabis dealers for each coffee shop. Excluding the big cities and municipalities without coffee shops, this would amount to a few thousand non-tolerated cannabis dealers. Since they jointly account for some 30% of local sales, the investigators conclude that it seems to be mainly small-scale to extremely small-scale trade that is involved.

Supply

In 2006, the following enforcement activities are being implemented in The Netherlands with regard to supply of drugs (see also chapter 1):

- Focussed actions targeting the professional production of 'Dutch-grown weed' are being carried out since 2004 (T.K.24077/125) (see also chapter 1). These actions have a primarily local/regional approach (T.K.23760/14). In municipalities and regions integrated initiatives are being developed (T.K.24077/125); in regions at the borders this takes place in co-operation with German and Belgian authorities. Examples can be found in Maastricht and regions in Limburg and Brabant (T.K.24077/125). A recent study suggests that a median Dutch cannabis nursery contains 259 cannabis plants, has a plant density of 15 plants per m² and 510 Watt of growth lamps per m² (Toonen et al 2006). The authors conclude that for the median Dutch cannabis nurs-

- ery, the predicted yield of female flower buds at the harvestable development stage was 33.7 g/plant or 505 g/m².
- The Netherlands has an important role in the import and transit trafficking of cocaine. Focussed actions have been implemented in recent years and are still being carried out (T.K.28192/1). Cocaine trafficking and the organised crime involved in it are defined in 2005 as a major threat⁹ to Dutch society (T.K.23760/14). Combating cocaine-related organised crime is one of the (six¹⁰) priorities with regard to organised crime set by the Ministers of Justice and of Interior Affairs and approved by the Dutch Parliament. Implementation is carried out in 2005-2010 by National, supraregional and regional Crime Squads and the National Public Prosecutor's Office.
 - Heroin trafficking via the so-called Balkan-route is also defined as a major threat in terms of serious or organised crime. Combating it is one of the (six) priorities in the fight against this crime (T.K.23760/14).
 - The Dutch role in amphetamine is limited to the European market and production seems to show a decrease in 2005 (T.K.23760/14).
 - With regard to the production of ecstasy in laboratories in the Netherlands data suggest that this problem is declining (T.K.23760/14). A comprehensive Action Plan runs from 2001 until the end of 2006 (T.K.23760/14) (see also chapter 1). Between 1999 and 2004, there was a dense and strong network of criminals active in relation to ecstasy production and trafficking; this network was able to withstand law enforcement efforts for a long time; the criminal organisations they formed, however, were not very stable (Spapens 2006). A decline in ecstasy use was signalled in 2004-2005 in clubs, discos and popmusic-shows/'poppodia', whereas there was a levelling-off at large-scale events and in several other (sub)scenes (T.K.23760/14). The concentration of MDMA in tablets was high until 2005, but a decrease was seen in 2005 and the first half of 2006 (T.K.23760/14). Organised crime with regard to synthetic drugs is also a priority area in the fight against organised crime (T.K.23760/14).

New developments

- A first progress report of the combat initiated in 2005 against organised crime was produced in July 2006 (T.K.23760/14). According to this report, the Crime Squads initiated several investigations into drug trafficking in 2005, mostly of a short-term character.
- With regard to heroin, the Netherlands is considered the most important transit country for Southwest-Asian heroin in Europe. Turkish criminal organisations are involved, with increasing multi-ethnic co-operation (T.K.24077/125). Profits made in the Netherlands seem to be increasingly invested in real estate and businesses in the Netherlands.
- In the Progress Report, policy makers express their assumptions for the near future: they do not expect changes in cocaine trafficking in relation to the Netherlands, and they expect a stabilisation of production and supply of heroin and of the heroin markets in Western-Europe; these markets might even shrink. (T.K.23760/14).
- XTC-production appears to be spreading to other countries (Belgium, Australia, Canada, Indonesia); the Netherlands still plays an important role in XTC production (T.K.23760/14). The intensified efforts of law enforcement agencies against XTC production and trafficking will be continued after 2006 (T.K.23760/14).

⁹ Defined as a criminal phenomenon that will have serious consequences for the Netherlands in the next five years (T.K.23760/14: Tweede Kamer der Staten-Generaal vergaderjaar 2000-2001 publicatienummer 23760 nr.14 2001).

¹⁰ 1=terrorism and other extreme forms of ideologically motivated crime; 2=cocaine and heroin trafficking; 3=production and trafficking of synthetic drugs; 4=trafficking and smuggling of humans; 5=trafficking and use of fire arms and explosives; 6=money laundering.

- The National Action Plan against XTC is being evaluated. After a first and an interim assessment in 2003 and 2005 (T.K.23760/14), a last assessment is in its final stage now; publication is planned for early 2007.
- Implementation of intensified enforcement of cannabis production is ongoing (T.K.24077/125). Experimental actions are in being developed, combined with (evaluation) research.
- Not only in the Netherlands, but also in other Western-European countries the home-grown cannabis market is increasing. Decorte and Boekhout van Solinge (T.K.24077/125) describe this development as one from 'Dutch weed' to 'euroweed'.

10.2 Seizures

Figures about seizures in 2005 are reported by the National Police Force (Papenhove et al. 2005). Figures include seizures by police forces, Royal Military Police, Customs and Fiscal Information and Investigation Service (the tax authorities). Out of 25 regional police forces, 21 forces reported on their seizures. Double counting is allowed for as much as possible, but cannot be totally excluded. Registration methods differ per police region, which may lead to unreliability in the information and makes it difficult to interpret the figures. The figures do not permit conclusions about developments and trends. Table 10.2 gives an overview of seizures in 2005. Figures are rounded off. Below, a broad description is given of the situation in 2005 as reported by the National Police Force. According to their report:

- About 900 kilograms of heroin seizures were recorded. Most were seized by the National Crime Squad; of the regional police, those in the region around Amsterdam recorded most seizures. The seizures are mostly a consequence of intelligence and investigation; a lesser amount result from check-point activities.
- More than 14,000 kilograms of cocaine seizures were recorded. Most cocaine was seized at the border, and at ports and airports. The bulk of cocaine seized in 2005 was reported in the port of Rotterdam and not at Schiphol Airport. According to the National Police Force, these figures probably reflect both one big seizure of 4,600 kilograms of cocaine from Venezuela made in the port of Rotterdam in 2005 and the strong 100% control regime on cocaine risk flights at Schiphol Airport. Cocaine often comes in from Venezuela, the Netherlands Antilles, Surinam, Brazil and Peru. Most of the imported cocaine goes from the Netherlands to other European destinations.
- About 1,600 kilograms, 1,000 tablets, 300 litres of amphetamine oil and 200 kilograms of amphetamine paste were seized in the Netherlands. The UK also had high confiscations of amphetamine. According to the National Police Force, the main markets are the UK and Scandinavia, and recently also Poland and the Baltic States.
- 200 kilograms, about 1.9 million tablets, about 10 litres and 200 kilograms of ecstasy paste (MDMA, MDA or MDEA) were seized, and 19 production places for synthetic drugs were dismantled in 2005. Reported seizures of Dutch-related XTC-tablets abroad increased, while in the Netherlands there is a sharp decrease.
- More than 600,000 trips of LSD were seized; this is a considerable amount. There were two larger dismantlings of laboratories in Amsterdam and the Caribbean island of St Martin.
- Methadone is mainly seized as tablets (+ 14,000).
- Several thousand kilograms of cannabis (hashish, marihuana and 'Dutch-grown weed') were seized and more than 1,700.000 cannabis plants and 97,800 cuttings.
- Seizures of GHB - categorised as a soft drug under the Opium Act -, opium, and illegal hallucinogenic mushrooms are limited; no morphine was confiscated.

- Of the precursors BMK and PMK, 300 and 1,000 litres, respectively, were seized. Precursors are subject to enforcement on the basis of the Abuse of Chemical Substances Prevention Act (WVMC).

Table 10.2: Total amount of drugs seized in 2005^I

Type of drug	kilograms	Tablets	Litres	number
Heroin	+ 900			
Cocaine	+ 14,600			
Morphine				
Amphetamine	+ 1,600 (powder)	+ 1,000	+ 300 (oil)	+ 200 kg (paste)
Ecstasy - MDMA/MDA/MDEA	+ 200 (powder) II	+ 1,900,000	+ 10 (oil) + 100	+ 200 kg (paste)
GHB				
LSD		+ 625,000 trips	II	
Methadone	II	+ 13,800		
Opium	II			
Hashish	+ 5,500			
Marihuana	+ 2,000			
'Dutch-grown weed'	+ 2,200			
Cannabis plants				+ 1,700,000
Cannabis-cuttings				+ 97,800
Hallucinogenic mushrooms	II			
BMK			+ 300	
PMK			+ 1,100	

I. figures are rounded. II. <10.

10.3 Price/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 test¹¹ with previously analysed tablets. All other samples are sent to the laboratory for chemical analysis.

Since 2003, DIMS also reports on drug samples confiscated by the security staff in clubs. Where these data are given in this chapter, this will be mentioned explicitly. DIMS is used here to refer to the testing system for consumers at treatment locations.

Ecstasy

Table 10.3 shows the percentage of analysed tablets containing certain substance(s), or combination of substances. These categories are mutually exclusive.

- The total percentage of ecstasy tablets containing only MDMA (or an MDMA-like substance, such as MDEA, MDA) has increased over the years, while the percentage of tablets containing other psychoactive substances has decreased.

¹¹ The Marquis test gives an *indication* of the composition of a sample based on a colour reaction.

- In 2005, 89% of the tablets only contained an MDMA-like substance (MDMA, MDA or MDEA, or a combination of these), which is slightly lower compared to 2003 and 2004 (96% and 95%, respectively).
- The percentage of the tablets containing both an MDMA-like substance and another psychoactive substance was low (3.5%) but slightly higher compared to 2003 and 2004 (2.1 and 1.4%, respectively). Also, the percentage of tablets containing no MDMA-like substance but another psychoactive substances was higher in 2005 (7.2%) compared to 2003 and 2004 (2 and 2.1%, respectively).
- mCPP* and *amphetamines* were two of the most common drugs detected both with and without an MDMA-like substance.
- Table 10.3 shows that the percentage of ecstasy tablets containing only amphetamines strongly decreased between 1997 and 2000 and remained at a low level thereafter. However, in 2005 slight increase was noted again (4%).

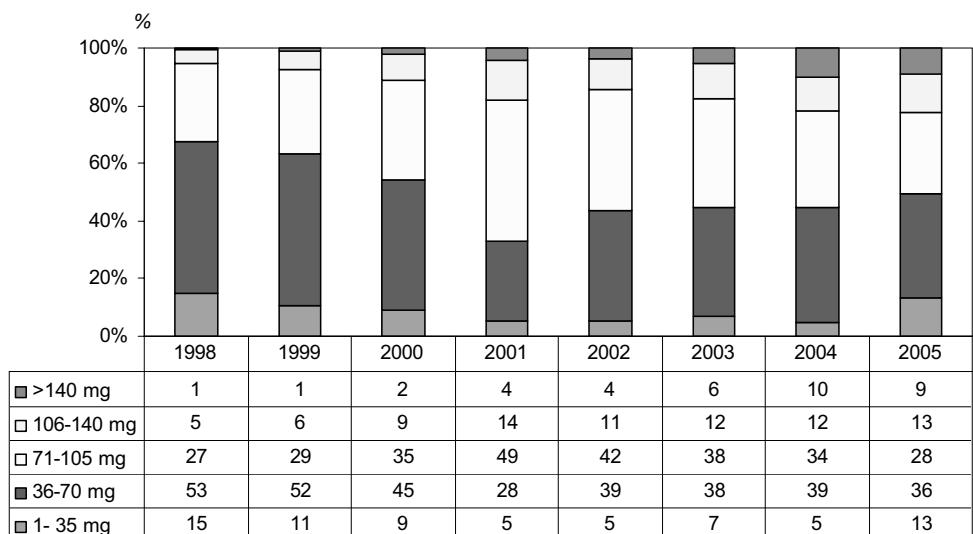
Table 10.3: Content of tablets sold as 'ecstasy' based on laboratory analyses, since 1997

Substances (% of tablets)	1997	1998	1999	2000	2001	2002	2003	2004	2005
MDMA	44.6	75.2	82.0	89.5	91.4	88.7	91.2	89.4	80.0
MDEA	8.2	1.3	1.4	0.9	1.2	0.4	0.5	0.2	0.3
MDA	1.5	2.2	2.8	2.0	0.7	1.4	0.9	1.9	2.9
Combination MDMA, MDA and/or MDEA	2.6	1.6	1.0	3.0	3.0	1.7	2.7	4.6	5.6
Combination MDMA, MDA and/or other psychoactive subst.1	9.0	4.3	3.3	1.2	0.9	3.7	2.1	1.4	3.5
Tablets without MDMA, MDEA and/or MDA:									
Amphetamine2	15.5	6.5	3.9	0.9	1.0	1.7	1.0	0.3	2.9
Methamphetamine						0.3	0.3	0.1	1.1
Other psychoactive substance1	14.7	4.5	2.7	1.6	1.2	1.3	0.7	1.7	3.2
No psychoactive substance	3.9	4.3	2.9	0.8	0.5	0.8	0.8	0.7	0.7
Total number of tablets analysed	2,434	2,713	2,306	2,497	2,402	2,149	2,187	1,985	2,140

Percentage of tablets containing a certain substance, or combination of substances. Categories are mutually exclusive. 1 E.g. 2-CB, MBDM, DOB, PMA, caffeine, mCPP etc. 2 Until 2002, no distinction was made between amphetamine and/or methamphetamine. Source: DIMS, Trimbos Institute.

- Figure 10.1 illustrates that the concentration of MDMA in tablets has always shown a wide variation. Nonetheless, the proportion of high dose (>140 mg) MDMA tablets increased from 1% in 1998 to 10% in 2004. In 2005, this increasing trend seemed to stabilise. In contrast, the percentage of low-dose MDMA tablets rose from 5% in 2004 to 13% in 2005. Findings for the first half of 2006 showed that the percentage of high dose MDMA tablets (>140 mg) had decreased to 2%. The increasing trend in the proportion of low dose tablets was confirmed (15%).
- The average amount of MDMA was slightly lower in 2005 (78 mg) compared to 2004 (82 mg). The highest dose detected was 202 mg. In the first half of 2006, the average dose of MDMA per pill was again lower (68 mg).

Figure 10.1: Percentage of ecstasy tablets by content of MDMA (mg)



Source: DIMS, Trimbos Institute. Only ecstasy tablets tested in the laboratory and containing at least 1 mg MDMA or more have been included.

Amphetamines

In 2005, 552 powder samples analysed in the laboratory were sold as speed. This is more than in previous years (393 in 2003, 490 in 2004). There were no major changes in composition.

- The majority (94%) of the powders contained (at least) amphetamine, with an average concentration of 35%; 2.0% contained methamphetamine, with an average concentration of 45%.
- 3.4% contained only another psychoactive substance and *only* 0.7% contained no psychoactive substance at all.
- The proportion of caffeine-containing powders sold as speed increased from 32% in 2002 to 54% in 2003. In 2004 and 2005 these percentages remained fairly stable (58% and 56%, respectively).

Cocaine

The number of 'cocaine' powder samples analysed by DIMS showed a clear increase in 2005: 640 versus 368 in 2004 and 229 in 2003.

- A large majority (92%) did indeed contain (also) cocaine, with an average concentration of 54%, more or less the same percentages as reported in 2004.
- 6% *only* contained another psychoactive substance and 2% contained no psychoactive substance at all.
- In the past years the number of pharmacologically active adulterants or diluents in cocaine powders has increased. Most commonly detected is *phenacetin*, an analgesic withdrawn from the market because of serious kidney damage in chronic use with high therapeutic doses. The proportion of cocaine samples containing this substance almost doubled from 8.5% in 2002 to 16.2% in 2003, with a further doubling to 35% in 2004 and 37% in 2005. Figures for the first half of 2006 give an even higher proportion (50%). It is not likely that the doses of phenacetin used in snorting cocaine cause any serious health damage, since these doses are much lower than the therapeutic doses

- known to cause kidney damage. However, little is known about the risks of smoking (and heating) crack cocaine contaminated with phenacetin.
- In the first half of 2005, *atropine* (plus cocaine) was detected four times in powders, with a mean percentage of $3.8\% \pm 1.8\%$, all in combination with cocaine. The detection of atropine and hospital emergencies related to a cocaine/atropine intoxication prompted a red alert warning campaign at the end of 2004. This campaign ended in June 2005. In November 2005, new cases of atropine/cocaine intoxication were reported and the warning campaign was reactivated. No atropine was detected in the first half of 2006.

Other substances (based on DIMS and security staff)

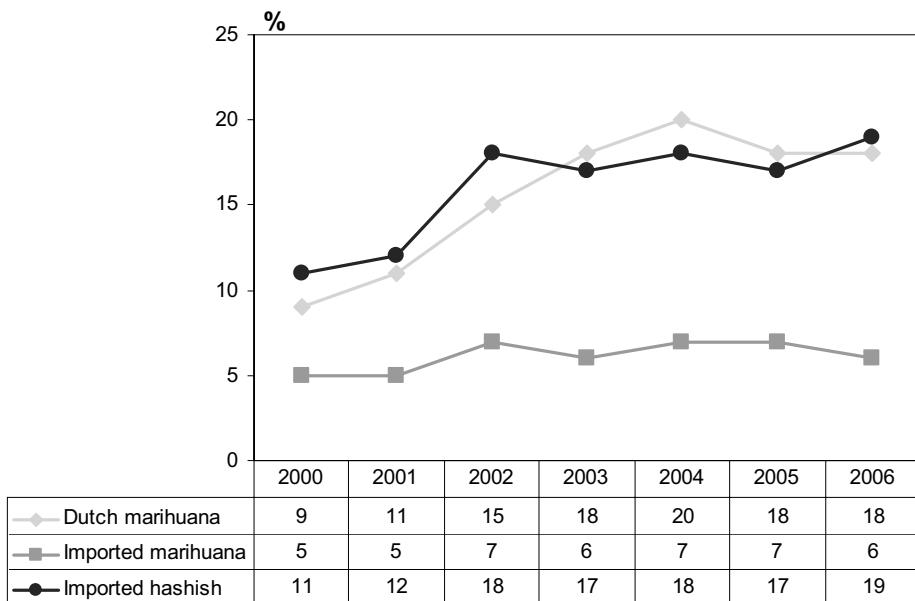
- There is an increase in drug samples containing *mCPP*, mainly tablets. Taking all samples analysed by DIMS together, *mCPP* was detected 92 times in 2005 and 133 times in the first half of 2006. So far, *mCPP* has not been found to be neurotoxic. Moreover, the doses of *mCPP* found by DIMS are comparable with doses used in human challenge studies to test the serotonergic system (Bossong et al. 2005). Yet, for recreational purposes, more than one tablet may be consumed at a time, increasing the risk of a serotonin syndrome, especially when used in combination with alcohol, ecstasy or antidepressant drugs. Consumers of tablets containing *mCPP* report negative side effects, including nausea and hallucinations.
- Samples containing *GHB* and/or *GBL* are still being detected by DIMS: 118 times during 2005 and 64 during the first half of 2006.
- *Ketamine* was detected in 17 samples in 2005 and in 23 samples during the first half of 2006.

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 10.2 shows the average concentration of THC in Dutch marihuana ('nederwiet'), imported marihuana and imported hashish.

- Dutch marihuana contains on average over two times more THC than imported varieties.
- Between 2000 and 2004, the percentage of THC in Dutch marihuana increased progressively each year. However, from 2004 to 2005, a significant decrease was found and in 2006 the average THC concentration (17.5%) remained at the same level as in 2005 (17.7%). Thus, the potency of Dutch marihuana seems to be stabilising.
- The THC concentration in imported marihuana did not change significantly over the years.
- For imported hashish an increase was found from 2001 to 2002 but THC levels remained fairly stable afterwards. THC concentrations are highest in Dutch home grown hashish ('nederhashish'), but the number of samples is low ($n=19$), which contributes to the variability of results across years. The average THC concentration was 33% in 2006, and varied between 33 and 26% in the previous four years. Dutch hashish has not been very popular although there are some indications that the availability of this cannabis variant has increased recently (Niesink et al., 2006).

Figure 10.2: Average THC percentage in cannabis products



Source: THC-monitor, Trimbos Institute (Niesink et al. 2005).

Improved and highly professional cultivation methods probably explain the increasing trend up to 2004 in the THC content of home grown cannabis products.

These high THC levels are not exclusively found in the Netherlands. Relatively high and increasing THC concentrations have also been found in particular kinds of American cannabis ('sinsemilla'). Moreover, a recent study in Italy also showed an increase in THC potency, mainly in home grown marihuana. Since 2000, the proportion of marihuana containing relatively high THC concentrations (13-20%) strongly increased in that country (Licata et al. 2005).

For research into the health effects of high potency cannabis, see § 6.4.

Prices

No major or systematic changes have been noted in the retail prices of cannabis over the past years (see table 10.4).

- According to the THC-monitor, the average retail price of a gram of imported marihuana is consistently lower compared to other cannabis products.
- In 2006, correlations between THC content and prices were significant, although variations were strong (Niesink et al. 2006).

Table 10.4: Average retail price per gram of cannabis products (in €)

	2000	2001	2002	2003	2004	2005	2006
Dutch marihuana	5.8	5.9	6.3	6.5	6.0	6.2	6.2
Imported marihuana	3.9	3.8	4.2	4.3	4.9	4.1	4.4
Imported hashish	6.3	6.4	7.1	7.6	6.6	6.8	7.3

Source: THC-monitor, Trimbos Institute (Niesink et al. 2005).

No trend data are available on the prices of other drugs.

Part B: Selected Issues

11 Drug use and related problems among very young people (<15 years)

In the Netherlands, cannabis is the illegal substance that is used most often among people younger than 15 years. Ecstasy, cocaine, amphetamines, and heroin are used less often. Between 1988 and 2003 the use of cannabis peaked in 1996 and then levelled off. In contrast, the use and problem use of alcohol has increased among young people. Cannabis is also the illegal substance for which young people demand treatment most often, although treatment demand in general is rare in this group. Those at risk for drug abuse include in particular pupils at a lower school level, problem youth, homeless youth and young people suffering from mental disorders such as Attention Deficit Hyperactivity Disorder (ADHD). Cannabis users are at risk for externalising problems such as delinquent and aggressive behaviour. A variety of laws and control measures are in effect in the Netherlands to prevent the use of substances at a young age. Specific prevention programs target the young people that are especially at risk. Three organisations for addiction care and treatment offer specialised inpatient treatment for young people.

11.1 Drug use and problematic drug use among very young people (<15 years old)

In the Netherlands, drug use among school-goers is monitored by the Dutch National School Survey (Peilstationsonderzoek). For boys and girls aged 12 through 14 years, table 11.1 gives the lifetime and last month prevalence rates that were found in 2003 for the use of cannabis, ecstasy, cocaine, amphetamines, and heroin.

Table 11.1: Lifetime prevalence (LTP) and last month prevalence (LMP) of the use of cannabis, ecstasy, cocaine, amphetamines, and heroin among pupils aged 12, 13, and 14 years in 2003

Substance		Boys			Girls			Total		
		12 y	13 y	14 y	12 y	13 y	14 y	12 y	13 y	14 y
Cannabis	LTP	2.5%	8.2%	21.0%	1.7%	5.3%	16.4%	2.1%	6.8%	18.8%
	LMP	0.9%	3.7%	10.0%	0.5%	2.0%	8.8%	0.7%	2.9%	9.4%
Ecstasy	LTP	1.4%	1.0%	1.8%	0.6%	0.4%	2.0%	1.0%	0.7%	1.9%
	LMP	0.4%	0.4%	0.5%	0.1%	0.3%	0.5%	0.3%	0.4%	0.5%
Cocaine	LTP	0.5%	1.2%	2.3%	0.4%	0.9%	1.6%	0.5%	1.1%	2.0%
	LMP	0.2%	0.5%	0.8%	0%	0.2%	0.8%	0.1%	0.4%	0.8%
Amphetamines	LTP	0.7%	1.5%	2.0%	1.1%	1.1%	1.8%	0.9%	1.3%	1.9%
	LMP	0.1%	0.5%	0.3%	0.8%	0.4%	0.7%	0.5%	0.5%	0.5%
Heroin	LTP	0.9%	0.8%	1.2%	0.6%	0.5%	0.8%	0.8%	0.6%	1.0%
	LMP	0.3%	0.3%	0.5%	0.5%	0.1%	0.3%	0.4%	0.2%	0.4%

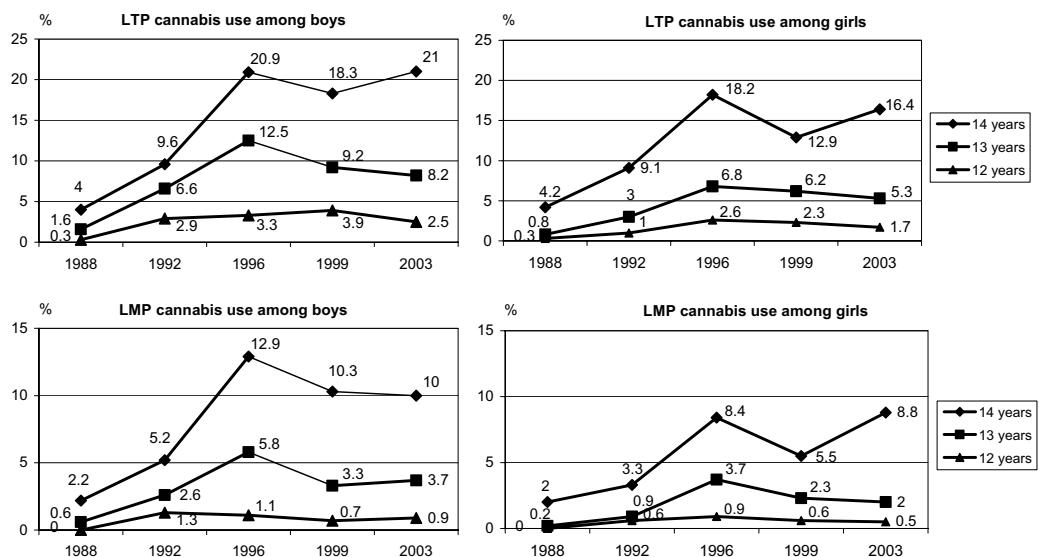
Percentage of pupils that ever used a substance (LTP) and percentage of pupils that used a substance during the last month (LMP). Source: Dutch National School Survey (Monshouwer et al. 2004).

Clearly, cannabis is the illegal substance that is used most often among younger pupils. Except for the lifetime prevalence of ecstasy, the last month prevalence of ampheta-

mines, and the prevalence rates for heroin, the dominating trend is that the use of substances increases with age.

The prevalence rates of the hard drugs ecstasy, cocaine, amphetamines, and heroin by pupils younger than 15 years appeared too low to warrant a trend analysis. However, for the use of cannabis a trend analysis could be made. Figure 11.1 shows the trend from 1988 to 2003 in the lifetime and last month prevalence rates of cannabis use among boys and girls of 12, 13, and 14 years. Between 1988 and 2003 the use of cannabis peaked in 1996 and then levelled off. The sharpest increase in 1996 was found among the 14 year old pupils, boys as well as girls.

Figure 11.1: Life-time prevalence (LTP, above) and last-month prevalence (LMP, below) of the use of cannabis from 1988 to 2003 among boys (left) and girls (right) aged 12, 13, and 14 years



Percentage of pupils that ever used cannabis (LTP) and percentage of pupils that used cannabis during the last month (LMP). Source: Dutch National School Survey (Monshouwer et al. 2004).

Alcohol

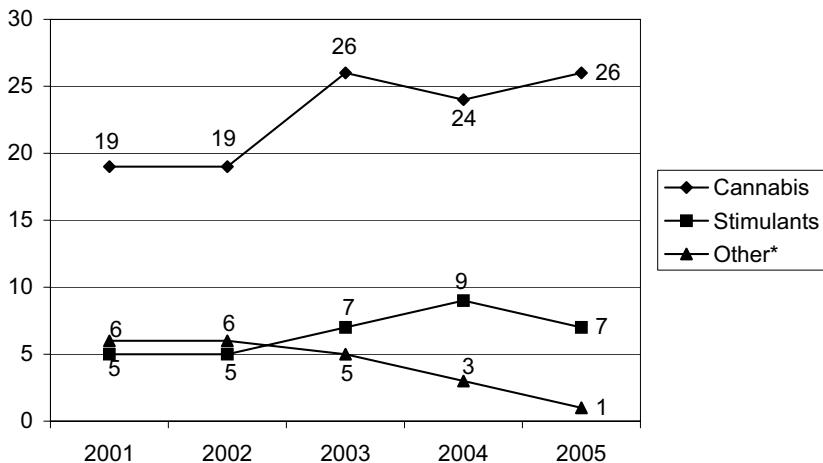
Apart from the use of illegal drugs, the Dutch National School Survey also monitors the use of alcohol. It was found that particularly among young girls aged 12 to 14 years, the ever use and current use of alcohol had increased. In 1999, 57% of the girls aged 12-14 years had ever drunk alcohol, and in 2003 this had risen to 78%. In 1999, 32% of this group had drunk alcohol in the past month, and in 2003 this had risen to 44% (Monshouwer et al. 2004).

11.2 Treatment Demand Indicator

The National Alcohol and Drugs Information System (LADIS) registers the treatment demand at the organisations for addiction care and treatment. According to the EM-

CDDA's Treatment Demand Indicator (TDI), the treatment demand is defined as the number of new enrolments during a registration year. Figure 11.2 gives the number of treatment demands from 2001 to 2005 for people younger than 15 years of age for cannabis, stimulants, and other illegal substances.

Figure 11.2: Treatment demand at organisations for addiction care and treatment by clients younger than 15 years, from 2001 to 2005



Number of registrations ("all treatments" according to TDI-protocol). *Other illegal substances: hallucinogens, cocaine, and opiates. Source: National Alcohol and Drugs Information System (LADIS), IVZ.

All in all, only 34 young people were recorded in LADIS in 2005. As expected, cannabis is the illegal drug for which young people most often seek treatment, followed by stimulants like amphetamines and ecstasy. For other illegal drugs like hallucinogens, cocaine, and opiates, people younger than 15 years of age rarely demand treatment. This is in accordance with cannabis and stimulants (ecstasy and amphetamines taken together) being the illegal drugs that are most often being used by these young people.

There clearly is a group of young people with drug problems that do not apply for help at the centres for addiction care. These young people are probably seen at a higher rate by the youth welfare services and at the correctional institutions for youth, although national figures are lacking.

11.3 Profile of main groups of young people at risk of drug use and of problematic drug use

Certain groups of young people have been identified as being especially at risk for problematic drug use. At risk in particular are pupils at a lower school level and youth with multiple psychosocial problems.

Low school level

In the Netherlands there are three main levels of secondary education. At the lower level there are the practical VMBO-p and the theoretical VMBO-t; the HAVO offers secondary education at the middle level, and the VWO offers secondary education at the higher level. With regard to cannabis, the Dutch National School Survey in 2003 found little or no differences between the school levels in the percentage of ever users and current users and in the frequency of use in the past month. However, the percentage of school-goers aged 12 through 16 years that smoked three or more joints on average per incident was 30% at the lower VMBO level compared to only 8% at the higher VWO level (Monshouwer et al. 2004). Under the age of 15 years, too few pupils smoked three or more joints per occasion to find statistically significant differences. Nonetheless, among the pupils aged 14 years, a difference was found in the expected direction in that at the lower VMBO-p level a percentage was found of 31% compared to only 5% at the higher VWO level. All in all, these figures suggest that pupils at a lower school level are at a higher risk for drug abuse.

Problem youth

In Amsterdam, the "Antenna" organisation monitors the use of drugs among outgoing adolescents and young adults (Nabben et al. 2006). Field workers that participate in the Antenna panel are in close contact with the neighbourhood youth in East and South Amsterdam. The largest percentage of the neighbourhood youth is made up of ethnic Moroccan youths, some of whom have police records. The Antenna signals that the "excessive use of cannabis further weakens their already vulnerable status in the labour market". The Antenna also monitors the problem youth represented by homeless adolescents, and young hard-drug users. Many of the young hard-drug users began smoking crack cocaine at an early age. Romanian youths are the largest group among male prostitutes.

For the Dutch province of Gelderland, the use of drugs among adolescents and young adults is monitored by the "Tendens" organisation (Roomer et al. 2006b). Similar to the Amsterdam Antenna, the Tendens in Gelderland collects qualitative data by means of a panel. With regard to the socially excluded youngsters, in the period 2005-2006 the Tendens monitored in particular young people that hang around and problem youth. For the youngsters that hang around the panel noticed that, compared to the average user, they more often use larger numbers of ecstasy pills and larger amounts of amphetamines. Problem youngsters are even more socially excluded than youngsters that 'only' hang around. For the problem youngsters, crack and heroin were found to be the most important drugs.

Young drifters represent a specific risk group. For the observation year 1999 it was estimated that there were 3,500 homeless young people in the Netherlands, equivalent to 2.4 out of every 1,000 young people aged 15 through 22 years (Korf et al. 1999). Interviews revealed that the young drifters had left home at an average age of just under 15, and had begun drifting some two and half years later, at just over 17 years of age. Compared to ten years ago, the young people were not leaving their homes of origin at an earlier age.

In 2004, research on homeless youth in the province of Flevoland indicated that about 14% of the young homeless were under 15 years of age (Korf et al. 2004b). In general, substance use in these groups is high, but age-specific data are not available (see also § 8.1).

At the Radboud University Nijmegen, Wiers has stipulated a model to explain and conduct further empirical research into the development of addictive behaviours among the young (Wiers 2006). Human behaviour results on the one hand from automatic emotional processes and on the other hand emanates from controlled processes. Using drugs or alcohol can derail the user into addictive behaviour due to the fact that addictive substances not only sensitize the automatic processes, but also attack the controlled processes. Young people are more vulnerable to attacks on their controlled processes, probably due to the fact that the respective parts of their brains are still undergoing development. The more a substance is used, the more it becomes automatic to use it, and the less one remains motivated to stop using it, which completes the circle of addiction.

11.4 Correlates and consequences of substance use among very young people

The Netherlands participated in the 2001 World Health Organization's cross-national study Health Behaviour in School-Aged Children (*HBSC*). The *HBSC*-study offered data to examine the relationship between the use of cannabis and mental health problems and between weekly alcohol use and mental health problems. For secondary school students aged 12 to 16 years, data were available for 5,730 students with regard to alcohol use (Verdurmen et al. 2005a) and for 5,551 students regarding cannabis use (Monshouwer et al. 2006).

Mental health problems were measured by the Youth Self-Report (*YSR*) and were scored on a total problem score, on three subscales for internalizing problems indicated by "withdrawn behaviour", "somatic complaints", and "anxious/depressed problems"; two subscales for externalizing problems indicated by "delinquent behaviour" and "aggressive behaviour"; and three other subscales defined as "social problems", "thought problems", and "attention problems".

With regard to alcohol, it was found on the one hand that weekly drinking among 12- to 16-year-old adolescents was associated with less withdrawn behaviour, but on the other hand it was found that weekly drinking was associated with more externalizing problems, delinquent as well as aggressive behaviour (Verdurmen et al. 2005a).

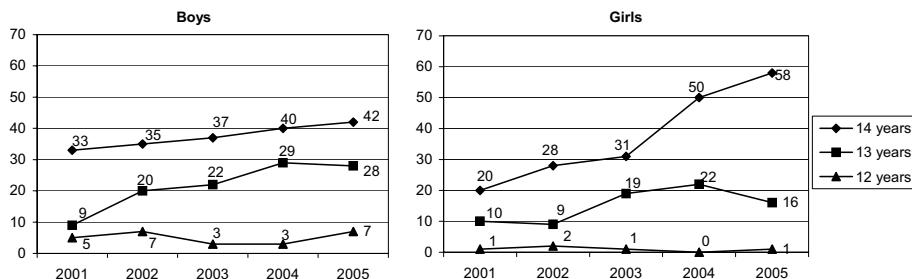
With regard to cannabis, it was found that cannabis use was not related to the internalising problems, i.e. withdrawn behaviour, somatic complaints, and depression. However, cannabis use was linked to externalising problems, viz., delinquent and aggressive behaviour (Monshouwer et al. 2006). These findings were confirmed by another study based on data of the 2003 Dutch National School Survey (Verdurmen et al. 2005b). This study applied the Strengths and Difficulties Questionnaire (*SDQ*). It was found that cannabis use was associated with having a low quality relationship with the parents. In a low quality relationship there is difficulty in communicating with the parents, and the parents have little knowledge of the adolescent's friends and about how they spend their leisure time. The parents also have little knowledge about their school problems indicated by truancy and poor results. The strength of these associations became more marked with increasing frequency of the use of cannabis.

As indicated in § 11.1, there is an increasing trend towards starting drinking at a young age. Because of risky drinking young people may end up in the hospital to be treated for injuries or for alcohol intoxication. For the period 2000-2004 the Injury Information System (*LIS*) of the Consumer Safety Association estimated that about 13,000 people annu-

ally receive emergency treatment in a hospital for injury caused by an accident, violence or self-mutilation incident involving alcohol. It was estimated that 12% of them are aged 19 years or younger, which means 1,560 minors annually. At regional level it has been found that during the past years the number of young people who were hospitalised for alcohol intoxication has increased. The hospital "Reinier de Graaf Gasthuis", which is located in the city of Delft, has monitored the admissions for alcohol intoxications among adolescents up to 17 years of age (Van Kleef et al. 2006). From 2001 to 2005 a marked increase was found, with 2, 3, 4, 5, and 8 admissions respectively. Among the total of 22 cases, there was a majority of 14 girls (64%). The average age of the cases was 15 years. During the past years, the patients became younger and the level of alcohol in the blood increased.

The trend that was found at local level of an increasing number of young people being admitted to the hospital for alcohol intoxication, is confirmed at national level with figures from the Dutch Hospital Registration (*LMR*). Figure 11.3 gives the number of one-day and clinical admissions for alcohol as a primary or a secondary diagnosis for boys and girls aged 12, 13, and 14 years from 2001 to 2005.

Figure 11.3: One-day and clinical admissions to general hospitals for alcohol as a primary or a secondary diagnosis for boys (left) and girls (right) aged 12, 13, and 14 years from 2001 to 2005



Source: LMR, Prismant.

In particular between 2003 and 2004/2005 there is a marked increase in the number of alcohol-related hospital admissions among 14-year old girls.

Drinking alcohol at a young age can have a variety of adverse effects like cognitive impairment and brain damage. Girls seem to be more sensitive to the adverse effects of alcohol on the brain than boys (Verdurmen et al. 2006).

11.5 Policy and legal development

As a result of "Operation Youth" the Dutch cabinet on the seventh of June 2006 arrived at a set of major decisions with regard to general youth policy (Ministerie van Volksgezondheid 2006b), (Ministerie van Volksgezondheid 2006d), (Ministerie van Volksgezondheid 2006c), (Ministerie van Volksgezondheid 2006e). The new youth policy will come into effect no sooner than 2008 and will target young people with mild problems that can still be handled by means of outpatient treatment. Whether or not a child will become in need of professional help, for each child an electronic file will be kept that will contain all the information required to offer co-ordinated youth health care. The municipalities will

be given a greater role, in that in the near future young people can apply directly for outpatient treatment at a Municipal Centre for Youth and the Family. To tackle the co-ordination problems that have arisen in the past, the different organisations and professionals involved in helping the young will then have to work closely together in these municipal centres.

In the Netherlands, a variety of laws and control measures are in effect to prevent the use of alcohol, tobacco, and cannabis at a young age.

Alcohol

With regard to alcohol, it is laid down by the Licensing and Catering Act (*VWA*) that mild alcoholic drinks like beer and wine are not to be purchased under the age of 16, whereas strong alcoholic drinks (spirits) are not to be bought under the age of 18. The Food and Non-Food Authority is in charge of monitoring compliance with the Licensing and Catering Act. Among youngsters aged 13 up to and including 17 years of age, Bureau INTRAVAL monitors to what extent the law is being complied with (Bieleman et al. 2006b). Between 2001 and 2005 the percentage of underage youngsters that tried to purchase mild alcoholic beverages in a catering establishment, decreased from 38% to 22%. For strong drinks, this percentage decreased from 58% to 48%. However, when actually trying to buy the forbidden drinks, the percentage of underage youngsters that does manage to break the law remained stable at 94% for the mild drinks, and only decreased slightly from 97% to 93% for the strong drinks. The increased compliance with the Licensing and Catering Act did not result from the sellers becoming more obedient to the law. Apparently, it resulted from a reduction in the proportion of underage young people trying to break the law.

The Licensing and Catering Act protects underage youngsters against buying alcoholic beverages themselves. However, in the Netherlands the main alcohol problem for young people is not that they buy the beverages themselves, but that they often receive them from their parents and are allowed to drink within the family environment. Therefore, by the end of 2006 and the beginning of 2007, the Trimbos Institute and the Netherlands Institute for Health Promotion and Disease Prevention (*NIGZ*) will start a large mass media campaign to inform parents about the risks of drinking alcohol at too young an age (Trimbos-instituut 2006b). The aim of the campaign will be to spread the message "not to drink under the age of 16". Parents will be given advice and support about how to prevent their children from starting to drink under this critical age. The campaign will be embedded in the existing Dutch infrastructure around prevention campaigns, including the network for the large-scale prevention project "The healthy school and drugs". There are indications that alcohol-and-drugs education at schools should start at a younger age. In the provincial town of Zaanstad in the province of North-Holland, for example, youngsters out socialising from 14 years onwards that were interviewed about their substance use reported that this education at school had come too late. While already using alcohol and drugs, they had not yet been informed about the risks (Jans 2006).

Tobacco

With regard to selling tobacco, since 2003 the amended Tobacco Act stipulates that tobacco is not to be sold to a young person under 16 years of age, unless their age can be verified by indent card. As in the case of the Licensing and Catering Act, the Food and Non-Food Authority (*VWA*), is in charge of monitoring compliance with the modified Tobacco Act, whereas Bureau INTRAVAL monitors to what extent the law is being complied

with among youngsters aged 13 up to and including 15 years of age (Bieleman et al. 2006a). The percentage of underage youngsters that had once in a while bought tobacco steadily decreased from 26% in 1999, to 14% in 2001, and again from 9% in 2003 to 6% in 2005. However, just as was the case with buying alcohol, the percentage of underage youngsters that, when trying it, actually did manage to buy tobacco remained stable at 90% or above at different kinds of sales outlets. Again, the increased compliance with the law did not come from the sellers but from the youngsters themselves.

Cannabis

The Dutch Opium Act prohibits the possession of cannabis. Nonetheless, for the purposes of harm reduction, an official policy of tolerance is in place for selling cannabis in coffee shops under strictly controlled conditions. A main purpose of this policy is to separate the markets for soft and hard drugs. This is intended in particular to prevent young people from starting to use hard drugs in the event they already started to use the soft drug cannabis. The Public Prosecution Service (OM) has issued the conditions under which selling cannabis in coffee shops may be tolerated. These are the so-called "AHOJ-G criteria" according to which it is successively prohibited "to make any advertisement for the sale of cannabis; to sell, use or possess hard drugs in the coffee shop; to cause any form of public nuisance in and about the coffee shop; to admit persons below the age of 18 to the coffee shop"; and "to sell more than 5 grams of cannabis to a person per day" (Bieleman et al. 2006c). In particular, the age criterion of 18 years is meant to prevent the use of cannabis at a young age. Within the restrictions of the "AHOJ-G criteria", the Dutch municipalities are allowed to set out their own local coffee shop policies. With regard to the number of tolerated coffee shops, these local policies range from a zero policy to a maximum policy. Bureau INTRAVEL not only monitors the number of coffee shops that are officially tolerated in each municipality. It also monitors the way in which the municipalities enforce their local policy towards the coffee shops. For the observation year 2005, it was found that in 99% of the municipalities that allowed one or more coffee shops, agreements were indeed made about the responsibility, the methods and the frequency of enforcing the municipal coffee shop policy. Actions were consequently taken 36 times against violating the age criterion and seven times against violating the ban on hard drugs (Bieleman et al. 2006c).

Glue-sniffing, that is using inhalants, is far from popular in the Netherlands. Among fifteen and sixteen year old secondary school pupils, the European School Survey Project on Alcohol and Other Drugs (ESPAD) monitors the use of illegal and legal substances, among which the use of inhalants (Hibell et al. 2004). In the Netherlands in 2003, only 6% of the pupils had ever tried inhalants during their lifetime, only 3% during the last year, and only 1% during the last month. No specific regulations or control measures are into force to restrict the selling of inhalants to young people. However, public information about glue-sniffing targeted at young people is rather frank. Young people are strongly warned that glue-sniffing is extremely risky, poisonous, very unhealthy, and in a matter of a few sessions can cause death by the so-called "sudden sniffing death syndrome".

11.6 Prevention and Treatment

General prevention for young people

"The healthy school and drugs" (De gezonde school en genotmiddelen) is the most well-known drug prevention program that targets pupils aged 12 through 18 years. This gen-

eral prevention program consists of lectures, parent meetings, and offers a school policy to deal with drug use among pupils. From January through March 2006, the youth television channel "the Box" broadcast the television series "Find Out!", which was made by young people themselves to discuss sensitive issues like sexuality, drugs, and alcohol. The complete series has now been put on an educational double-DVD. In this way the series can be applied within the school setting to further support and deepen the prevention program "The healthy school and drugs" (Trimbos-instituut 2006a).

The past years have seen a trend in which the organisations for addiction care have started working closely together with organisations for mental health care. In many regions, both organisations have merged as a result of which addiction care has become an integral part of mental health care and addiction problems are now regarded in terms of mental health problems. Especially with regard to young people, this trend towards integrating addiction care and mental health care has had the great advantage that addiction problems are now generally treated within a wider context. During intake for an addiction problem, it is now becoming general practice in the Netherlands to also screen young people for related mental health problems and social problems. It is estimated, for example, that at the moment about half of the intakes include the systematic screening of clients for comorbid Attention Deficit Hyperactivity Disorder (ADHD). Moreover, in many regions it is common practice for addiction care to work closely together with youth welfare work, social work, and the police.

Prevention for the young

Although they mainly focus on adults, the organisations for (outpatient) addiction care also target young people as well as their parents by means of special prevention programmes (Verdurmen et al. 2003), (LSP 2005). Engaging not only the young drug users in treatment, but also their parents, counts as a key element for an effective adolescent substance abuse treatment program (Mark et al. 2006). Young people are reached directly by means of appealing websites that offer information about drugs and self tests for problem use. Moreover, the young people are offered the possibility to exchange e-mail messages with prevention workers. The effectiveness of these easily accessible interventions is not yet known, but it is probable that interactive websites will be more effective than just giving one-way messages. Adequate Internet sites for very young people still require considerable testing (Rigter 2006a). Some organisations for addiction care also offer peer education to spread knowledge about alcohol and drugs among young people. The Jellinek organisation for addiction care in Amsterdam works together with "Unity", an organization that carries out peer education at large dance events. The Unity-workers come in contact with their party-going peers by asking them to fill in a quiz about alcohol and drugs. Discussing the answers to this quiz, the Unity workers create the opportunity to give further information about the risks involved in using alcohol and drugs. Besides Amsterdam, this Unity-approach is now being applied in the cities of The Hague and Rotterdam and in the province of Brabant (Noijen et al. 2006).

Some organisations for addiction care offer consultation for youth workers that are confronted with drug use among their young clients. In co-operation with organisations for addiction care, The Trimbos Institute has developed the training "Open and Alert" (Open en Alert). In this training youth workers practice their skills in making the use of alcohol and drugs a subject of discussion. The training also gives guidelines about how to set up an institutional policy to deal with substance use in an inpatient institution for youth care (Van Leeuwen et al. 2006).

At information groups within their own region, parents worrying that their children might be experimenting with drugs, can receive advice about how to make this sensitive issue a subject of discussion and how to set limits to their children. When attending the course called "Alcohol, drugs and parenting skills", parents of children aged 12 to 18 years, in five two-hour sessions, exchange experiences with their drug-using children. In this course the parents are trained in parenting skills, and receive education about the characteristics of adolescents and their motivation to use drugs. The "Information course for parents of adolescents" consists of two meetings for the parents, parallel to 8 to 10 discussion meetings for their children. By means of giving information and education, exchanging experiences, and giving support, the parents are supported in their parenting skills to better deal with their children's use of alcohol and drugs. The "Parent Group" specifically targets parents whose children are actually using drugs. During four to five meetings with a maximum of eight participants, these concerned parents are trained in how to cope with the actual drug use.

Other special information groups are organized for young people whose parents have addiction problems. These information groups support these young people and aim to prevent them from developing addiction problems themselves. For children of addicted parents, the organisation for addiction care "TACTUS" has started a special summer camp (TACTUS 2006). Starting in the summer of 2006, young people aged 8 through 23 years were given this new opportunity to have a time-out from their addicted parents, to meet with companions, to have a good time, to receive advice about how to deal with their feelings and were to receive further help. GGZ Drenthe is the organisation for mental health care in the province of Drenthe. For young people aged 12 up to 23 years that have to deal with a family member suffering from a mental disorder or an addiction, this organisation set up a special website in June 2006 (GGZ Drenthe 2006). While remaining anonymous when surfing this website, the young people will find support by receiving information about mental disorders and addiction, chatting with companions and counselors, and obtaining on-line answers to their questions.

Treatment

The Parnassia Group, Verslavingszorg Noord Nederland (Care of Addicts Northern Netherlands, VNN) and the Jellinek are the three main organisations that offer specialized inpatient treatment for young people. The Parnassia Group has established the "Mistral", a community with intensive inpatient treatment for young people between 12 and 20 years who want to recover from addiction to drugs or alcohol. Treatment at the Mistral aims at abstinence and passes through the three phases of first an introduction and observation, next treatment, and finally resocialisation. Semi-residential care can be part of the treatment package. The Mistral has a broad focus on relapse prevention, parents and family, social skills training, sports, work, and school. Apart from staying abstinent, the treatment at Mistral targets improvement and stabilisation of the health situation, taking responsibility for one's own behaviour, coping with psychological and emotional problems, maintaining, recovering or improving contact with parents, continuation of work, school or professional education, creating independence in self care, improving leisure activities, and relapse prevention (Parnassia 2005). Mistral is starting to work with Multi-Dimensional Family Therapy (*MDFT*), a therapeutic method that has been proven effective in the United States of America. Similar to the "Mistral", VNN has established the "Bauhuus" for young people between 13 and 18 years. The Bauhuus also offers a broadly focussed inpatient treatment program. During this program young addicts live for more than six months in a therapeutic community. Young people that suffer from an addiction problem but are not yet in treatment, can watch an appealing movie on the website to

see whether the Bauhuus may be the answer to their addiction problem (Care of Addicts Northern Netherlands, VNN 2006). The Mistral and the Bauhuus welcome young people from the whole of the Netherlands.

For some young people, the use of drugs is interwoven with a developmental problem linked to separating themselves psychologically from their parents. Young people between 18 and 30 years with substance use problems who want to become more independent from their parents, can apply to inpatient family therapy at the Jellinek.

The Parnassia Group, Care of Addicts Northern Netherlands, VNN, and the Jellinek currently offer a total of 25 treatment slots for young people. Given the urgency of substance use problems among young people, this is quite a limited treatment offer. It is planned to increase this limited number of slots to a total of 70 slots in the near future. Estimates show that an increase of 240 places will be needed to cover the future need for addiction care among this group of young people for the whole of the Netherlands (De Beer 2006).

Homeless youth

In the past ten years specific prevention and treatment projects have been developed for the homeless youth (Korf et al. 1999). When leaving a full-time care or institutional environment, there is a critical danger for a young person of becoming homeless. By means of an Independent Living Training course young people are prevented from becoming homeless through improved social skills and a tighter social network. A Homeless Support Team ("Thuislozen Team" or "T-Team") offers outpatient treatment, in the first instance to meet the primary needs, and then for the wider social needs. Finally, there are special social boarding houses, some of which are specialized in giving shelter to young people that have a drug problem. In most of these shelters small groups of young people were found under the age of 16 years.

ADHD and behavioural problems

Suffering from Attention Deficit Hyperactivity Disorder (ADHD) at a young age counts as a risk factor for developing substance use disorders later in life. During the past years, the mass media in the Netherlands have regularly paid attention to the problem of children as well as adults suffering from ADHD. The awareness of this disorder has accordingly become ready knowledge shared by the general public. Interested parties can receive further information from the "ADHD Foundation" (ADHD Stichting). Parents of children suffering from ADHD and related disorders have set up the association "Balans". This association searches for the best treatment and education for their children and tries to find ways to strengthen their children's social position. Adults suffering from ADHD and related disorders have formed the association "Impuls".

When giving information to the general public, the self-help organisations as a rule issue the warning that an official diagnosis of ADHD cannot be made by lay-persons but only by well-trained professionals. This policy is in agreement with the advice of the Health Council of the Netherlands (*Gezondheidsraad*) that a diagnosis of ADHD only be made by professionals that have the required medical as well as psychosocial expertise (Health Council of the Netherlands 2000). For children and youngsters evidence-based multidisciplinary guidelines have been established to officially diagnose and treat ADHD (Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling in de GGZ 2005). For outpatient and inpatient addiction care, a specialized protocol has been established to screen, diag-

nose and treat ADHD (Van de Glind et al. 2004). If a young person suffers from ADHD as well as an addiction problem, further diagnosis about the severity of the problems will be needed to find out whether treatment should be offered primarily by the mental health care or the addiction care services. However, in the case of a dual diagnosis, mental health care and addiction care will have to work closely together on the same case (T.K.Aanhansel/2120).

Even without a firm diagnosis of ADHD, a child who shows another kind of problem behaviour at an early age is nonetheless at risk for problem drug use later in life. The prevention program "Match" targets children between the ages of 4 and 14 years who show risk factors like early and persistent antisocial behaviour, alienation, and rebelliousness (Ince et al. 2004). This program matches a child at risk to a volunteer adult who has been trained to support the child during leisure activities within a relationship based on mutual trust. To participate in "Match" it is required that the child at risk is not yet involved in an environment of heavy drug use.

12 Cocaine and crack - situation and responses

Cocaine is a unique drug in that it has a high level of popularity both among trendsetting, socially successful party-goers (sniffing the HCL- preparation), and among marginalised problem drug users (smoking crack). Uncontrolled, obsessive use occurs more frequently in the crack group, although the treatment demand figures show that HCL-cocaine users are also progressively running into more problems. While there are no specific treatment options for cocaine addiction available, several experiments are running, of which the incentive-based (vouchers) Community Reinforcement Approach (CRA) seems the most promising. For marginalised crack users, several outreach programmes are in place, with the aim of reducing harm. Cocaine is smuggled into the Netherlands both for transit purposes and for the supply of the local market. Many activities are in place to prevent cocaine trafficking.

12.1 Prevalence, pattern and trends in cocaine and crack use

Cocaine use in the general population

In 1997, 2001 and 2005, a nationwide study was conducted to estimate the prevalence of substance use in the general population (see also § 2.1). It is of note that population surveys mainly reach individuals who are well integrated in society. This implies that marginalised cocaine users, mainly crack users, are underrepresented in this type of study.

- On a national level, the lifetime prevalence of cocaine use in 2005, measured with the CAPI (computer assisted personal interview) technique, was 3.4% in the population of 15-64 years (Rodenburg et al. 2007). This is a significant increase since 1997 and 2001, in which lifetime prevalence of cocaine use was found to be 2.6% and 2.1%, respectively. However, last year prevalence rates remained at the same level (0.7% in 1997; 0.7% in 2001; 0.6% in 2005).
- The incidence rates, or the percentage of first users in the past year, had dropped between 1997 and 2005, which could signal a break in the growing popularity of this drug.
- In 2005, lifetime cocaine use was more than 3 times higher in men than women (5.2% versus 1.6%). Age was also found to be a factor determining lifetime cocaine use. The highest prevalence of ever use was found in individuals aged 25-44 years (5.3% versus 2.8% for the 15-24 year age group and 1.6% for the age group of 45-64 years). A breakdown by age and gender was not possible for last year prevalence rates due to the low number of cases per cell ($n < 50$).

Cocaine use among school students

The Netherlands has a rather unique dataset that gives insight into the development of drug use among pupils aged 10 -18 years. This Dutch National School Survey is a repeated cross-sectional study and has been held in 1988, 1992, 1996, 1999 and 2003 (Monshouwer et al. 2004).

- In 2003, lifetime prevalence of cocaine use was 2.2%, which is a shared second place with amphetamine, following ecstasy (lifetime prevalence 2.9%).
- Cocaine use is more common among boys than girls (e.g. lifetime prevalence 2.8 % and 1.6%, respectively which is a significant difference).
- Under the age of 14 years students scarcely have any hard drug experience, while there is a clear increase at age 15 years, rising further for boys, but not for girls with increasing age (table 12.1).

Table 12.1: Lifetime and last month prevalence (%) of cocaine use by boys and girls aged 12-18 years

	Lifetime boys	Lifetime girls	Last month boys	Last month girls
12 years	0.5 (0 - 1.1)	0.4 (0 - 0.9)	0.2 (0 - 0.6)	0 (0 - 0)
13 years	1.2 (0.2 - 2.1)	0.9 (0 - 1.7)	0.5 (0.1 - 1.0)	0.2 (0 - 0.5)
14 years	2.3 (1.0 - 3.6)	1.6 (0.6 - 2.7)	0.8 (0.1 - 1.5)	0.8 (0.3 - 1.2)
15 years	4.0 (2.2 - 5.8)	2.4 (1.1 - 3.6)	2.3 (1.2 - 3.5)	1.4 (0.7 - 2.0)
16 years	5.2 (2.9 - 7.5)	2.8 (0.9 - 4.7)	1.8 (0.2 - 3.3)	1.2 (0.3 - 2.1)
17-18 years	7.5 (3.9 - 11.2)	1.6 (0 - 3.5)	2.4 (0.4 - 4.5)	1.7 (0.5 - 3.0)

95% confidence interval in brackets.

Note that until age 16 years the Dutch have compulsory education and until this age the data are representative of the Dutch youth; the age group 17-18 years includes mainly pupils with higher levels of education, due to a lengthier curriculum for these school types. Source: Dutch National School Survey (Monshouwer et al. 2004)

- Apart from differences in cocaine use explained by gender, school level and ethnicity are also found to play a role. In general, the higher the level of education, the lower the prevalence of cocaine use (e.g., lifetime prevalence is 2.6% at the lowest level of secondary school (vmbo-p) compared to 1.3% at the highest level (vwo)).
- With regard to ethnicity, low lifetime prevalence was found in children with a Turkish (lifetime prevalence 1.8%) or Dutch (2.1%) background, while children of Moroccan descent had the highest lifetime prevalence (4.0%). The lifetime prevalence of cocaine peaked in 1996 (as did lifetime prevalence of the other hard drugs) followed by a slight drop and levelling-off (Monshouwer et al. 2004).

Prevalence and patterns of use among specific populations

Recreational cocaine users

Sniffing the HCL preparation of cocaine has gained popularity in many recreational settings and different subgroups (see also § 2.3). According to several observational data, cocaine use increased until recently, although this increase may have halted by now, alongside a general moderation of drug use (with the exception of alcohol) (Nabben et al. 2005; Nabben et al. 2006). Note that prevalence data are only available at a local level; are hampered by many factors associated with research in this scene; and are not representative of the whole country.

Quantitative data of different recreational settings are available from the Antenna monitor, a drugs monitor in Amsterdam in operation since 1994.

- Cocaine use in trendy clubs was examined in 1995, 1998 and 2003. In the 2003 survey, 39% of the 404 participating clubgoers reported lifetime use of cocaine, and 14% last month use, which is a decrease compared with a peak observed 5 years before (table 12.2). Prevalence of ever and recent cocaine use was higher among men, increased with age, and was significantly more often reported by inhabitants of Amsterdam, compared with clubgoers from elsewhere (Korf et al. 2004a). Qualitative data from key informants suggest a moderation of substance use, including cocaine, in the past years (see § 2.3).
- In 2000 and 2005, the Antenna monitor studied the prevalence of cocaine use among pub-goers (Nabben 2006). Pub-goers did not use recreational drugs on a large scale, although they used more than their age-group peers in the Amsterdam general population. In 2005, lifetime use and last month use of HCL-cocaine were reported by 26% and 8% of 408 respondents respectively, which was not significantly different com-

pared with 5 years before (table 12.3). The most important determinant for cocaine use was setting, where gay bars and trendy cafés were found to have high prevalences of cocaine use among their clients, compared to student and mainstream bars, where prevalence was low. It is of note that the 2005 sample is not representative of all pub-goers in Amsterdam, as pubs and café-bars were chosen that target a younger clientele.

Table 12.2: Trends in lifetime and last month prevalence of cocaine use in trendy clubs in Amsterdam

	lifetime use (%)	last month use (%)
1995	33.3	14.3
1998	47.8	23.5
2003	39.4	13.7

Source: Antenne 2003 (Korf et al. 2004a).

Table 12.3: Trends in lifetime and last month prevalence of cocaine use in pubs in Amsterdam

	lifetime use (%)	last month use (%)
2000	25.7	8.9
2005	26.0	7.8

Source: Antenne 2005 (Nabben et al. 2006).

A recent field study in Eindhoven (an urban area in the south of the Netherlands) among 394 respondents aged 14-34 years who were on a night out in a major nightlife area found a slightly lower lifetime use of 20% (of which 70% in males) (Van 't Klooster et al. 2006). Most respondents reported their first experience with cocaine between 14 and 18 years of age. Note that the first experience reported with tobacco, alcohol or cannabis, is between 10 and 14 years of age (Monshouwer et al. 2004). One percent of the respondents reported daily use of cocaine, which may be considered high-risk use. Cocaine was combined with other substances by 65% of respondents, with the highest preference for alcohol. It is remarkable that the drug test facility provided by the local drug addiction service is only rarely used. It has been hypothesised that many cocaine users are unaware of the existence of the test facility and that, despite recent warnings on cocaine polluted with atropine, most users consider cocaine to be a rather pure drug (Van 't Klooster et al. 2006).

In recreational settings, the combination of cocaine with alcohol has a high popularity (Nabben et al. 2005; Nabben et al. 2006). Nowadays, using this combination is more common than the consumption of cocaine alone. The sobering effect of cocaine is often used to attenuate the alcoholic high and vice versa. However, it is also observed that the combination has many negative side effects: it induces aggression and reckless behaviour and there are indications that first aid visits are more common when cocaine is combined with alcohol (Nabben et al. 2005). Also, recreational cocaine users may lose control of their pattern of consumption, and an increasing number of cocaine powder users applied for treatment in the past years (see also *treatment demand*).

Marginalised cocaine users

Nationwide prevalence figures on problematic cocaine use are not available. The most recent prevalence estimation of (overall) problematic drug use dates back to 2001 and is

around 33,500 hard drug users. However, this figure relates mainly to opiate users, who often combine opiates with crack. Crack-only users and cocaine sniffers are not included in this number. In one suburb of Amsterdam (Amsterdam-Zuidoost) it has been estimated that of the total group of problematic hard drug users, 15% only uses cocaine (i.e., no opiates) (Van Brussel et al. 2005).

Field studies suggest that marginalised cocaine users in the Netherlands can be divided into two groups. The first group includes the "classic opiate users", individuals originally using opiates, who started the consumption of crack later in their life and which in many cases took over as the primary problem. In Amsterdam, 90% of crack smokers reported heroin use; conversely, 90% of the participants in the Amsterdam medically supplied heroin project smoked or injected cocaine (Van Brussel et al. 2005). The second group is known as the "new" cocaine users group, consuming cocaine, especially crack, without taking heroin; generally this last group includes the younger drug users. In a field study among 201 hard drug users in Rotterdam in 2003, 96% of the respondents consumed cocaine in the last month, but only 17% (almost exclusively cocaine users) restricted use to a single substance, i.e. crack (Van der Poel et al. 2003).

Compared with cocaine powder users, those using crack are more often of non-Dutch ethnicity (Van Brussel et al. 2005). The duration of problematic drug use may be long-standing: in a drug monitoring survey in 2003 in Rotterdam among 182 problematic drug users, the mean duration of cocaine use was 16 years (Lempens et al. 2004). The method of consumption in the Rotterdam field study among problematic cocaine users was reaching 90% for basing crack cocaine, while 38% also consumed cocaine by "chasing the dragon". In 14% the drug was injected, and 10% also sniffed HCL cocaine (Van der Poel et al. 2003).

12.2 Problems related to cocaine and crack use

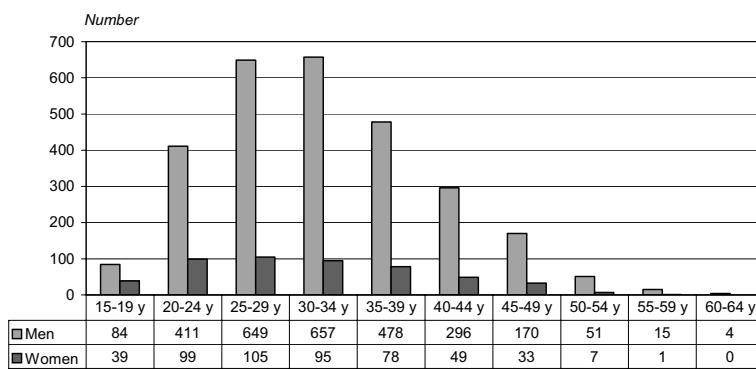
Treatment demand

During the past decade, a strong increase has been observed in the number of clients with cocaine use problems in addiction care (Mol et al. 2002). This trend is best illustrated by using the total number of clients recorded in the national information system on addiction care (LADIS), without incorporating the TDI selection (see § 4.2). From 1994 to 2004, the total number of clients entering outpatient treatment for cocaine abuse as a primary problem increased considerably: from 2,468 to 9,999. However, most recent data show that, nationwide, the strong increase seems to be levelling off. In 2005, 9,824 primary cocaine clients were recorded (Ouwéhand et al. 2006). The number of clients in addiction care with a secondary cocaine problem increased, from 6,020 in 1994 to 8,426 in 2001 remaining at more or less the same level until 2005 (Ouwéhand et al. 2005). The increase in primary cocaine clients has been strongest in the eastern and northern provinces of the Netherlands (these parts are known as trend followers in their pattern of drug consumption). Currently, one third of the total number (30,100) of the drug clients recorded in LADIS is related to (primary or secondary) cocaine problems.

Using the TDI criteria for selecting clients, 35% of all drug clients in treatment had a primary cocaine problem. Of these clients, 15% are female and more than three quarters are in the age range 20-39 years (see figure 12.1). Clients in treatment for cocaine problems are developing the characteristics of a chronically ill group, as more than half of the clients have been treated before for the same problem: in 2005, 43% of males received

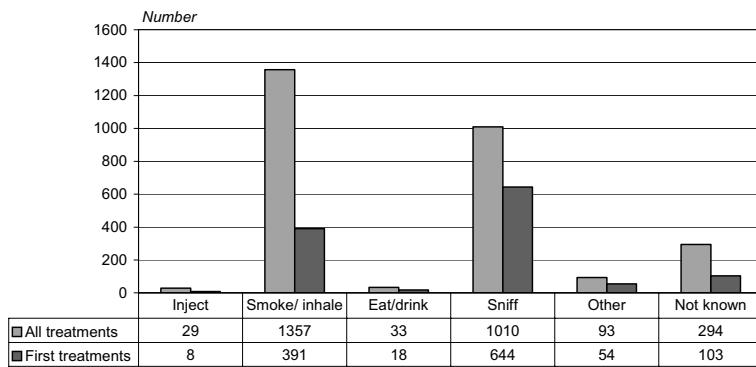
a first treatment for problematic cocaine use (defined as not having been treated for this problem since 1994); in females, 52% have not been previously treated (data derived from LADIS). This trend is less obvious for cocaine powder users: in this group, first treatments were given in 63% of clients, compared with 29% first treatments in clients smoking or inhaling cocaine (LADIS, see figure 12.2). Administration of cocaine by injecting is rarely seen in treatment settings, reflecting the limited popularity of this route among cocaine users in general. Also from the treatment data it can be appreciated that problematic cocaine use is often accompanied by problematic use of other substances, with alcohol on top (LADIS, see figure 12.3).

Figure 12.1 Number of male and female primary cocaine clients in all treatment settings in 2005, by age category



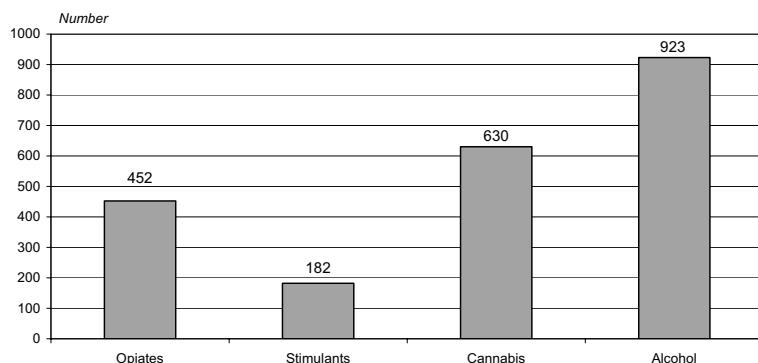
Source: LADIS, IVZ.

Figure 12.2 Method of cocaine administration in primary cocaine clients in 2005, by first/ repeated treatment



Source: LADIS, IVZ.

Figure 12.3 Number of primary cocaine clients in treatment with a secondary problem for opiates, stimulants, cannabis or alcohol use, in 2005



Source: LADIS, IVZ.

Based on LADIS data, five different profiles of cocaine clients have been distinguished (Mol et al. 2002). They are listed below from best socially integrated to the least integrated:

- *Cocaine sniffers*, who have no other substance use problems. On average, this group consists of Dutch natives, relatively well educated and in employment, with a partner and their own housing. Their pattern of cocaine consumption is not (yet) daily and problems are relatively short-lived. They have scarcely been in contact with either the police or psychiatric services. Their treatment is shortest of all profiles and focuses on intake rather than on crisis interventions.
- *Combination users of cocaine powder and cannabis*. Compared with the cocaine sniffers, this group is younger, more often single, less well educated and lower paid. Half of them use drugs daily. Treatment focuses upon psycho-social help; this group is most often seen by a psychologist.
- *Combination users of cocaine and alcohol*. This group has the lowest percentage of women, is highly educated, has considerable work experience and consists of individuals who have children and their own housing. Half of them use daily and they have long-standing problems. Their treatment needs are diverse.
- *Crack users*, who may also consume other drugs, but not opiates. A considerable number of individuals in this group is of non-Dutch ethnic origin. They are often referred to addiction care by the justice system. More than half uses daily, and preferred combinations are crack with cannabis or alcohol. Treatment is focused upon crisis interventions and rehabilitation. Many of the treatment contacts are with a social worker.
- *Combination users of cocaine and heroin*. By far the biggest group in number. Compared with the other four profiles, the mean age in this group is highest and it has the highest percentage of females. Many are single, unemployed, with little employment experience, homeless or staying in day and night shelters. A relatively high percentage is not native Dutch. A majority uses daily, and for many the route of administration is by injecting. For eight out of ten of these clients, problems last for over 5 years. The contacts with treatment organisations are medically oriented and treatment takes on average twice as long as for the other groups, although the intensity of the contacts is low.

Table 12.4: Characteristics of treatment-seeking cocaine users in 2004

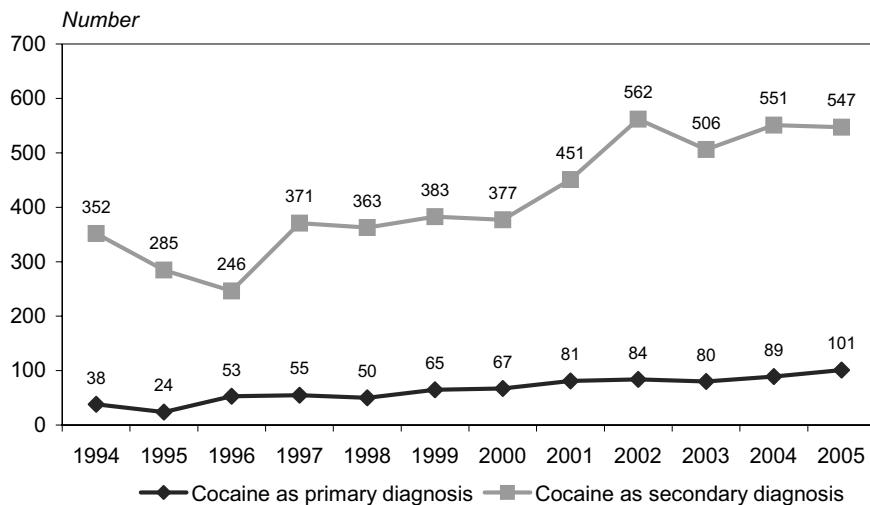
	Cocaine powder	Cocaine powder and cannabis	Cocaine powder and alcohol	Crack	Cocaine and heroin
Number	1507	1443	3475	4588	8753
% increase since 2000	73	90	73	56	8
% aged < 29 years	50	65	34	35	10
% with duration of problems >5 years	30	50	64	59	83

Source: LADIS, IVZ.

Hospital admissions

In general hospitals, cocaine abuse and cocaine dependence do not often constitute the primary diagnosis at admission (see figure 12.4). In 2005, 101 admissions were for cocaine abuse or dependence as the primary diagnosis. Rather, these disorders are recorded as secondary diagnoses, next to injuries (fractures, wounds, concussion of the brain); respiratory disorders; poisonings; diseases of the cardiovascular system; misuse and dependence on alcohol or other drugs; and psychoses (LMR).

Figure 12.4 Number of hospital admissions in the Netherlands related to cocaine abuse and dependence, since 1994



Source: LMR, Prismant.

Other problems related to cocaine use

Excessive use of cocaine may lead to a diversity of problems. Some of these problems are typically associated with the pharmacological properties of cocaine or the way of administration (e.g., medical problems); others are associated with a certain lifestyle resulting from marginalisation coinciding with problematic use (such as housing conditions and financial situation).

There are no comprehensive data available on the prevalence of *medical problems* in Dutch cocaine users. In the marginalised population, chronic conditions may exist, such as COPD (chronic obstructive pulmonary disease, which may be associated with the inhalation of small particles that are released during crack smoking and directly inhaled in the lungs), psychotic disorders (pre-existing or drug-induced), atherosclerotic disorders, infectious diseases (often resulting from injecting either heroin or cocaine, or sexually transmitted), and a general exhaustion related to lifestyle (Van Brussel et al. 2005). Apart from chronic diseases, cocaine users are also at increased risk for acute health problems, such as injuries and violence (see also *hospital admissions and § 6.4*). Crack users are not often specifically targeted in medical programs, unless they also participate in methadone or heroin programs.

The number of acute cocaine deaths increased between 1996 and 2002 and slightly decreased since then (see § 6.1). With regard to body packing, data from Amsterdam indicate a reduction in the number of deaths due to breaking of the pellets, from 8 in 2002, to 3 in 2003 and 5 in 2004 (Van Brussel et al. 2005). From 2003-2005, 25 cases were referred to the Netherlands Forensic Institute who died after swallowing cocaine pellets (personal communication).

There is considerable diversity in the housing situation among marginalised hard drug users who also consume cocaine/crack.

- In a Rotterdam field study, the percentage of longer-term (defined as more than 2 years) homeless problematic drug users (almost all (co-)used cocaine) doubled from 22 to 44 between 1998 and 2003 (Van der Poel et al. 2003). However, recent homelessness (less than 7 months) remained constant at around 30%. This indicates that those drug users that were homeless in the early years of this study, stayed homeless, while the "new" homeless were able to find some form of accommodation or another.
- In some parts of the country, street homelessness among crack users (as well as other problematic drug users) seems to be less prominent in recent years, due to an expansion of facilities such as centres for the homeless and projects for half-way housing. For example, in the south of Limburg (referred to as "Parkstad Limburg", the geographical area around Heerlen and Kerkrade), sleeping in the open air has become a rare phenomenon, and only occurs by one's own free will, or when sanctions have been applied such that use of a shelter is temporarily forbidden (Van der Dam et al. 2006b).
- The term "residential homeless" has been applied to drug users who for years, and more or less permanently, "live" in shelters for the homeless, sometimes with a brief interruption as they are imprisoned (Van der Dam et al. 2006b). Also "social boarding houses" and projects for half-way housing are shared under this term. Often the residential homeless are older, use less drugs, are more often chronically ill and have spent less time in detention than drug users without stable housing conditions (Van Brussel et al. 2005).

Financial debts are a substantial problem. In Rotterdam, 90% of 201 respondents in a survey among hard drug users (96% of these were using cocaine) reported a mean debt of six thousand euro (ranging from €10 to €75,000). At the top of the list were debts for public transportation and penalties from the police, followed by debts to health care insurance, the bank, social security, dealers, family or friends, tax department and rent in arrears (Van der Poel et al. 2003).

For female crack users, prostitution is often a main source of income. Drug using prostitutes often accept more risky techniques and are therefore at increased risk for the transmission of infectious diseases (see also chapter 6.2) (De Boer et al. 2006). Also the working conditions are bad. The municipal health services of several cities have special programs targeting male and female drug using prostitutes, though generally these do not focus specifically on cocaine users.

In the process leading to marginalisation among hard drug users, several factors are involved. As a result, relationships move towards the drugs scene and away from regular social settings such as work, health care and family. In several populations of older problematic drug users in the Netherlands, it was found that particularly the use of crack functioned as the catalyst in this process (Coumans et al. 2001). Also for younger drug users it has been concluded that the use of crack and the associated loss of control accelerates the process towards marginalisation (Van der Poel et al. 2004). Crack use in young people is associated with a diminishing social network, that restricts itself to other drug users, school drop-out, illegal activities (theft, prostitution, swallowing of cocaine pellets), and imprisonment (Van der Poel et al. 2004). Addiction care specifically targeting this group of young cocaine users is only sporadically available. It is of note that young problematic cocaine users are often raised in a "problematic home situation". Since there is no substitution treatment for cocaine available as yet, addiction care providers are limited in their possibilities to access this group of problematic cocaine users.

12.3 Responses and interventions

Treatment options for cocaine users

The increase in prevalence of (problematic) cocaine use in Dutch society, accompanied by the resulting health and social problems, has prompted research into effective treatment modalities. Both in the previous and in the upcoming addiction research programme of ZonMW, studies focusing on treatment for cocaine problems have been prioritised.

A recent update of a Dutch systematic review of the scientific literature on effectiveness of treatment in addiction care reveals that there is still no medication for cocaine addiction and that acupuncture does not help (Van Gageldonk et al, in press). Also, no specific preventive activities are available for cocaine or crack abuse in Dutch addiction care (Wittenberg 2005). Current activities are largely restricted to experiments.

- The scientific literature shows that an incentive-based (vouchers) Community Reinforcement Approach (*CRA*) to cocaine addiction has been proven effective. The broad spectrum approach of *CRA* includes urinalyses, support for contacts with family, friends and others, enhancing self-image, leisure activities, education and work (Van Gageldonk et al., in press).
- Reducing cocaine use may also be successfully encouraged with other behavioural therapies. In some studies favourable results were maintained for more than half a year after treatment (Van Gageldonk et al., in press).
- In the Netherlands, an experiment with *CRA* for cocaine users (with or without heroin addiction and in or out of methadone maintenance treatment) is in its last phase. It tests the applicability and effectiveness of the Community Reinforcement Approach combined with voucher-incentives in the Dutch situation.

Harm reduction for crack users

The effectiveness of an outreach treatment programme (*OTP*) for chronic high risk crack abusers was the subject of a dissertation (Henskens 2004). This programme was evaluated on its adherence to the assertive community treatment (*ACT*) model.

- The main target was to find grounded theory for evidence based practice for this particular population. Data were collected via interviews with *OTP* staff members, registration of treatment attendance, and randomly selected clinical records.
- Overall, treatment integrity (i.e. realising in practice what was planned) was moderate. There were clearly defined inclusion criteria, phased enrolment of clients, small case loads, high capacity of staffing, nurses and substance abuse professionals in staff, and high intensity of service. Psychiatric and rehabilitation services were not provided, nor were dual disorder treatments. Components with low fidelity were regular meetings, high frequency of contacts, and cooperation with support network.
- The author concludes that, based on the *ACT* model, future multidisciplinary treatments for chronic crack abusers should include the following aspects: a psychiatrist and vocational specialist on the team, a staged addiction care treatment (stepped care), and a long-term perspective.
- In addition, three modifications of the *ACT* model are proposed in order to better serve chronic crack abusers: a stronger focus on the client-therapist relationship, a substantial decrease in the number of face-to-face contacts required for treatment (from four to one weekly contact), implementation of on-the-spot incentives to keep the target group involved. These modifications still need further validation.

Law enforcement activities

Supply reduction: the Law and Guidelines for investigation and prosecution

Cocaine is considered a drug with an unacceptable risk for public health (hard drug). It is placed on list I of the Opium Act. The kind of sanctions for offences depends upon the kind of offence. A distinction is made between smuggling, trafficking/ preparation/ production etc. and possession. Use of cocaine is not a criminal offence. According to the actual Public Prosecutor's guidelines, cocaine (and other hard drug)-related offences should be prosecuted as follows (T.K.24077/125):

- Possession of a small amount of the drug for own use (a maximum of 0.5 grams) is tolerated; there is no prosecution.
- Drugs are always confiscated.
- Possession of bigger amounts of the drug than for own use, smuggling of cocaine into or out of the Netherlands, trafficking and any form of preparation or production of the drug is the subject of focussed investigation. Offenders will be placed in custody and pre-trial detention will be demanded.
- If there is organised crime involved, the prosecution should focus on art. 140 WvSr.
- Special attention should be given to confiscation of illegal profits.

Table 12.5 gives an overview of the maximum penalties that can be demanded by the prosecutor and imposed by the judge.

Table 12.5: Maximum penalties for cocaine/crack and other hard drug offences

Offence	Maximum penalty
Smuggling, preparation/ production/ transport/ delivery/ selling of drugs or possession of more than 0.5 grams	Six months of imprisonment or a fine of € 11,250
Intentional possession of more than 0.5 grams	Four years imprisonment or a fine of € 45,000
Intentional trafficking/preparation/production	Eight years imprisonment or a fine of € 45,000
Intentional smuggling of more than 0.5 grams	Twelve years imprisonment or a fine of € 45,000
Organised crime involved	Six years imprisonment or a fine of € 45,000

Source: Opium Act

Law enforcement activities specifically targeting cocaine

In 2001 and 2002, increasing amounts of cocaine were smuggled into the Netherlands via Schiphol Airport in Amsterdam. The drug was transported by couriers, most of whom swallowed pellets of cocaine. The problem grew to an unacceptable extent. In January 2002, the government initiated the 'Plan to combat drug trafficking at Schiphol Airport', which was intended to intensify the existing two-pronged approach to combating cocaine smuggling from the Netherlands Antilles, Aruba and Surinam (T.K.24077/125). The first prong comprises measures to prevent drug transports to the Netherlands, while the second is directed at ensuring that intercepted drugs are confiscated and followed by judicial intervention against couriers.

The Plan of Action is still being carried out. Table 12.6 gives an overview of the special measures to prevent cocaine smuggling into the Netherlands in 2006, according to the 6th and 7th Progress Reports (T.K.24077/125).

Table 12.6: Activities to prevent cocaine trafficking according to the 'Plan to combat drug trafficking at Schiphol Airport', situation in September 2006

Measures:
<ul style="list-style-type: none"> • A special law court with prison facilities is operational at the airport (since early 2003). Also, a specific Schiphol District Public Prosecutor's Office is established, dealing exclusively with Schiphol Airport cases (mostly drug offences). A prison with a capacity for over 200 prisoners was built; it contains facilities to process so-called 'drug mules'. • A body scan (medical x-ray) is used at the airport to determine immediately whether a passenger has swallowed drugs or not (since June 2004). Suspects are exonerated when they show that they did not swallow cocaine pellets. • 100% controls of all direct flightsI from the Netherlands Antilles, Aruba, Surinam, Venezuela and the Dominican Republic are completely effectuated (since the beginning of 2005). • A substance-oriented approach has been applied until January 1st 2006: first-offending couriers who carry a small amount of drugs were not prosecuted, but the drug was confiscated and they were registered on a 'black list', to prevent them from entering the Netherlands again during a period of three years. By agreement, several airlines have committed themselves to refusing passengers who are placed on the 'black list'. The criterion for non-prosecution in terms of amount of drugs has been lowered over the course of time. Since January 2006 the normal offenders-oriented approach is applied again, which means that every person who is apprehended at the airport with any amount of drugs in his possession, will be prosecuted. • Information about cocaine traffickers, caught in the Netherlands (whose name is on the 'black list'), is given to other European countries linked to the Schengen Information System, the US, Australia, Surinam, the Netherlands Antilles and Aruba.

- The Netherlands collaborates with the Netherlands Antilles, Surinam and (partly) Aruba. The Dutch Royal Military Police and Customs support local teams in the Netherlands Antilles. A special commission is developing interventions to prevent imports and exports of cocaine from South America by sea.
- Within the EU the Netherlands co-operates with most other member states, but mainly Spain, Portugal, France, the UK, Ireland, Germany and Belgium (including monitoring deliveries).
- Preventive measures (controls, radar, body scans) are implemented in departing countries. Police cooperation with Spain, France and the UK on controls at sea is being implemented.
- In the Netherlands Antilles, passports of drug couriers are withheld temporarily as a condition for non-prosecution.
- Because it was anticipated that, as a consequence of the 100% controls at Schiphol Airport, trafficking might shift to the harbour of Rotterdam, more customs staff were deployed there.
- Investigation efforts into the criminal organisations involved has been intensified.

¹ Flights which are assumed to carry large amounts of drugs via Schiphol to Europe (T.K.24077/125). Source: 6th and 7th Progress Report (T.K.24077/125) and Directory-General of Judicial Administration and Law Enforcement (Rechtspleging & Rechtshandhaving), Ministry of Justice.

In 2005, cocaine trafficking and the organised crime involved in it was defined as a major threat¹² to Dutch society (T.K.23760/14). Combating cocaine-related organised crime is one of the (six)¹³ priorities with regard to organised crime set by the Ministers of Justice and of Interior Affairs and approved by the Dutch Parliament. Implementation is being carried out in 2005-2010 by National, supraregional and regional Crime Squads and the National Public Prosecutor's Office.

Outcomes

In the last Progress Reports (T.K.24077/125), it was concluded that

- In freight and luggage almost no large amounts of drugs are found anymore.
- There are fewer couriers caught, but there is still a continuous small inflow of drug couriers, mainly swallowers with relatively small amounts of drugs.
- In 2004, the 100% controls resulted in a mean of 290 couriers who were arrested each month; in 2005 there was a mean of 175 per month; and in 2006 80 (until week 29).
- Both the 100% controls and the overseas controls at the Antillean airports have proved to be more long-term measures than they were meant to be at the start. Practice shows that, if these measures are stopped, the influx of couriers will increase again (T.K.24077/125). Samplewise controls might be possible in the future for other flights than the four risk destinations.
- Statistics from law enforcement agencies show that from 1-1-2005 until mid-2006, 16 cases of organised crime were investigated at Schiphol Airport, 32 suspects were arrested in these cases and more than 300 kilograms of cocaine were confiscated.

¹² Defined as a criminal phenomenon that will have serious consequences for the Netherlands in the next five years (T.K.23760/14: Tweede Kamer der Staten-Generaal vergaderjaar 2000-2001 publicatienummer 23760 nr.14 2001).

¹³ 1=terrorism and other extreme forms of ideologically motivated crime; 2=cocaine and heroin trafficking; 3=production and trafficking of synthetic drugs; 4=trafficking and smuggling of humans; 5=trafficking and use of fire arms and explosives; 6=money laundering.

- According to data from the National Police Force (T.K.24077/125) more than 14,000 kilograms of cocaine seizures were recorded in 2005.¹⁴ Most cocaine was seized at the border, at the sea- and airports. Most seizures of cocaine in 2005 were reported in the port of Rotterdam and not at Schiphol Airport. According to the National Police Force, these figures probably reflect both one big seizure of 4,600 kilograms of cocaine from Venezuela made in the port of Rotterdam in 2005 and the strong 100% control regime on cocaine risk flights at Schiphol Airport. Cocaine often comes in from Venezuela, the Netherlands Antilles, Surinam, Brazil and Peru. Most of the imported cocaine goes from the Netherlands to other European destinations.

Bottlenecks in law enforcement

In June 2006, the National Ombudsman published a report on the 100%-controls at Schiphol Airport. He reported several bottlenecks concerning these controls: the application of certain means of control (like body searches), the attitude towards innocent suspects and the handling of complaints (T.K.24077/125). In September 2006, the Minister of Justice reacted and proposed improvement in the control practice, more privacy and respect for passengers who are controlled, better information for passengers and more thorough legal guarantees (T.K.24077/125).

Policies and strategies in response to cocaine use

There is a wide array of measures to reduce cocaine trafficking and cocaine crime (see this chapter and chapter 1). With regard to measures directly targeting cocaine-related health risks, there is a raised awareness felt by policy makers due to increased health problems attributed to cocaine use, but there are currently no policies or strategies specifically targeting cocaine use at national level (Ministry of Health, Welfare and Sports, personal communication). At regional and local level no such strategies have been reported either.

12.4 Cocaine-related crime and crack markets

Cocaine-related crime

There are no specific data on (intentional) smuggling, trafficking, preparation etc. related to cocaine. Nor are data available specifically on cocaine or crack. Cocaine/ crack is registered under the general denominator 'hard drugs' and not visible as such. There are some analyses, however, that give an indication of the role of cocaine on the Dutch market:

- Data suggest that the Netherlands is mainly a transit country (T.K.24077/125).
- Between 2001 and 2005, there was an increase of drug cases that enter the justice system but are not prosecuted. At the same time, there is a strong decline in prison sentences for Opium Act offences (5,554 in 2003, 4,562 in 2004 and 3,865 in 2005). This trend seems to be mainly caused by the above mentioned substance-oriented approach at Schiphol Airport. It reflects the fact that the inflow of couriers is still there, but that their burden on the justice system is decreasing.
- A study on the Dutch cocaine trade, based on impressions of participants in drug distribution chains (mainly small dealers who use cocaine themselves), showed that large-scale cocaine import and the middle market that evolves from this import appear to be the domain of people who are active on several other terrains of illegal trade and

¹⁴ Figures are not complete for the whole country; only 21 out of 25 police regions reported about their seizures (see also Chapter 10).

illegal activities (T.K.24077/125). The Dutch local market for cocaine seems to be almost completely supplied by small-scale imports into Schiphol Airport.

Data from the National Police Force on investigations into more serious forms of organised crime show that cocaine is involved in relatively many cases:

- Of the 176 investigations in 2005, 72% concern drugs trafficking or production (see table 12.7). This percentage has been increasing since 2000.
- Most of the 127 drug cases involve hard drugs (85%), 59% concern only hard drugs.
- Of the 108 hard drug cases, the majority (58, 54% in 2005) concerns cocaine.

Table 12.7: Investigations into more serious forms of organised crime, percentages of drug cases, hard and soft drug cases and specific hard drugs, 2000-2005^I

	2000	2001	2002II	2003	2004	2005 ^{III}
Total number of investigations	148	146	185	221	289	176
Number of drug cases	78 (53%)	90 (62%)	117 (63%)	146 (66%)	200 (69%)	127 (72%)
Number of drug cases with hard drugs	64 (82%)	75 (83%)	97 (83%)	121 (83%)	168 (84%)	108 (85%)
Of which:						
- Cocaine (%)				60%	57%	54%
- Heroin (%)				17%	18%	29%
- Synthetic drugs (%)				54%	39%	44%
Number of drug cases with soft drugs	43 (55%)	37 (41%)	53 (45%)	57 (39%)	53 (27%)	52 (41%)
Number of drug cases with only hard drugs	35 (45%)	53 (59%)	64 (55%)	89 (61%)	137 (69%)	75 (59%)
Number of drug cases with only soft drugs	14 (18%)	15 (17%)	20 (17%)	25 (17%)	22 (11%)	19 (15%)
Number of drug cases with hard and soft drugs	29 (37%)	22 (24%)	33 (28%)	32 (22%)	31 (16%)	33 (26%)

I. It should be noted that these figures always also reflect the activities and priorities of enforcement agencies as well as completeness of the registrations. Figures and trends should be interpreted carefully. II. Since 2002 a new format is used, data from 2000-2002 and 2003-2005 are not fully comparable. III. Data 2005 concern January-November and not the whole year of 2005. Source KLPD-DNRI, 2006.

Cocaine markets

The Netherlands has an infrastructure which is ideal for the *transit* market. There are big harbours (Rotterdam, Amsterdam and Antwerp is nearby), there is a large international airport, and the hinterland is easily accessible through rail- and motorways. The contribution of each of these routes in the total import is unclear, as is the impact of the 100 percent control strategy at Schiphol Airport (Korf et al. 2006) (*for further details see above*).

The Dutch *local* market is for the most part supplied by small-scaled cocaine transports, taking place through Schiphol Airport. Although the impression exists that drug swallowing is the main route of transportation, it has been shown that only in one of three cases was cocaine smuggled within the body (Van Geloven 2002; Korf et al. 2006). Rather, cocaine is concealed in luggage or on the body. Also the conception that the cocaine trade is led by hierarchical Colombian cartels needs modification. For the local market, co-

caine enterprises are rather small, rapidly changing, decentralised, and seldom based on family-structures (Korf et al. 2006).

In the local retail market of cocaine and heroin, mobile phone dealing is on the rise (at the expense of dealing at specific "dealing addresses"). A study in Rotterdam (the Drug Monitoring System), using a mix of qualitative and quantitative fieldwork data from 1998, 2000 and 2003, showed that repressive legislation may cause the market to find alternatives to basic street dealing (Barendregt et al. 2006). In 2000, 70% of respondents to a street survey bought drugs from a mobile phone dealer, of whom the majority have a Moroccan ethnic background. Dealing at specific addresses declined dramatically (see table 12.8). Through all dealing methods it is possible to obtain crack, while cocaine powder is much more difficult to obtain (available at 30% of the dealing addresses and only through 10% of street dealers) (Van der Poel et al. 2003).

Table 12.8: Last month "dealing methods" in DMS surveys in Rotterdam

	1998 (n=203)	2000 (n=204)	2003 (n=201)
By telephone	21	70	66
On the street	48	49	64
Specific shelter*	28	28	42
Dealing address	88	50	29

Numbers are percentages of respondents. * de Pauluskerk. Source: (Van der Poel et al. 2003).

13 Drugs and driving

Drug use among drivers seemed to have increased in the late nineties. Research also showed that accident risk is increased especially after the combined use of drugs/medicines and alcohol. As a consequence driving under the influence of illicit drugs and medicines received political attention in the past years. A draft bill to prohibit driving under the influence of drugs and medicines was not passed. Cases of driving under the influence of illicit drugs and medicines are few and far between in criminal statistics, since there is no routine testing for illicit drugs. There is no reliable, rapid testing available that can be applied in large-scale roadside controls. Research amongst drivers showed that 4.5% were driving under the influence of cannabis. In 2005 almost 37,000 drivers were registered with the Prosecution Services for driving under the influence, mainly of alcohol.

13.1 Policy

Current situation

Traffic safety in the Netherlands is a shared responsibility of the Ministries of Justice and Internal Affairs (legislation and enforcement), Health, Welfare and Sports (medicines, drugs and their health effects) and Transport and Public Affairs (co-ordination of traffic safety).

Driving under the influence of licit and illicit drugs is legislated for in the Dutch Road Traffic Act of 1994, section 8, paragraph 1, which states that it is prohibited to drive a motor vehicle if the person is under the influence of a substance of which he/she knows – or should reasonably know – that its use – alone or in combination with another substance – can impair driving performance, so that he/she is not capable of driving properly.

The second paragraph of this section specifies the legal limit for alcohol (blood alcohol concentration of 0.5%). Since January 2006, the legal limit for those who have their driving licence for less than five years has been reduced to 0.2%. Legal limits for the various psychoactive medicines and (illicit) drugs are not included in the law.

Dutch law is thus less specific as far as medicinal and (illicit) drugs are concerned, and the decision whether to drive or not is in most cases the responsibility of the patient or user. For medicinal drugs that probably impair driving performance, the package labelling (yellow sticker) at Dutch pharmacies states: "This medicine may decrease your reaction speed (driving a car-operating machinery-playing in the street). Be careful with alcohol!". This label does not specify precisely whether and/or when it is safe to drive while using the respective medicine, and subjective experiences of fitness to drive often do not correlate with objective performance measures. It is also not clear whether the responsibility should lie with the prescribing physician or the patient.

Legal sanctions for driving under the influence depend on whether there is recidivism and on the danger that is caused: the type of vehicle that was driven, whether the driving style was dangerous, whether an accident was caused and whether this accident caused injuries or deaths. Various sanctions can be applied for driving under the influence of alcohol and licit and illicit drugs, varying from a driving ban, a fine or disqualification from driving. Also, a driver may be obliged to undergo a test of driving ability.

As a result of the lack of specificity within the law with regard to medicinal and (illicit) drugs, law enforcement in case of driving under the influence of psychoactive medicines and other drugs is complicated. First, it has to be demonstrated that a person was under the influence of a substance that could impair driving performance; second, it has to be demonstrated that this influence affected performance to such a degree as to preclude proper driving and third, it has to be proven that this person knew or could reasonably know that the use of the specific substance could impair his or her driving performance. In practice, the police only tests for the use of illicit drugs or medicines if a person shows aberrant driving behaviour and/or is suspected of being under the influence during a traffic accident on the basis of physical signs of drug use (see also § 13.3).

Developments

Academic research groups in the Netherlands (Utrecht, Groningen, Maastricht) have shown that many psychoactive substances, including benzodiazepines and cannabis, may impair driving performance under controlled experimental conditions. Moreover, there were indications by the end of the nineties that the prevalence of driving under the influence of drugs and medicines had increased, although hard trend data were not available (see paragraph 13.2). Also, it had been estimated that annually some 100 people are killed in traffic accidents due to the use of psychoactive medicines and (illicit) drugs. Political awareness of the increasing trend of driving under the influence of drugs and the need to reduce the number of traffic deaths has led to a resolution in 2000 drafted by a Lower House member (Eurlings, CDA) arguing for an explicit legal prohibition of driving under the influence of drugs. As a result, a draft bill has been prepared, addressing the prohibition of driving under the influence of a substance, which has been scientifically shown to impair driving performance. These substances have been included on a specific list together with the urine (and blood) concentrations indicating the lower limits of impairment.

Law enforcement agencies responded positively to this draft legislation, but also had criticism on the feasibility of enforcing the law by means of the proposed urine tests. Therefore, in 2003 the responsible ministries postponed the implementation of the draft bill until a reliable and feasible (saliva) test for roadside screening is available (TK DGP/WV/U.03.03175). According to the recent conclusions of the European project ROSITA2, in which several European countries and the USA participated, no such reliable testing device is available to date (Verstraete et al. 2006).

On 15-10-2006, another European project started (Call 3A of the 6th European Framework Programme), 'Driving under the Influence of Alcohol, Drugs and Medicines' (DRUID). The objective of DRUID is to give scientific support to the EU transport policy to reach the road safety target of 2010 (50% reduction of fatalities) by establishing guidelines and measures to combat impaired driving.

13.2 Prevalence and epidemiological studies

Prevalence data

There is no routine testing for drug use among drivers in the Netherlands. Several ad-hoc studies provide data on the prevalence of use of psychoactive medicines and illicit drugs in the driving population.

A roadside study in 1997 among 893 motorists (valid cases), who were tested on weekend nights in 26 research areas in the Netherlands, showed that 6.4% of the sample were positive for illicit drugs or medicines (Mathijssen 1999; with English summary).

- Illicit drugs were found in 5.4% of the cases, mostly involving only cannabis (4%). In 1% of the samples licit medicines were found (mainly codeine -0.5%- or benzodiazepines – 0.5%).
- A breakdown by age and gender revealed a much higher percentage of cases testing positive for illicit drugs among males between 18-24 years (15.3% instead of 5.4%).

A subsequent roadside study within the framework of the European IMMORTAL project (Impaired Motorists, Methods Of Roadside Testing and Assessment for Licensing) was carried out between 2000 and 2004 in the south of the Netherlands (Tilburg police district). Blood and/or urine samples were collected among a random roadside sample of 3,799 motorists and 184 severely injured drivers who were hospitalised (Mathijssen et al. 2005).

- Table 13.1 shows that 9.9% of the general driving population tested positive for illicit drugs, alcohol or psychoactive prescription drugs.
- Cannabis, alcohol and benzodiazepines were the most prevailing substances. Prevalence rates were 4.5% for cannabis (0.6% with alcohol) and 2.1% for benzodiazepines (0.1% with other drugs and/or alcohol); 2.1% tested positive for alcohol (blood alcohol concentration BAC ≥ 0.2 g/l; 0.3% in combination with other substances).
- The highest rates of illegal drug use were found among males of 18-24 (17.5%), corroborating findings from general population surveys. Psychoactive prescription drugs were concentrated in female drivers aged 50 and older (11.3%).
- Among seriously injured patients, 44.6% tested positive for illicit drugs, alcohol or prescription drugs. Among male injured drivers, as many as 26.6% had a BAC of ≥ 1.3 g/l.

Finally, several local surveys among young people in the nightlife scene, suggest that driving under the influence of drugs, especially cannabis, is common in some populations. In 2005/2006 a survey was held among a net sample of 300 visitors to coffee shops in Nijmegen (a city in the east of the Netherlands). The average age was 27 years and 86% were male. Two-thirds had a driver's licence. The response was 68%.

- Of those respondents who had a driver's licence, 76% had ever driven a car or motorcycle under the influence of cannabis. For ecstasy, cocaine and amphetamine the proportions are 16, 14 and 10%, respectively. Lifetime driving under the influence of ephedra, GHB or other drugs was rare (2, 2 and 1.5%, respectively).
- Two-thirds (64%) of all coffee shop visitors had consumed cannabis on the day of completing the questionnaire. Of this group, one-third had the intention of driving a car or motorcycle afterwards.
- Driving under the influence of cannabis was considered to be appreciably less dangerous than driving under the influence of alcohol.

A parallel survey was held among 244 visitors of discotheques in the region of Nijmegen and Kleve (border with Germany). The average age of the respondents was 22 years and the majority were female (52%). The response rate was just 16%, which may have affected the representativity of the sample.

- 69% had a drivers licence. Of this group, one in five had ever driven under the influence of drugs (17% cannabis, 8% ecstasy, 4% cocaine, 4% amphetamine, <1% GHB, ephedra or crack). This is 14% of the total group of frequenters of discotheques.

A survey among 408 pub-goers in Amsterdam in (see also chapter 2.3) showed that just 4% of those driving home by car after the night out ($n=25$) had used cannabis and 8% had used stimulants (Nabben et al., 2006). Among respondents travelling home by bike ($n=199$), some 10% had used cannabis and 5% had used stimulants.

Injury risk

In the above mentioned IMMORTAL study the risk of severe injury after the use of psychoactive substances (illicit drugs, medicines, alcohol, or their combination) was determined. This was done by comparing the prevalence of substance use among injured drivers (hospital sample) with the prevalence in the general driving population (case-control study).

- Table 13.1 shows that injury risk was strongly increased for drug-free BAC levels ≥ 0.5 g/l (with exponentially increasing risks with increasing BAC levels), with drug/alcohol combinations at BAC levels ≥ 0.8 g/l and drug/drug combinations.
- Single use of cannabis, amphetamine, ecstasy and cocaine was not associated with an increased risk.
- The combined use of heroin/morphine and alcohol was associated with an extremely high risk; the single use of morphine/heroin also increased injury risk but the confidence interval was very wide because these drugs were hardly detected in controls.

The absence of an increased accident risk for cannabis users contradicts the findings of several other studies (Ramaekers et al. 2004). This might be related to the relatively small hospital sample. Another reason might be that cannabis use was determined by testing for the THC metabolite THCCOOH, which indicates past use but not necessarily recent use. The authors indicate that the percentage of hospital cases with blood tests positive for THC (indicating recent use) was even smaller (2.2%) than the total percentage of THC plus THCCOOH cases (4.5%). However, in the absence of data on THC positive tests in controls, no conclusions can be drawn from these findings.

Table 13.1: Relative risk injury associated with the use of various psychoactive drugs by car drivers (in Tilburg, the Netherlands)

Psychoactive substances	Weighted distribution Among cases and controls		Odds ratio	95% C.I.
	Cases (N=184)	Controls (N=3,799)		
Negative	55.4%	90.1%	1.00	
Cannabis only	3.4%	3.9%	1.45 (NS)	0.64-3.29
Amphetamine only	--	<0.01%	Undefined	--
Ecstasy only	--	0.3%	Undefined	--
Cocaine only	--	0.3%	Undefined	--
Morphine/heroin only	0.5%	0.02%	32.4	1.78-592
Codeine only	1.0%	0.5%	3.04 (NS)	0.65-14.2
Benzodiazepines only	3.6%	2.0%	2.98	1.31-6.75
Tricyclic antidepr. only	--	0.3%	Undefined	--
Methadone only	--	--	Undefined	--
Combination of drugs	7.2%	0.5%	24.0	11.5-49.7
Alcohol* 0.2-0.5 BAC	1.2%	0.9%	2.12 (NS)	0.54-8.42
Alcohol* 0.5-0.8 BAC	2.2%	0.4%	8.28	2.73-25.2
Alcohol* 0.8-1.3 BAC	2.5%	0.2%	17.6	5.54-56.0
Alcohol* > 1.3 BAC	12.7%	0.2%	87.2	39.4-193
Alcohol* < 0.8+drug(s)	2.0%	0.2%	12.9	3.78-44.2
Alcohol* > 0.8+drug(s)	8.3%	0.08%	179	49.9-638

* alcohol only

Source: SWOV (Mathijssen et al. 2005).

13.3 Detection, measurement and law enforcement

In practice, the police only conduct tests for the use of illicit drugs or medicines if a person shows aberrant driving behaviour and/or is suspected to be under the influence during a traffic accident on the basis of physical signs of drug use. The police look at external signs, like mydriasis or unstable movements. The police do not get special training for this and there are no specific tests. During their education they learn about the external characteristics to recognise the use of drugs and medicines. If a driver is suspected of this and the alcohol breath test does not indicate the use of alcohol, he or she will be taken to the police station for a blood test on other substances. If the alcohol breath test does show alcohol use, there will be no further testing.

As a consequence of the fact mentioned above (if there is combined use of alcohol and another substance, it will be alcohol that is tested and registered) and the fact that non-selective testing on the street is possible only for alcohol, the overwhelming majority of cases that enter the statistics of the criminal justice system for driving under the influence concern alcohol (see table 13.2). The category 'other' is not clearly defined. These statistics reflect the law enforcement situation described in § 13.1. In 2005, almost 37,000 drivers were caught driving under the influence. The majority (31,111) are car or motorcycle drivers.

Table 13.2: Cases of driving while being intoxicated - registered by the prosecution authorities; by vehicle- and substance type (year of registration, 2005)

		2005
Car- or motorcycle drivers		31,111
Substance	Alcohol	30,526
	Other	568
	alcohol and other ^I	17
Cyclists/moped riders		3,443
substance	Alcohol	3,424
	Other	19
	Alcohol and other	-
Drivers other vehicle types		972
substance	Alcohol	964
	Other	8
	Alcohol and other	-
Vehicle type unknown ^{II}		1,341
substance	Alcohol	1,199
	Other	27
	Alcohol and other	115
Total Cases of driving while being intoxicated		36,867

Source: OMDATA. I. These are cases with different offences at different times, taken together in one case for court, they do not concern cases in which the driver is under the influence of different substances at the same time. II. These are cases of causing an accident with serious injury or death while driving under the influence; the vehicle and the substance cannot be detected in the registration.

13.4 Prevention

Until now there have been no public campaigns or any other interventions in the Netherlands aimed at the prevention of driving under the influence of illegal drugs. Most activities in this domain are directed at the prevention of alcohol use among drivers.

However, the political awareness of the risks of drug use in traffic, especially the combined use of drugs and alcohol, has been raised in the past years. This has led the Ministry of Transport and Public Affairs to commission preventive activities in this field. As a first action, a literature review was carried out delineating the size of the problem, risk groups and recommendations for future (mass media) campaigns to prevent drugged driving (Brunt et al. 2006). It was concluded that these campaigns should mainly be directed at young men between 18-24 years and should make use of different media (e.g. the Internet). Moreover, the message should be appealing but non-patronising and not fear-inducing and should point at the risks of poly-drug use, especially the combination of alcohol and illicit drugs.

As regards the use of psychoactive medicines and driving, preventive activities are mainly focused on warning patients by means of the yellow labels on packages of medicines and flyers distributed in pharmacies.

Part C: Bibliography, Annexes

14 Bibliography

14.1 References

- Al Shebani, M. and Vloeberghs, E. (2005). Notitie: verslavingspreventie voor asielzoekers en vluchtelingen: "behoefte & bittere noodzaak" : de stand van zaken en plannen voor de toekomst. Utrecht: Pharos
- Arseneault, L., Cannon, M., Witton, J., and Murray, R.M. (2004). Causal association between cannabis and psychosis: examination of the evidence. Br.J.Psychiatry, 184, 110-117
- Barendregt, C., Van der Poel, A., and Van de Mheen, D. (2006). The rise of the mobile phone in the hard drug scene of Rotterdam. Journal of Psychoactive Drugs, 38[1], 77-87.
- Bieleman, B., Biesma, S., and Meijer, G. (2002). Doelgroepenanalyse dak- en thuislozen en harddrugsverslaafden Stedendriehoek. Groningen-Rotterdam: Stichting Intraval
- Bieleman, B. and Kruize, A. (2006a). Monitor tabaksverstrekking jongeren 2005: Naleving leeftijdsgrens 16 jaar: Metingen 1999, 2001, 2003 en 2005. Groningen-Rotterdam: Intraval
- Bieleman, B., Kruize, A., and Nienhuis, A. (2006b). Monitor alcoholverstrekking jongeren 2005: naleving leeftijdsgrenzen 16 en 18 jaar Drank- en horecawet: metingen 1999, 2001, 2003 en 2005. Groningen: Intraval
- Bieleman, B., Kruize, A., and Snippe, J. (2004). Monitor verslaafden en daklozen Enschede 2004: metingen 2001, 2002 en 2003 . Groningen: Intraval
- Bieleman, B. and Naayer, H. (2006c). Coffeeshops in Nederland 2005: Aantallen coffeeshops en gemeentelijk beleid 1999-2005. Groningen-Rotterdam: Intraval
- Bieleman, B., Snippe, J., and De Bie, E. (1995). Drugs binnen de grenzen: harddrugs en criminaliteit in Nederland: schattingen van de omvang. Groningen: Intraval
- Biesma, S., Kruize, A., Naayer, H., and Bieleman, B. (2005a). Van de straat in Almelo: aard en omvang dak- en thuislozen en zichtbare alcohol- en harddrugsverslaafden in Almelo. Groningen-Rotterdam: Intraval
- Biesma, S., Kruize, A., Naayer, H., Ogier, C., and Bieleman, B. (2005b). In Hengelo van de straat: aard en omvang dak- en thuisloosheid en zichtbare alcohol- en harddrugsverslaving. Groningen-Rotterdam: Intraval
- Biesma, S., Snippe, J., Oldersma, F., and Bieleman, B. (2003). Inventarisatie harddrugsverslaafden en dak- en thuislozen Leeuwarden, Noord en zuidwest Friesland. Groningen-Rotterdam: Intraval
- Biesma, S., Snippe, J., and Bieleman, B. (2004). Harddrugsgebruikers geregistreerd: aard, omvang en mobiliteit van problematische harddrugsgebruikers in Rotterdam. Groningen/Rotterdam: Stichting Intraval
- Bijl, R.V., Zorlu, A., Van Rijn, A.S., Jennissen, R.P.W., and Blom, M. (2005). Integratie-kaart 2005: De maatschappelijke integratie van migranten in de tijd gevolgd: trend- en cohortanalyses. Den Haag: WODC
- Bolier, L. (2006). Going out and drugs: prevention of risky alcohol and drug use in recreational settings: the facts. Utrecht: Trimbos-instituut
- Bolier, L., Sannen, A., and Van Hasselt, N. (2005). Handboek uitgaan en drugs: werken aan preventie van riskant alcohol- en drugsgebruik in het uitgaanscircuit. Utrecht: Trimbos-instituut
- Bolier, L., Van Leeuwen, L., Sannen, A., and Planken, M. (2006). Barcode: omgaan met alcohol en drugs in de horeca: trainersmap voor preventieprofessionals van IVZ en GGD-en. Woerden/Utrecht: NIGZ/Trimbos-instituut

- Bool, M. (2006). Uitgelicht: Opvoedingsondersteuning voor kinderen van ouders met verslavingsproblemen. Nieuwsflitsen van het Trimbos-instituut, 8, (4), 1
- Bossong, M.G., Van Dijk, J.P., and Niesink, R.J. (2005). Methylone and mCPP, two new drugs of abuse? Addict.Biol., 10, (4), 321-323
- Broekhuizen, J., Raven, J., and Driessen, F.M.H.M. (2006). Handhaving en naleving van de coffeeshopregels in 2004. Utrecht: Bureau Driessen
- Brunt, T.M., Niesink, R.J.M., and Wammes, A. (2006). Jongeren en drugs in het verkeer: feiten over de invloed van drugs op de verkeersveiligheid en aanbevelingen voor een (massamediale) preventieve interventie. Utrecht: Trimbos-instituut
- Burger, I. (2004). Haagse harddruggebruikers: aard, omvang en trends in 1999-2002. Den Haag: GGD Den Haag
- Buster, M. and De Fuentes Merillas, L. (2004). Problematische druggebruikers in Amsterdam Zuidoost, In Jaarrapportage Volksgezondheid Amsterdam 2003. Amsterdam: GG&GD Amsterdam ed. P. Tichelman, A Janssen, and A Verhoef, eds., pp. 163-173
- Caspi, A., Moffitt, T.E., Cannon, M., McClay, J., Murray, R., Harrington, H. et al. (2005). Moderation of the effect of adolescent-onset cannabis use on adult psychosis by a functional polymorphism in the catechol-O-methyltransferase gene: longitudinal evidence of a gene X environment interaction. Biol.Psychiatry, 57, (10), 1117-1127
- Centraal Bureau voor de Statistiek (2006). Veiligheidsmonitor Rijk 2006: landelijke rapportage. Voorburg: Centraal Bureau voor de Statistiek
- Central Committee on the Treatment of Heroin Addicts (CCBH) (2006). Heroin a registered medicine: press release. Utrecht: CCBH
- Cobb, N.K., Graham, A.L., Bock, B.C., Papandonatos, G., and Abrams, D.B. (2005). Initial evaluation of a real-world Internet smoking cessation system. Nicotine.Tob.Res., 7, (2), 207-216
- Copeland, J. and Martin, G. (2004). Web-based interventions for substance use disorders:a qualitative review. Journal of Substance Abuse Treatment, 26, 109-116
- Coumans, A.M. and Knibbe, R.A. (2001). Druggebruikers in Parkstad Limburg: Noden en behoeften: resultaten van het Drug Monitoring Systeem 2000-2001. Rotterdam/Maastricht: IVO Instituut voor Onderzoek naar Leefwijzen & Verslaving
- Coumans, A.M. and Knibbe, R.A. (2002). Druggebruikers in Parkstad Limburg: trends en profielen: resultaten van het Drug Monitoring Systeem 2001-2002. Rotterdam: IVO
- Coumans, M., Rodenburg, G., and Knibbe, R. (2005). Quick Scan naar gemarginaliseerde harddruggebruikers en dak- en thuislozen in de gemeente Maastricht. Maastricht/Rotterdam: IVO
- Croes, E., Deerenberg, I., and Lusthof, K. (2006). Forensische data als bron van drugsgerelateerde sterfte. Presentation at Zestiende Forum Alcohol en Drugs Onderzoek (FADO) 2006: abstracts, nr. 16 Utrecht: Trimbos-instituut
- Cruts, G., Buster, M., Vicente, J., Deerenberg, I., Van Laar, M. Estimating the Total Mortality Among Problem Drug Users. Substance Use & Misuse 43. In press.
- Cuijpers, P., Scholten, M., and Conijn, B. (2006). Verslavingspreventie: een overzichtsstudie. Den Haag: ZonMw, Programma Verslaving
- Cunningham, J.A., Selby, P.L., Kypri, K., and Humphreys, K.N. (2006). Access to the internet among drinkers, smokers and illicit drug users: Is it a barrier to the provision of interventions on the World Wide Web? Medical Information and the Internet in Medicine, 31, (1), 53-58
- De Beer, J.F. (2006). Brief van de directeur van GGZ Nederland aan de Minister van Volksgezondheid, Welzijn en Sport van 26-04-2006. Amersfoort: GGZ Nederland
- De Boer, I.M., Op de Coul, E., Koedijk, F.D.H., Van Veen, M.G., and Van de Laar, M.J.W. (2006). HIV and sexually transmitted infections in the Netherlands in 2005. Bilthoven: RIVM

- De Bruin, D., Meijerman, C., and Verbraeck, H. (2003). Zwerven in de 21ste eeuw: een exploratief onderzoek naar geestelijke gezondheidsproblematiek en overlast van dak- en thuislozen in Nederland. Utrecht: Centrum voor Verslavingsonderzoek
- De Graaf, I., Wildschut, J., and Van de Mheen, H. (2000). Utrechtse druggebruikers: een jachtig bestaan. Rotterdam: IVO
- De Jong, M. and De Jong, C.A.J. (2006). Suïcide in de verslavingszorg: richtlijn voor preventie, handelen na suïcide en nazorg voor hulpverleners. Amersfoort: GGZ Nederland
- De Jong,C.A.J., Schellekens,A.F.A., Ellenbroek,B., Franke,B., and Verkes,R.J. (2006). The course of addiction: neurobiological predictors of chronicity. Den Haag: ZonMw, Programma Verslaving
- De Jonge, J., Van den Brink, J., Mensink, S., and Withaar, F. (2006). Protocol voor verplegkundigen: geïntegreerde behandeling schizofrenie en verslaving. Presented at Zestiende Forum Alcohol en Drugs Onderzoek (FADO), abstract 1. Utrecht: Trimbos-instituut
- De Visser, E. (2006). Moeders vormen front tegen cocaïne. De Volkskrant, 2 mei 2006
- De Vrucht, D.F.R. (2000). Psychisch gestoorden in detentie: kenmerken van de groep psychisch gestoorden gedetineerden die bekend zijn bij de psycholoog in de inrichting. Den Haag: Ministerie van Justitie, Dienst Justiële Inrichtingen
- De Zwart, W.M. and Wieman, A.W. (2001). De registratie van drugsgerelateerde sterfte in Nederland : een verkennung van de praktijk op centraal en lokaal niveau. Utrecht: Trimbos-instituut
- Dijkgraaf, M.G., Van der Zanden, B.P., de Borgie, C.A., Blanken, P., Van Ree, J.M., and Van Den, B.W. (2005). Cost utility analysis of co-prescribed heroin compared with methadone maintenance treatment in heroin addicts in two randomised trials. BMJ, 330, (7503), 1297-1303
- Doornink, H., Drouwen, L.E., and Hoeksma, B.H. (2003). Verslavingszorg herijkt geijkt: evaluatie van de elementen uit het advies "Verslavingszorg Herijkt" (RVZ/RMO 1999) door middel van de evaluatie van drie projecten in de verslavingszorg. Enschede: Hoeksma, Homants & Menting
- Driessen, F.M.H.M., Van der Lelij, B., and Smeets, H.M. (2002). Effecten van hoge doses methadon : een gerandomiseerd lange termijn experiment op negen locaties : eerste resultaten. Utrecht: Bureau Driessen
- E.K.28980/B:Eerste Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatienummer 28980 nr.B (2004). Wijziging van het Wetboek van Strafrecht, het Wetboek van Strafvordering en de Penitentiaire beginselenwet (plaatsing in een inrichting voor stelselmatige daders); Brief minister met nadere informatie over tot dusver opgedane ervaringen met de drang- en dwangvariant van de Strafrechtelijke Overplaatsing van Verslaafden (SOV). Den Haag: Sdu Uitgevers
- E.K.28980/D:Eerste Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatie-nummer 28980 nr.D (2004). Wijziging van het Wetboek van Strafrecht, het Wetboek van Strafvordering en de Penitentiaire beginselenwet (plaatsing in een inrichting voor stelselmatige daders); Memorie van antwoord. Den Haag: Sdu Uitgevers
- Eckhardt, J.W. (2006). Ongevallen waar alcohol of drugs bij betrokken zijn. Amsterdam: Stichting Consument en Veiligheid
- Eggen, A.Th.J.r. and Van der Heide, W.r. (2005). Criminaliteit en rechtshandhaving 2004: ontwikkelingen en samenhangen. Den Haag/Meppel: Boom Juridische uitgevers/CBS/WODC
- Eland, A. and Van de Glint, G. (2001). Diagnostiek en behandeling van ADHD binnen de intramurale verslavingszorg. Utrecht: Trimbos-instituut
- Eland-Goossensen, M.A. (1997). Opiate addicts in and outside of treatment: different populations? Rotterdam: IVO

- Emmelkamp, P.M.G. (2005). Technological innovations in clinical assessment and psychotherapy. *Psychotherapy and Psychosomatics*, 74, 336-343
- Feil, E.G., Noell, J., Lichtenstein, E., Boles, S.M., and McKay, H.G. (2003). Evaluation of an Internet-based smoking cessation program: lessons learned from a pilot study. *Nicotine.Tob.Res.*, 5, (2), 189-194
- Fischer, B. and Rehm, J. (2005). 'Eyes Wide Shut?--A Conceptual and Empirical Critique of Methadone Maintenance Treatment': Comment Reply. *European Addiction Research*, 11, 13-14
- Gezondheidsraad (2002). Medicamenteuze interventies bij drugverslaving. Den Haag: Gezondheidsraad
- GGZ Drenthe (2006). Informatie voor verwijzers: Kinderen met een psychisch ziek of verslaafd familielid (07-06-2006 <http://www.survivalkid.nl>). Assen: GGZ Drenthe
- GGZ Nederland (2006). Aanpak op meerdere fronten: Een visie op verslaving en verslavingszorg. Amersfoort: GGZ Nederland
- GGZ Nederland, Zorgverzekeraars Nederland, and Inspectie voor de Gezondheidszorg (IGZ) (2006). Prestatie-indicatoren geestelijke gezondheidszorg en verslavingszorg: basisset. Utrecht: GGZ Nederland
- Goossensen, M.A., van de Glind, G., Carpentier, P.J., Wijzen, R.M.A., van Duin, D.I., and Kooij, J.J.S. (2006). An intervention program for ADHD in patients with substance use disorders: Preliminary results of a field trial. *Journal of Substance Abuse Treatment*, 30, 253-259
- Hajema, K. (2006). Trends in het gebruik van alcohol, drugs en roken: een onderzoek in het Limburgs voortgezet onderwijs. Utrecht: Presentation at the 16th FADO; 17 November 2006
- Hakkaart-van Roijen, L., Hoeijenbos, M.B., Regeer, E.J., Ten Have, M., Nolen, W.A., Veraart, C.P.W.M. et al. (2004). The societal costs and quality of life of patients suffering from bipolar disorder in the Netherlands. *Acta Psychiatrica Scandinavica*, 110, 383-392
- Health Council of the Netherlands (2000). Diagnosis and treatment of ADHD: Publication number 2000/24. The Hague: Health Council of the Netherlands
- Henquet, C., Krabbendam, L., Spauwen, J., Kaplan, C., Lieb, R., Wittchen, H.U. et al. (2005). Prospective cohort study of cannabis use, predisposition for psychosis, and psychotic symptoms in young people. *BMJ*, 330, (7481), 11
- Henquet, C., Rosa, A., Krabbendam, L., Papiol, S., Fananas, L., Drukker, M. et al. (2006). An experimental study of catechol-o-methyltransferase Val158Met moderation of delta-9-tetrahydrocannabinol-induced effects on psychosis and cognition. *Neuropsychopharmacology*, 31, (12), 2748-2757
- Henskens, R.H.M. (2004). Grab and hold: randomized controlled trial of the effectiveness of an outreach treatment program for chronic, high-risk crack abusers. Rotterdam: Municipal Health Service
- Hibell, B., Andersson, B., Bjarnason, T., Ahlström, S., Balakireva, O., Kokkevi, A. et al. (2004). The ESPAD Report 2003: Alcohol and Other Drug Use Among Students in 35 European Countries. Stockholm: CAN
- Hildebrand, M. (2004). Psychopathy in the treatment of forensic psychiatric patients: assessment, prevalence, predictive validity, and clinical implications. [s.l.]: [s.n.]
- Hoebe, C.J.P.A., Smit, F., Vermeulen, C.M.J.H., Schippers, J., and Van der Ven, A.J.A.M. (2003). HIV-positieve druggebruikers in Zuid-Limburg: aantal en kenmerken; een vangst-hervangstanalyse. *Nederlands Tijdschrift voor Geneeskunde*, 145, (23), 1118-1122
- Hoogenboezem, G. and Bransen, E. (2005). Problematisch harddruggebruik door illegalen, asielzoekers en vluchtelingen : een verkennung met behulp van 'Rapid Assessment and Response'. Utrecht: Trimbos-instituut

- Huisman, S. (2005). Criminaliteitsbeeldanalyse: Synthetische drugs 2002-2004. Driebergen: KLPD/DNI
- Huygen, T.M.J., Janson, T., Korteweg, M., and Verbeeke, C. (1997). Dubbel gediagnostiseerden: een coproductie van het Centrum Maliebaan en de H.C. Rümkegroep. Utrecht: Centrum Maliebaan/ H.C. Rümkegroep
- Ince, D., Beumer, M., Jonkman, H., and Vergeer, M. (2004). Veelbelovend en effectief: Overzicht van preventieprojecten en -programma's in de domeinen Gezin, School, Kinderen en jongeren, Wijk: Tweede volledig herziene editie CtC-gids. Utrecht: NIZW
- Inspectie voor de Gezondheidszorg (IGZ) (2004). Jaarrapport 2003. Den Haag: IGZ
- Jager, G. (2006). Functional MRI studies in human Ecstasy and cannabis users. Utrecht: Universiteit Utrecht
- Jager, G., Van Hell, H.H., De Win, M.M., Kahn, R.S., Van Den, B.W., Van Ree, J.M. et al. (2006). Effects of frequent cannabis use on hippocampal activity during an associative memory task. Eur.Neuropsychopharmacol.,
- Jans, N. (2006). Kroegtijgers & Damlopers: Een onderzoek naar alcohol- en drugsgebruik, veiligheid en mogelijkheden voor preventie in het uitgaansleven van Zaandam. Zaandam: GGD Zaanstreek-Waterland
- Jansen, H. and Karaköse, T. (2003). Gezondheidsproblemen van gemarginaliseerde druggebruikers. IVO-bulletin, 6, (2), 19-24
- Koeter,M.W.J. and Van Maastricht,A.S. (2006). De effectiviteit van verslavingszorg in een justitieel kader. Den Haag: ZonMw, Programma Verslaving
- Kok, A., Van Hoogenhuyze, C., and Van Dam, J. (2006). Jaarbericht Drugs Infolijn 2005. Utrecht: Trimbos-instituut
- Kok, A., Van Hoogenhuyze, C., and Van Dam, J. (2005). Jaarbericht 2004: Drugs Infolijn. Utrecht: Trimbos-instituut
- Korf, D., Kleemans, E., Decorte, T., and Boekhout van Solinge, T. (2006). Drugs en drugshandel in Nederland en België. Tijdschrift voor Criminologie, 48, (2), 115-130
- Korf, D.J., Nabben, T., and Benschop, A. (2003). Antenne 2002: trends in alcohol, tabak en drugs bij jonge Amsterdammers. Amsterdam: Rozenberg Publishers
- Korf, D.J., Woude, M.v.d., Benschop, A. and Nabben, T. (2001). Coffeeshops, jeugd en toerisme. Amsterdam: Rozenberg Publishers
- Korf, D.J., Benschop, A., and Rots, G. (2005a). Geweld, alcohol en drugs bij jeugdige gedetineerden en school drop-outs. Tijdschrift voor Criminologie, 47, (3), 239-254
- Korf, D.J., Diemel, S., Riper, H., and Nabben, T. (1999). Het volgende station: Zwerfjongeren in Nederland. Amsterdam: Thela Thesis
- Korf, D.J., Nabben, T., and Benschop, A. (2004a). Antenne 2003: trends in alcohol, tabak en drugs bij jonge Amsterdammers. Amsterdam: Rozenberg Publishers
- Korf, D.J., Van Ginkel, P., and Wouters, M. (2004b). Je ziet het ze niet aan: zwerfjongeren in Flevoland. Amsterdam: Rozenberg
- Korf, D.J., Van Vliet, E., Knotter, J., and Wouters, M. (2005b). Tippelen na de zone: straatproSTITutIE en verborgen prostitutIE in Amsterdam. Amsterdam: Rozenberg Publishers
- Korf, D.J., Wouters, M., Benschop, A., and Van Ginkel, P. (2004c). Sterke wiet: een onderzoek naar blowgedrag, schadelijkheid en afhankelijkheid van cannabis. Amsterdam: Rozenberg Publishers
- Lammers, J. (2006). Rapportage Monitor Uitgaan en Drugs 'De stand in het land'. Utrecht: Trimbos-instituut
- Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling in de GGZ (2005). Multidisciplinaire richtlijn ADHD: richtlijn voor de diagnostiek en behandeling van ADHD bij kinderen en jeugdigen. Utrecht: Trimbos-instituut
- Lange, A., Schrieken, B., Scheijde, R., Broeksteeg, J., Ruwaard, J., Schrijver, M. et al. (2005). Serie onderzoek en psychotherapie: Interapy. Diagnostiek en geprotocolleerde

- behandeling van welomschreven stoornissen via internet. *Tijdschrift voor Psychotherapie*, 31, (5), 355-376
- Lange, A., van de Ven, J.-P., Schrieken, B., and Emmelkamp, P.M.G. (2001). Interapy. Treatment of posttraumatic stress through the Internet: A controlled trial. *Journal of Behavior Therapy and Experimental Psychiatry*, 32, 73-90
- Lempens, A., Boers, R., and Maalsté, N. (2004). Harddrugsgebruikers in beweging: aard, omvang en mobiliteit van harddrugsgebruikers in Rotterdam. Rotterdam: IVO
- Licata,M., Verri,P., and Beduschi,G. (2005). Delta9 THC content in illicit cannabis products over the period 1997-2004 (first four months). *Annali dell'Istituto superiore di sanità*, 41, (4), 483-485
- Lindenburg, C.E., Krol, A., Smit, C., Buster, M.C., Coutinho, R.A., and Prins, M. (2006). Decline in HIV incidence and injecting, but not in sexual risk behaviour, seen in drug users in Amsterdam: a 19-year prospective cohort study. *AIDS*, 20, (13), 1771-1775
- Lindt, S.v.d. (2005). Ontwikkelingen in de organisatie, omvang en inhoud van de Verslavingspreventie 2005. Utrecht: Trimbos-instituut
- Lohuis, G. and Bosma, H. (1998). Een kwestie van verantwoordelijkheid nemen. Het Dubbele Diagnose-project. *Passage: tijdschrift voor rehabilitatie*, 7, (2), 102-106
- Loth C.A. (2003a). Methadonverstrekking vanuit ambulante verslavingsinstellingen: een model voor diagnosticeren van de problemen, het invoeren van verschillende innovaties en de hierbij behorende evaluatiecriteria. Den Haag: ZonMw
- Loth C.A. (2003b). Professionele verpleegkundige begeleiding van chronische drugsverslaafde cliënten in de ambulante verslavingszorg: werkdocumenten op weg naar een geïntegreerd zorgaanbod voor moeilijk te bereiken cliëntengroep. Den Haag: ZonMw
- Loth, C., Oliemeulen, L., and De Jong, C. (2005). Richtlijn opiaatvervangende behandeling. Utrecht: GGZ nederland
- Loth, C., Schippers, G., and 't Hart, H. (2003). Methadonverstrekking in Nederland aan het begin van een nieuw eeuw : verloedering van een verpleegkundige praktijk. MGv: Maandblad Geestelijke volksgezondheid, 58, (12), 1111-1123
- LSP (2005). Overzicht van interventies van ggz- en verslavingspreventie voor kinderen, jongeren en hun omgeving. Utrecht: Trimbos-instituut, Landelijke Steunfunctie Preventie ggz en verslavingszorg
- Mark, T.L., Song, X., Vandivort, R., Duffy, S., Butler, J., Coffey, R. et al. (2006). Characterizing substance abuse programs that treat adolescents. *Journal of Substance Abuse Treatment*, 31, 59-65
- Mathijssen,M.P.M. (1999). Drug-, medicijn- en alcoholgebruik van automobilisten in Nederland, 1997/1998: verslag van een veldonderzoek, uitgevoerd in weekendnachten van het najaar. Leidschendam: SWOV Institute for Road Safety Research
- Mathijssen, R. and Houwing, S. (2005). The prevalence and relative risk of drink and drug driving in the Netherlands: a case-control in the Tilburg police district. Leidschendam: SWOV Institute for Road Safety Research
- Matthys,W., Vanderschuren,L.J.M.J., Nordquist,R.E., and Zonnevylle-Bender,M.J.S.(2006). Factoren die bij kinderen en adolescenten een risico vormen voor gebruik, misbruik en afhankelijkheid van middelen. Den Haag: ZonMw, Programma Verslaving
- McKee, M. and Leon, D.A. (2005). Social transition and substance abuse. *Addiction*, 100, (9), 1205-1209
- Meeuwissen, J.A.C. and Kroon, H. (2000). Kenmerken van dubbele-diagnosecliënten : resultaten van een vragenlijstenstudie . Utrecht: Trimbos-instituut
- Merkx, M. and Alderliefste, G. (2005). Medische behandeling van opiaatafhankelijkheid met methadon: doseren onder toezicht. *Verslaving: tijdschrift over verslavingsproblematiek*, 1, (2), 20-34

- Ministerie van Justitie (2004). Functionele executie binnen het gevangeniswezen. Den Haag: Ministerie van Jusitite, Dienst Justitiële Inrichtingen
- Ministerie van Volksgezondheid, W.e.S. (2000). Alcoholnota: nota over de intensivering van het beleid tegen alcoholmisbruik (2001-2003). Den Haag: VWS
- Ministerie van Volksgezondheid, W.e.S. (2006a). Kiezen voor gezond leven. Den Haag: Ministerie van VWS
- Ministerie van Volksgezondheid, W.e.S.V. (1995). Het Nederlandse drugbeleid: continuïteit en verandering [Dutch drugs policy in the years to come: continuity and change]. 's-Gravenhage: Sdu
- Ministerie van Volksgezondheid, W.e.S.V. (2006b). Kabinet: grotere rol gemeenten in jeugdbeleid: Persbericht. Den Haag: VWS
- Ministerie van Volksgezondheid, W.e.S.V. (2006c). Kabinetsreactie op het eindrapport van de jeugdzorgbrigade: juni 2006. Den Haag: VWS
- Ministerie van Volksgezondheid, W.e.S.V. (2006d). Kabinetsreactie op Koersen op het kind en Gemeentelijke regie in de jeugdketen: juni 2006. Den Haag: VWS
- Ministerie van Volksgezondheid, W.e.S.V. (2006e). Voortgangsrapportage Operatie Jong: juni 2006. Den Haag: VWS
- Mol, A., Van Vlaanderen, J.L., and De Vos, A. (2002). Ontwikkeling van de cocaïne hulpvraag in de ambulante verslavingszorg periode 1994 - 2000. Houten: IVZ
- Monshouwer, K., Smit, F., De Graaf, R., Van Os, J., and Vollebergh, W. (2005). First cannabis use: does onset shift to younger ages? Findings from 1988 to 2003 from the Dutch National School Survey on Substance Use. *Addiction*, 100, (7), 963-970
- Monshouwer, K., Van Dorsselaer, S., Gorter, A., Verdurnen, J., and Vollebergh, W. (2004). Jeugd en riskant gedrag: kerngegevens uit het peilstationsonderzoek 2003. Roken, drinken, drugsgebruik en gokken onder scholieren vanaf tien jaar. Utrecht: Trimbos-instituut
- Monshouwer, K., Van Dorsselaer, S., Verdurnen, J., Ter Bogt, T., De Graaf, R., and Vollebergh, W. (2006). Cannabis use and mental health in secondary school children: findings from a Dutch survey. *British Journal of Psychiatry*, 188, (2), 148-153
- Mrazek, P.J. & Haggerty, R.J. (1994). Reducing risks for mental disorders: Frontiers for preventive intervention research, Washington, DC,US: National Academy Press
- Nabben, T., Benschop, A., and Korf, D.J. (2005). Antenne 2004: trends in alcohol, tabak en drugs bij jonge Amsterdammers. Amsterdam: Rozenberg Publishers
- Nabben, T., Benschop, A., and Korf, D.J. (2006). Antenne 2005: Trends in alcohol, tabak en drugs bij jonge Amsterdammers. Amsterdam: Rozenberg Publishers
- National Advisory Mental Health Council Workgroup on Mental Disorders Prevention Research (1998). Priorities for prevention research at NIMH. Rockville: National Institute of Mental Health
- Niesink, R., Rigter, S., and Hoek, J. (2005). THC-concentraties in wiet, nederwiet en hasj in Nederlandse coffeeshops (2004-2005). Utrecht: Trimbos Institute
- Niesink, R., Rigter, S., Hoek, J., and Goldschmidt, H. (2006). THC-concentraties in wiet, nederwiet en hasj in Nederlandse coffeeshops (2005-2006). Utrecht: Trimbos-instituut
- Noijen, J. (2005). Handboek Unity: opzetten en uitvoeren van peer-educatie in het uitgaanscircuit. Amsterdam: Rozenberg Publishers
- Noijen, J., Van Bakkum, F., Jamin, J., Visser, G., and Schippers, G.M. (2006). Peer-educatie over alcohol- en drugsgebruik in de dancescene. *Verslaving*, 2, (3), 3-12
- Noorlander, E. (1997). Botsende culturen, In Dubbele diagnose: dwalen tussen psychiatrie en verslavingszorg. Utrecht: Trimbos-instituut ed. J. Van Weeghel, A Elling, and J Van der Marck, eds., pp. 1-8
- Noorlander, E. (2002). In-patient help for 'double trouble'patients. Paper presented at the 11th International Conference on the Reduction of Drug Related Harm, Jersey. Ref Type: Unpublished Work

- Op de Coul, E., Van Sighem, A., and Van de Laar, M. (2006). Schatting van het aantal volwassenen met HIV/aids in Nederland in 2005. Infectieziektenbulletin, 17, (11), 398-403
- Ouwelhand, A.W., Kuijpers, W.G.T., Mol, A., and Boonzajer Flaes, S. (2006). Kerncijfers verslavingszorg 2005: Landelijk Alcohol en Drugs Informatie Systeem (LADIS). Houten: Stichting IVZ
- Ouwelhand, A.W., Mol, A., Kuijpers, W.G.T., and Boonzajer Flaes, S. (2005). Kerncijfers verslavingszorg 2004: Landelijk Alcohol en Drugs Informatie Systeem [LADIS]. Houten: Stichting IVZ
- Papenhove, T.G., Spruijt, C.M., and Van der Kleijn, J. (2005). In beslag genomen verdoende middelen en drugsprizen 2004. Zoetermeer: KLPD-DNRI
- Parnassia (2005). Verslavingszorg: Mistral (<http://www.parnassia.nl>). Den Haag: Parnassia
- Pijlman, F.T., Rigter, S.M., Hoek, J., Goldschmidt, H.M., and Niesink, R.J. (2005). Strong increase in total delta-THC in cannabis preparations sold in Dutch coffee shops. Addict.Biol., 10, (2), 171-180
- Polstra, L., Bosma, H., and De Jonge, M.L. Polstra, H Bosma, & M De Jonge (ed.) (1999). Dubbel & Dwars : samenwerking in zorg voor dubbele diagnose cliënten. Groningen: Stichting Ambulante Verslavingszorg provincie Groningen
- Posthumus, T., Vos, R., and Kerkmeier, M. (2003). Dubbele diagnose, dubbele hulp: richtlijnen voor diagnostiek en behandeling : resultaten scoren. Den Haag: Parnassia
- Ramaekers, J.G., Berghaus, G., Van Laar, M., and Drummer, O.H. (2004). Dose related risk of motor vehicle crashes after cannabis use. Drug and Alcohol Dependence, 73, (2), 109-119
- Redactie Binnenland (2005). Blowverbod in Amsterdam. De Telegraaf, 22 december 2005
- Redactie NRC (2006). Maastricht mag coffeeshops niet verplaatsen naar grensregio. NRC, (2 juni 2006)
- Rigter, H. (2006a). Cannabis: preventie en behandeling bij jongeren. Utrecht: Trimbos-instituut
- Rigter, H. (2006b). What drug policies cost: drug policy spending in the Netherlands in 2003. Addiction, 101, 323-329
- Rigter, H., Van Gageldonk, A., Ketelaars, T., and Van Laar, M. (2004). Hulp bij probleemgebruik van drugs: stand van wetenschap voor behandelingen en andere interventies, 2004. Utrecht: Trimbos-instituut
- Riper, H. (2005a). E-mental health en middelengebruik. Presentation at Vijftiende Forum Alcohol en Drugs Onderzoek Utrecht: Trimbos-instituut
- Riper, H. (2005b). E-mental health: het pionieren voorbij? Preventie Periodiek, 8, (3), 1-3
- Riper, H., Kramer, J., Conijn, B., Smit, F., and Cuijpers, P. (2006). Web-based self help interventions for problem drinkers and their offspring. Presentation at the 11th World Congress on Internet in Medicine Toronto: Mednet
- RIVM, GGD Amsterdam, GGD Rotterdam, and Erasmus MC. (2006). Voortgangsrapportage HBV vaccinatiebeleid, oktober 2005-april 2006. Bilthoven: RIVM.
- Rodenburg, G., Spijkerman, R., Van den Eijnden, R., and Van de Mheen, D. (2006). Nationaal Prevalentie Onderzoek Middelengebruik 2005: eindrapportage. Rotterdam: IVO
- Rodenburg, G., Spijkerman, R., Van den Eijnden, R., and Van de Mheen, D. (2007). Nationaal prevalentieonderzoek middelengebruik 2005. Rotterdam: IVO
- Roomer, A. and Akouele, T. (2006a). Alcohol, Drugs & Verkeer: Een onderzoek onder bezoekers van coffeeshops en grootschalige discotheken in de regio Nijmegen (Nederland) - Kleve (Duitsland). Arnhem: De Grift
- Roomer, A. and Poelmans, I. (2006b). Tendens 2005-2006: alcohol- en drugsgebruik bij jongeren en jongvolwassenen in Gelderland. Arnhem: De Grift

- Samyn, S. (2006). België en Nederland overleggen in drugsoorlog. *Het Nieuwsblad*, 1 juni 2006
- Sannen, A., De Groot, C., and Schutte, A. (2005). *Buitenstaander of bondgenoot: tips voor samenwerken in het uitgaanscircuit*. Utrecht: Trimbos-instituut
- Schippers, G., Van Es, M., and Van Dijk, A. (2005). De verslavingszorg professionaliseert: evaluatie van het zorgvernieuwingsproject 'Resultaten Scoren'. MGv: Maandblad Geestelijke volksgezondheid, 60, (5), 527-539
- Schippers,G.M.and Broekman,T.G.(2006). The course of alcohol dependence & The course of drug dependence. Den Haag: ZonMw, Programma Verslaving
- Single, E., Collins, D., Easton, B., Harwood, H., Lapsley, H., Kopp, P. et al. (2003). International guidelines for estimating the costs of substance abuse: second edition. Geneva: World Health Organization
- Smit, C., Geskus, R., Walker, S., Sabin, C., Coutinho, R., Porter, K. et al. (2006a). Effective therapy has altered the spectrum of cause-specific mortality following HIV seroconversion. *AIDS*, 20, (5), 741-749
- Smit, F., Bolier, L., and Cuijpers, P. (2004). Cannabis use and the risk of later schizophrenia: a review. *Addiction*, 99, (4), 425-430
- Smit, F. and Toet, J. (2001). National prevalence estimates of problematic drug use in the Netherlands, 1999: report to the European Monitoring Centre for Drugs and Drugs Addiction (EMCDDA). [s.l.]: [s.n.]
- Smit, F., Van Laar, M., and Wiessing, L. (2006b). Estimating problem drug use prevalence at national level: comparison of three methods. *Drugs: education, prevention and policy*, 13, (2), 109-120
- Snippe, J., Ogier, C., and Bieleman, B. (2006). Lokale aanpak zeer actieve veelplegers: justitieel traject. Groningen: Intraval
- Spapens,T. (2006). Interactie tussen criminaliteit en opsporing: de gevolgen van de opsporingsactiviteiten voor de organisatie en afscherming van xtc-productie en -handel in Nederland. Antwerpen: Intersentia.
- Stb 2004/351: Staatsblad van het Koninkrijk der Nederlanden jaargang 2004 nr.351 (2004). Wet van 9 juli 2004 tot wijziging van het Wetboek van Strafrecht, het Wetboek van Strafvordering en de Penitentiaire beginselenwet (plaatsing in een inrichting voor stelselmatige daders). Den Haag: Sdu Uitgevers
- Stb 2004/351: Staatsblad van het Koninkrijk der Nederlanden jaargang 2004, nr.3. (2004). Wet van 9 juli 2004 tot wijziging van het Wetboek van Strafrecht, het Wetboek van Strafvordering en de Penitentiaire beginselenwet (plaatsing in een inrichting voor stelselmatige daders). Den Haag: Sdu Uitgevers
- Stc 2000/250: Staatscourant 27 december 2000 nr.250 (2000). Aanwijzing Opiumwet. Den Haag: Sdu Uitgevers
- Stc 2004/246: Staatscourant 22 december 2004 nr.246 (2004). Verlenging beleidsregels OM. Den Haag: Sdu Uitgevers
- Stichting IVZ (2004). Cocaïnehulpvraag in de ambulante verslavingszorg in Nederland (1994-2002). Ladis Bulletin, (maart 2004)
- Stoele, M., Van 't Klooster, B., and Van der Poel, A. (2005). Quick Scan verslavingsproblematiek regio Den Bosch 2005: aard en omvang verslavingsproblematiek en knelpunten in zorgverlening in de regio Den Bosch. Sint-Oedenrode/Rotterdam: Novadic-Kentron/IVO
- T.K.20415/1: Tweede Kamer der Staten-Generaal vergaderjaar 1987-1988 publicatie-nummer 20415 nrs 1-2 (1988). Dwang en drang in de hulpverlening aan verslaafden. Den Haag: Staatsuitgeverij
- T.K.23760/14: Tweede Kamer der Staten-Generaal vergaderjaar 2000-2001 publicatie-nummer 23760 nr.14 (2001). Beleid inzake XTC: brief minister bij de nota 'Samen-spannen tegen XTC'. Den Haag: Sdu Uitgevers

- T.K.23760/19:Tweede Kamer der Staten-Generaal vergaderjaar 2004-2005 publicatie-nummer 23760 nr.19 (2005). Beleid inzake XTC; Brief minister ter aanbieding van het tussentijdse evaluatierapport over de uitvoering van de XTC-nota 'Samenspannen tegen XTC'. Den Haag: Sdu Uitgevers
- T.K.24077/112:Tweede Kamer der Staten-Generaal vergaderjaar 2002-2003 publicatie-nummer 24077 nr.112 (2002). Drugbeleid; Brief minister en staatssecretaris over hun standpunt op het advies van de Gezondheidsraad over 'Behandeling drugsverslaafde gedetineerden'. Den Haag: Sdu Uitgevers
- T.K.24077/125:Tweede Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatie-nummer 24077 nr.125 (2004). Drugbeleid: Brief ministers over het cannabisbeleid. Den Haag: Sdu Uitgevers
- T.K.24077/137:Tweede Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatie-nummer 24077 nr.137 (2004). Drugbeleid; Verslag algemeen overleg van 30 juni 2004 over o.a. medicinale cannabis, aanvullende evaluatie CCBH behandeling met he-roïne, en rapport 'Sterke wiet'. Den Haag: Sdu Uitgevers
- T.K.24077/140:Tweede Kamer der Staten-Generaal vergaderjaar 2004-2005 publicatie-nummer 24077 nr.140 (2005). Drugbeleid: brief van minister van VWS over medicinale cannabis. Den Haag: Sdu Uitgevers
- T.K.24077/172:Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatie-nummer 24077 nr.172 (2005). Drugbeleid; Brief minister over medicinale cannabis. Den Haag: Sdu Uitgevers
- T.K.24077/175:Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatie-nummer 24077 nr.175 (2005). Drugbeleid; Brief ministers bij aanbieding rapport 'Ex-perimenteren met het gedogen van teelt van cannabis ten behoeve van de bevoorrading van coffeeshops - Internationaalrechtelijke en Europeesrechtelijke aspecten'. Den Haag: Sdu Uitgevers
- T.K.24077/179:Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatie-nummer 24077 nr.179 (2006). Drugbeleid; Brief ministers met reactie op 'Manifest van Maastricht'. Den Haag: Sdu Uitgevers
- T.K.24077/184:Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatie-nummer 24077 nr.184 (2006). Drugbeleid; Brief minister bij aanbieding notitie Integrale aanpak hennepteelt. Den Haag: Sdu Uitgevers
- T.K.24077/190:Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatie-nummer 24077 nr.190 (2006). Drugbeleid; Brief minister over twee onderzoeken naar coffeeshops. Den Haag: Sdu Uitgevers
- T.K.24077/191:Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatie-nummer 24077 nr.191 (2006). Drugbeleid; Verslag algemeen overleg gehouden op 22 juni 2006. Den Haag: Sdu Uitgevers
- T.K.24077/192:Tweede Kamer der Staten-Generaal vergaderjaar 2006-2007 publicatie-nummer 24077 nr.192 (2006). Drugbeleid; Brief minister over vervolgbeleid medicinale cannabis. Den Haag: Sdu Uitgevers
- T.K.28192/1: Tweede Kamer der Staten-Generaal vergaderjaar 2001-2002 publicatie-nummer 28192 nr.1 (2001). Drugsmokkel Schiphol: brief minister bij het plan van aanpak drugsmokkel Schiphol [Drugtrafficking at Schiphol: letter of the Minister at the action plan against drug trafficking at Schiphol]. Den Haag: Sdu Uitgevers
- T.K.28192/23: Tweede Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatie-nummer 28192 nr.23 (2003). Drugsmokkel Schiphol: brief minister met de vijfde voortgangsrapportage drugsmokkel Schiphol. Den Haag: Sdu Uitgevers
- T.K.28192/29:Tweede Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatie-nummer 28192 nr.29 (2004). Drugsmokkel Schiphol; Brief minister over de voortgang van de uitvoering van het beleid. Den Haag: Sdu Uitgevers

- T.K.28192/36: Tweede Kamer der Staten-Generaal vergaderjaar 2004-2005 publicatie-nummer 28192 nr.36 (2004). Drugsmokkel Schiphol: brief minister met de zesde voortgangsrapportage drugsmokkel Schiphol. Den Haag: Sdu Uitgevers
- T.K.28192/38: Tweede Kamer der Staten-Generaal vergaderjaar 2004-2005 publicatie-nummer 28192 nr.38 (2005). Drugsmokkel Schiphol; Verslag van een algemeen overleg. Den Haag: Sdu Uitgevers
- T.K.28192/41 Tweede Kamer der Staten-Generaal vergaderjaar 2004-2005 publicatie-nummer 28192 nr.41 (2006). Drugsmokkel Schiphol; Brief minister met de zevende voortgangsrapportage drugsmokkel Schiphol. Den Haag: Sdu Uitgevers
- T.K.28684/1-2: Tweede Kamer der Staten-Generaal vergaderjaar 2002-2003 publicatie-nummer 28684 nrs.1-2 (2002). Naar een veiliger samenleving: Brief ministers en staatssecretaris met het veiligheidsprogramma "Naar een veiliger samenleving" [Towards a safer society]. Den Haag: Sdu Uitgevers
- T.K.28684/10: Tweede Kamer der Staten-Generaal vergaderjaar 2002-2003 publicatie-nummer 28684 nr.10 (2003). Naar een veiliger samenleving: brief minister over de intensieve aanpak van veelplegers [Towards a safer society: white paper of the Minister on the intensive approach of repeat offenders]. Den Haag: Sdu Uitgevers
- T.K.28684/44: Tweede Kamer der Staten-Generaal vergaderjaar 2004-2005 publicatie-nummer 28684 nr.44 (2004). Naar een veiliger samenleving; Brief ministers met de Midterm Review Veiligheidsprogramma. Den Haag: Sdu Uitgevers
- T.K.28684/51: Tweede Kamer der Staten-Generaal vergaderjaar 2004-2005 publicatie-nummer 28684 nr.51 (2005). Naar een veiliger samenleving: Vijfde voortgangsrapportage. Den Haag: Sdu Uitgevers
- T.K.28980-1-2: Tweede Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatie-nummer 28980 nr.1-2 (2003). Wijziging van het Wetboek van Strafrecht, het Wetboek van Strafvordering en de Penitentiaire beginselenwet (plaatsing in een inrichting voor stelselmatige daders); Voorstel van wet. Den Haag: Sdu Uitgevers
- T.K.28980/16: Tweede Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatie-nummer 28980 nr.16 (2004). Wijziging van het Wetboek van Strafrecht, het Wetboek van Strafvordering en de Penitentiaire beginselenwet (plaatsing in een inrichting voor stelselmatige daders); Brief minister over de stand van zaken inzake de plaatsing in een inrichting voor stelselmatige daders. Den Haag: Sdu Uitgevers
- T.K.28980/3: Tweede Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatie-nummer 28980 nr.3 (2003). Wijziging van het Wetboek van Strafrecht, het Wetboek van Strafvordering en de Penitentiaire beginselenwet (plaatsing in een inrichting voor stelselmatige daders); Memorie van toelichting. Den Haag: Sdu Uitgevers
- T.K.29200/167: Tweede Kamer der Staten-Generaal vergaderjaar 2002-2003 publicatie-nummer 29200 VI nr.167 (2004). Vaststelling van de begrotingsstaat van het Ministerie van Justitie (VI) voor het jaar 2004; Brief minister over sanctiecapaciteit. Den Haag: Sdu Uitgevers
- T.K.29325/8: Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatie-nummer 29325 nr.8 (2006). Maatschappelijke opvang; Brief over plan van Aanpak Maatschappelijke Opvang van de G4. Den Haag: Sdu Uitgevers
- T.K.29660/1-2: Tweede Kamer der Staten-Generaal vergaderjaar 2003-2004 publicatie-nummer 29660 nrs.1-2 (2004). Zorg voor verslaafden [Care for addicts]. Den Haag: Sdu Uitgevers
- T.K.29660/5-6: Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatie-nummer 29660 nrs.5-6 (2006). Zorg voor verslaafden: Rapport: terugblik 2006. Den Haag: Sdu Uitgevers
- T.K.30100/6: Tweede Kamer der Staten-Generaal vergaderjaar 2004-2005 publicatie-nummer 30100 VI nr.6 (2005). Jaarverslag en slotwet van ministerie van Justitie

- 2004; Lijst van vragen en antwoorden over het Jaarverslag 2004 van het ministerie van Justitie (Kamerstuk 30100 VI, nr. 1). Den Haag: Sdu Uitgevers
- T.K.30300VI/98: Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatienummer 30300VI, nr.9. (2006). Vaststelling van de begrotingsstaten van het Ministerie van Justitie (VI) voor het jaar 2006; Brief minister over een blowverbod voor de openbare ruimte. Den Haag: Sdu Uitgevers
- T.K.30515/3:Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 publicatie-nummer 30515 nr.3 (2006). Wijziging Opiumwet ivm toepassen bestuursdwang bij illegale verkoop in woningen; Memorie van toelichting. Den Haag: Sdu Uitgevers
- T.K.Aanhangsel/1758: Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 Aanhangsel van de Handelingen nr.1758 (2006). Vragen van het lid Joldersma (CDA) aan de minister van Volksgezondheid, Welzijn en Sport over de financiële beloning aan verslaafden. (Ingezonden 20 juni 2006); Antwoord. Den Haag: Sdu Uitgevers
- T.K.Aanhangsel/2120: Tweede Kamer der Staten-Generaal vergaderjaar 2005-2006 Aanhangsel van de Handelingen nr.2120 (2006). Vragen van de leden Joldersma en Aasted-Madsen (beiden CDA) aan de minister van Volksgezondheid, Welzijn en Sport over dubbele diagnose. Den Haag: Sdu Uitgevers
- T.K.Aanhangsel/2295:Tweede Kamer der Staten-Generaal, v.v.A.v.d.H.2. (2004). Vragen van het lid Van Haersma Buma (CDA) aan de minister van Justitie over de sterke toename van XTC-smokkel naar Duitsland. (Ingezonden 4 augustus 2004); Antwoord. Den Haag: Sdu Uitgevers
- T.M.C.Asser Instituut (2005). Experimenteren met het gedogen van teelt van cannabis ten behoeve van de bevoorrading van coffeeshops - Internationaalrechtelijke en Europeesrechtelijke aspecten. Den Haag: T.M.C. Asser Instituut
- TACTUS. (2006). Op vakantie om verslaving te vergeten (03-08-2006 <http://www.tactus.nl>). Deventer: TACTUS, Instelling voor Verslavingszorg
- Toet, J. (1999). Study to obtain comparable national estimates of problem drug use prevalence for all EU Member States: country report: the Netherlands. Lisbon: EMCDDA
- Toonen,M., Ribot,S., and Thissen,J. (2006). Yield of illicit indoor cannabis cultivation in the Netherlands. Journal of Forensic Sciences, 51, (5), 1050-1054
- Trimbos-instituut (2006a). De gezonde school en genotmiddelen: Find Out! op dvd (04-05-2006 <http://www.dgsg.nl>). Utrecht: Trimbos-instituut
- Trimbos-instituut (2006b). Project Alcohol en opvoeding van start bij Trimbos-instituut en NIGZ (25-07-2006 <http://www.trimbos.nl>). Utrecht: Trimbos-instituut
- Uitermark, J. and Cohen, P. (2004). Amphetamine users in Amsterdam: patterns of use and modes of self-regulation. Amsterdam: CEDRO
- Van 't Klooster, B., Van Dongen, A., Rezai, S., and Van der Poel, A. (2006). REGIO Monitor Eindhoven 2006: aard en omvang van (ernstige) verslavingsproblematiek en knelpunten in de zorgverlening. Sint-Oedenrode/Rotterdam: Novadic-Kentron/IVO
- Van 't Land, H., Van Duijvenboden, K., and Van der Plas, A. (2005). Opgevangen onder dwang: procesevaluatie strafrechtelijke opvang verslaafden. Utrecht: Trimbos-instituut
- Van Bostelen, E., Davio, G.M.P., and Woerlee, A. (2005). Verslag van bevindingen en advies inzake het samenwerkingsmodel gevangeniswezen en reclassering: eindrappartage van een gecombineerd onderzoeks- en adviestraject. Den Haag: WODC
- Van Brussel, G.H.A. and Buster, M.C.A. (2005). OGGZ monitor Amsterdam '02'03'04: inclusief de jaarcijfers over problematische opiaatverslaafden en uitgaansdrugsongevallen. Amsterdam: GG&GD
- Van de Glind, G., Kooij, S., Van Duin, D., Goossensen, A., and Carpentier, P.J. (2004). Protocol ADHD bij verslaving: screening, diagnostiek en behandeling voor de ambulante en klinische verslavingszorg. Utrecht: Trimbos-instituut

- Van de Laar, M.J.W., De Boer, I.M., Koedijk, F.D.H., and Op de Coul, E.L.M. (2005). HIV and Sexually Transmitted Infections in the Netherlands in 2004 An update: November 2005. Bilthoven: RIVM
- Van de Laar, T.J., Koppelman, M.H., Van der Bij, A.K., Zaaijer, H.L., Cuijpers, H.T., Van der Poel, C.L. et al. (2006). Diversity and origin of hepatitis C virus infection among unpaid blood donors in the Netherlands. *Transfusion*, 46, (10), 1719-1728
- Van de Mheen, H., Coumans, M., Barendregt, C., and Van der Poel, A. (2006). A drug monitoring system: Keeping a finger on the pulse by triangulation of qualitative and quantitative methods. *Addiction Research and Theory* 14[5], 461-473. Ref Type: Journal (Full)
- Van den Brink, W., Hendriks, V.M., Blanken, P., Huijsman, I.A., and Van Ree, J.M. (2002). Medical co-prescription of heroin : two randomized controlled trials I : Heroïne op medisch voorschrift : verkorte weergave van de rapportage. Utrecht: CCBH
- Van der Dam, S., Coumans, M., and Knibbe, R. (2006a). Frequent harddruggebruik onder jong volwassenen in Parkstad Limburg: Drug Monitoring Systeem Parstad Limburg, 2004-2006. Rotterdam: IVO
- Van der Dam, S., Coumans, M., and Knibbe, R. (2006b). Van de straat: eindrapportage Drug Monitor Systeem., 2004-2006. Rotterdam: IVO
- Van der Helm, T. (2005). Verslag project vertrouwensvrouw voor prostituees 2002 t/m 2004. Amsterdam: GGD Amsterdam
- Van der Poel, A., Barendregt, C., and Schouten, M. (2003). De leefsituatie van gebruikers in de Rotterdamse harddrugsscene (resultaten van de survey 2003). IVO-bulletin, 6, (4), 1-19
- Van der Poel, A., Hennink, M., Barendregt, C., and Van de Mheen, D. (2004). Jongeren en basecoke: leidt gebruik van basecoke tot marginalisering? IVO-bulletin, 7, (1), 1-20
- Van der Stel, J. (2006). Co-morbiditeit: verslaving plus een psychische stoornis. Den Haag: ZonMw, Programma Verslaving
- Van der Torre, E.J. (2006). De strategische analyse van harddrugsscenes: hoofdlijnen voor politie en beleid. Apeldoorn/Den Haag: Politie&Wetenschap/COT
- Van Diest, H. (2005). Factsheet De Gezonde School en Genotmiddelen. Utrecht: Trimbos Institute
- Van Dijk, P. (2005). DIMS jaarbericht 2005. Utrecht: Trimbos-instituut
- Van Emmerik, J.L. and Brouwers, M. (2001). De terbeschikkingstelling in maat en getal: een beschrijving van de tbs-populatie in de periode 1995-2000. Den Haag: Ministerie van Justitie
- Van Es, M. (2004). Unieke samenwerking in de verslavingszorg: resultaten scoren. Verslag 1999 - 2003. Utrecht: GGZ Nederland
- Van Gageldonk, A., Ketelaars, T., and Van Laar, M. (2006). Hulp bij probleemgebruik van drugs: evidentiële voor werkzaamheid of effectiviteit van interventies in de verslavingszorg: actualisering van de NDM achtergrondstudie uit 2004. Utrecht: Trimbos-instituut
- Van Geloven,A.A.; Van Lienden,K.P.; and Gouma,D.J. (2002). Bodypacking--an increasing problem in The Netherlands: conservative or surgical treatment? *European Journal of Surgery*, 168, (7), 404-409.
- Van Gogh, M., Knapen, L., Carpentier, P., Verbrugge, C., and De Jong, C. (2006). Co-morbiditeit bij methadon-patiënten: een klinisch epidemiologisch onderzoek naar psychiatrische co-morbiditeit bij opiaatafhankelijke patiënten met een onderhoudsbehandeling methadon binnen een ambulante setting. Precirculair paper presented at Zestiende Forum Alcohol en Drugs Onderzoek, abstract nr. 2 Utrecht: Trimbos-instituut
- Van Harten, D. (2005). Junks op de boederij. *Volkskrant*, 2 augustus 2005, 2
- Van Hasselt, N. and Jacobs, K.J. (2005). Voorlichting uitgaanders: handvatten voor preventieprofessionals. Utrecht: Trimbos-instituut

- Van Kleef, L.E. and Van der Lely, N. (2006). Jongeren met alcoholintoxicatie: een groeiend probleem. *Nederlands Tijdschrift voor Geneeskunde*, 150, (46), 2521-2522.
- Van Laar, M., Cruts, G., and Keij, I. (2003). Drugsgerelateerde sterfte. *Bevolkingstrends*, 51, (3), 30-32
- Van Laar, M., Van Dorsselaer, S., Monshouwer, K., and De Graaf, R. (2005). Association between cannabis use and mental disorders in the adult population: Does cannabis use predict the first incidence of mood and anxiety disorders? Utrecht: Trimbos Institute
- Van Leeuwen, L. (2006). Open en Alert: alcohol- en drugspreventie in de residentiële jeugdhulpverlening: handboek voor trainers. Utrecht: Trimbos-instituut
- Van Leeuwen, L., Beckers, Y., and Bouts, M. (2006). Open en Alert: Handboek voor trainers. Utrecht: Trimbos-instituut/Mondriaan Zorggroep
- Van Nes, J.C. (1999). Klinische behandeling van drugsverslaafden met een psychische stoornis: Haagse ervaringen met dubbele diagnose problematiek, In *Handboek verslaving: hulpverlening, preventie en beleid*. Houten/Zavetem: Bohn Stafleu Van Loghum ed. W.R. Buisman, J Casselman, and G M Schippers, eds., pp. B6315-3-B6315-30
- Van Ooyen-Houben, M. (2004). Drang bij criminale harddruggebruikers – een onderzoek naar de toepassing van drang in Nederland. *Tijdschrift voor Criminologie*, 46, (3), 233-248
- Van Os, J., Bak, M., Hanssen, M., Bijl, R.V., De Graaf, R., and Verdoux, H. (2002). Cannabis use and psychosis: a longitudinal population-based study. *American Journal of Epidemiology*, 156, (4), 319-327
- Van Pareren, D. and Van 't Klooster, B. (2006). Cocaïnegebruik in het uitgaansgebied van Eindhoven. Eindhoven: Novadic-Kentron
- Van Rooijen, M. (2001). Zendingswerk: dubbele diagnose klinie. Psy, 5, (14), 24-28
- Van Veen, M.G., Wagemans, M.A.J., Van den Burg, I., Tonino-van der Marel, E., Van Leeuwen, A.P., and Van de Laar, M.J.W. (2006). HIV-surveys bij hoog-risicogroepen in Den Haag 2005. Bilthoven: RIVM
- Van Vuuren, C.L. and Tielen, J.T. (2005). Quick scan uitgaandrugs en preventie: onderzoek naar alcohol- en drugsgebruik en mogelijkheden voor preventie in het uitgaansleven en sportkantines in Noordwijk. Leiden: GGD Zuid-Holland Noord
- Van Weeghel, J., Elling, A., and Van der Marck, J. (1997). Dubbele diagnose : dwalen tussen psychiatrie en verslavingszorg. Utrecht: Trimbos-instituut
- Veldhuijzen,I.K., Smits,L.J., and Van de Laar,M.J. (2005). The importance of imported infections in maintaining hepatitis B in The Netherlands. *Epidemiology and infection*, 133, (1), 113-119
- Verdurmen, J., Abraham, M., Planije, M., Monshouwer, K., Van Dorsselaer, S., Schulten, I. et al. (2006). Alcoholgebruik en jongeren onder de 16 jaar: schadelijke effecten en effectiviteit van alcoholinterventies. Utrecht: Trimbos-instituut
- Verdurmen, J., Monshouwer, K., Van Dorsselaer, S., Ter Bogt, T., and Vollebergh, W. (2005a). Alcohol use and mental health in adolescents: Interactions with age and gender-findings from the Dutch 2001 Health Behaviour in School-Aged Children survey. *Journal of Studies on Alcohol*, 66, (5), 605-609
- Verdurmen, J., Monshouwer, K., Van Dorsselaer, S., and Vollebergh, W. (2005b). Cannabisegebruik onder adolescenten: gebruikspatronen, achtergrondfactoren en psychosociale problemen. Submitted,
- Verdurmen, J., Van Oort, M., Meeuwissen, J., Ketelaars, T., De Graaf, I., Cuijpers, P. et al. (2003). Effectiviteit van preventieve interventies gericht op jeugdigen: de stand van zaken: Een onderzoek naar de effectiviteit van in Nederland uitgevoerde preventieve programma's gericht op kinderen en jeugdigen. Utrecht: Trimbos-instituut
- Verslavingszorg Noord Nederland (2006). Wat is het Bauhuus? (<http://www.vnn.nl>). Groningen: Verslavingszorg Noord Nederland

- Verstraete, A.G. and Raes, E. (2006). Driving under the Influence of Drugs: Advanced Analytical Techniques Help Detect Drugged Drivers. *BIOforum Europe*, 9, 16-17
- Vogelsang, B.O., Van Burik, A., Van der Knaap, L.M., and Warthna, B.S.J. (2003). Prevalentie van criminogene factoren bij mannelijke gedetineerden in Nederland. Den Haag: Adviesbureau Van Montfoort/WODC
- Vreugdenhil, C., Van den Brink, W., Wouters, L.F., and Doreleijers, T.A. (2003). Substance use, substance use disorders, and comorbidity patterns in a representative sample of incarcerated male Dutch adolescents. *Journal of Nervous and Mental Disease*, 191, (6), 372-378
- Vrieling,I., Van Alem,V.C.M., and Van de Mheen,H. (2000). Drop-out onder allochtonen in de ambulante verslavingszorg: 1994 – 1998. Houten: IVV.
- Vrooman, C., Soede, A., Dirven, H.J., and Trimp, R. (2005). Armoedemonitor 2005. Den Haag: Sociaal en Cultureel Planbureau/Centraal Bureau voor de Statistiek
- Warthna, B.S.J., Baas, N.J., and Beenakkers, E.M.T. (2004a). Beter, anders en goedkoper: een literatuurverkenning ten behoeve van het traject Modernisering Strafrechttoepassing. Den Haag: Sdu Uitgevers
- Warthna, B.S.J. and Tollenaar, N. (2004b). Bekenden van Justitie: een verkennend onderzoek naar de "veelplegers" in de populatie van vervolgde daders. Den Haag: Boom Juridische uitgevers
- Welp, E.A., Bosman, I., Langendam, M.W., Totte, M., Maes, R.A., and van Ameijden, E.J. (2003). Amount of self-reported illicit drug use compared to quantitative hair test results in community-recruited young drug users in Amsterdam. *Addiction*, 98, (7), 987-994
- Wesselink, K. and Korf.D. (2005). Soetoe en skaffa: een peerproject over slimmer blowen. Utrecht: FORUM
- Wiers, R.W. (2006). Het ontstaan van verslavingsgedrag bij jongeren: Een noodlottige zelfoverschatting van het bewustzijn. Nijmegen: Radboud Universiteit Nijmegen
- Wittenberg, S. (2005). Niet uit het veld te slaan: bereiken van basecokegebruikers op straat. Amsterdam: Stichting Mainline

14.2 Alphabetic overview of relevant data bases

(Source: Cruts et al. 2004)

Amsterdamse cohortstudie, Amsterdam Cohort Study

Local cohort study on mortality among methadone clients registered at the CMR (see below), conducted by the Amsterdam Municipal Health Service. Homepage: www.gggd.amsterdam.nl

Antenne (Amsterdam Antenna)

Local monitor of the use of alcohol, tobacco, and drugs by school-goers and socialising young persons 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

Client 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.gggd.amsterdam.nl

Client 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.gggznederland.nl

CMR, Centrale Methadon Registratie, Central Methadone Register (CMR)

Local registration of methadone substitution treatment, conducted by the Amsterdam Municipal Health Service. Homepage: www.gggd.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 Amsterdam Municipal Health Service. Homepage: www.gggd.amsterdam.nl

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

DMS, Drug Monitoring Systeem, Drug Monitoring System (DMS)

Local monitor on problem drug use and living conditions of marginalised hard drug users in the cities of Rotterdam and Utrecht, and the region of Parkstad Limburg, conducted by the Addiction Research Institute Rotterdam (IVO). Homepage: www.ivo.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 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 outpatient addiction care and treatment, conducted by the Organization of 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](http://www veiligheid.nl)

LMR, Landelijke Medische Registratie, Dutch Hospital Registration (LMR)

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/

National Investigation Information Services (Opsporingsonderzoeken Georganiseerde Criminaliteit)

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/

NEMESIS, Netherlands Mental Health Survey and Incidence Study

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

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 Centre for Drug Research (CEDRO) of the University of Amsterdam (UvA). Homepage: www.cedro-uva.org

NSO, Nationale Scholierenonderzoek, National School Survey (NSO)

National survey on alcohol and drug use among pupils in relation to their physical and mental health, conducted by the National Institute for Family Finance Information (NI-BUD). Homepage: www.scp.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/

OGGZ Monitor Amsterdam, Public Mental Health Care Monitor Amsterdam

Local monitor on marginalized inhabitants of Amsterdam including problem drug users, conducted by the Amsterdam Municipal Health Service (GG&GD Amsterdam). Homepage: www.gggd.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/

Politiemonitor Bevolking, Police Population Monitor

National survey on safety and public nuisance due to alcohol, drugs and other sources, conducted by a consortium of the B&A Groep Beleidsonderzoek & -Advies B.V. and Intomart GfK B.V. Homepage:

www.politie.nl/Overige/Documentatie/politiemonitor_bevolking.asp

SOV-onderzoek, Strafrechtelijke Opvang Verslaafden, Judicial Treatment of Addicts (SOV) Survey

National registration of addicts subject to the Judicial Treatment of Addicts (SOV), conducted by the Amsterdam Institute for Addiction Research (AIAR). Homepage: www.aiar.nl

SRM, Strafrechtmonitor, Criminal Law Monitor (SRM)

National in-depth survey on a sample of criminal cases, including offences against the Opium Act, conducted by the Research and Documentation Centre (WODC) of the Ministry of Justice. 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 (DIMS) at the Trimbos Institute. Homepage: www.trimbos.nl

Trendwatch

National qualitative panel monitor on the use of alcohol and drugs by young people in the nightlife scene, conducted by the Bonjer Institute of the University of Amsterdam (UvA). Homepage: www.jur.uva.nl/criminologie

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/

USD monitor, Synthetic Drugs Unit (USD) Monitor

National registration of seizures of synthetic drugs, precursors and production locations, conducted by the Kernteam Zuid-Nederland/Synthetic Drugs Unit. Homepage: www.politie.nl/Overige/Overigepolitieorganisaties/

WODC-Recidivemonitor, WODC Monitor on Recidivism

National registration of suspects and convicts that 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/

14.3 List of relevant Internet addresses

This list contains only a selection of websites in the Netherlands on the subject of substance use.

Website	Contents
http://www.trimbos.nl/	Netherlands Institute of Mental Health and Addiction
http://www.minvws.nl/	Ministry of Health, Welfare and Sports
http://www.justitie.nl	Ministry of Justice
http://www.wodc.nl	Research and Documentation Centre of the Ministry of Justice
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.jellinek.nl	Jellinek Addiction Care Amsterdam
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.drugsinfo.nl/	Objective information on drugs for the general public
http://www.ivo.nl/	Addiction Research Institute Foundation, Rotterdam
http://www.ggd.amsterdam.nl/	Municipal Health Service of Amsterdam
http://www.cbs.nl/	Statistics Netherlands
http://www.ggznederland.nl/	Netherlands Association for Mental Health Care
http://www.rivm.nl/	National Institute for Public Health and the Environment
http://www.sivz.nl/	Care Information Systems Foundation
http://www.hiv-monitoring.nl/	HIV Monitoring Foundation (HMF)
http://www.politie.nl/KLPD/	National Police Agency
http://www.prismant.nl/	Prismant: Consultancy agency for the Social Care Sector

http://www.scp.nl/	Social and Cultural Planning Office of the Netherlands
http://www.nispa.nl/	Nijmegen Institute for Scientist-Practitioners in Addiction
http://www.zonmw.nl/	Netherlands Organisation for Health Research and Development
http://www.boumanhuis.nl/	Bouman GGZ (Addiction Care Rotterdam)
http://www.brijder.nl/	Brijder verslavingszorg (Addiction Care North Holland)
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.ggznl.nl/	GGZ Noord- en Midden-Limburg (Addiction Care Northern and Central Limburg)
http://www.mondriaanzorggroep.nl/	Mondriaan Zorggroep (Addiction Care Southern Limburg)
http://www.emergis.nl/	Emergis – Centruim voor Geestelijke Gezondheidszorg (Addiction Care Zeeland)
http://www.om.nl/english/	Public Prosecution Service (English section)
http://www.intraval.nl/	Intraval-Bureau voor onderzoek en advies (Social Scientific Research Institute)

15 Annexes

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- Table 2.4: Last month prevalence of the use of different drugs among young people in the nightlife scene in five cities
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- Table 4.2: Local and regional estimates of the number of problem hard drug users
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15.3 List of Abbreviations used in the text

2C-B	4-bromo-2,5-dimethoxyphenethylamine
4-MTA	4-methylthioamphetamine
ADHD	Attention-Deficit/Hyperactivity Disorder
AIAR	Amsterdam Institute for Addiction Research
AIDS	Acquired Immune Deficiency Syndrome
BZK	Ministry of the Interior and Kingdom Relations
CAM	Coordination Centre for the Assessment and Monitoring of New Drugs
CBS	Statistics Netherlands
CBZ	Board of Construction of Facilities for Hospitals
CEDRO	Centre for Drug Research
CMR	Central Methadone Registration
DIMS	Drugs Information and Monitoring System
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
FIOD	Fiscal Intelligence and Investigation Department
GGD	Municipal Health Service
GG&GD	Area Health Authority
GGZ	Mental Health Service
GGZ Nederland	Netherlands Association for Mental Health Care
GHB	Gamma-hydroxy-butyrate
GMR	General Mortality Register
HAART	Highly Active Anti-Retroviral Treatment
HAVO	Secondary education at middle level
HBV	Hepatitis B
HCV	Hepatitis C
HIV	Human Immune Deficiency Virus
HKS	Defendant Recognition System (of the Police)
ICD	International Classification of Diseases, Injuries and Causes of Death
IDUs	Injecting Drug Users
IGZ	Health Care Inspectorate
IMC	Inpatient Motivation Centre
ISD	Institution for Prolific Offenders
IVO	Addiction Research Institute Foundation
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
LMR	National Information System on Hospital Care and Day Nursing
LSD	D-Lysergic acid diethylamide
LTP	LifeTime Prevalence
LMP	Last Month Prevalence
LYP	Last Year Prevalence
MBDB	N-methyl-1-(3,4-methylenedioxyphenyl)-2-butanamine
MDA	Methylene-dioxyamphetamine
MDEA	Methylene-dioxyethylamphetamine
MDMA	3,4-methylene-dioxymethamphetamine

MIM	Multivariate (Social) Indicator Method
NDM	National Drug Monitor
NEMESIS	Netherlands Mental Health Survey and Incidence Study
NIGZ	National Institute for Health Promotion and Disease Control
NPO	National Drug Use Survey/National Prevalence Survey
NVIC	National Poisons Information Centre
OBJD	Justice Documentation Research Database
OMC	Office of Medicinal Cannabis
OMDATA	Public Prosecution Department Data
PMA	Paramethoxyamphetamine
RIVM	National Institute for Public Health and the Environment
SCP	National Institute for SocioCultural Studies
SHM	HIV Monitoring Foundation
SOV	Judicial Treatment of Addicts
SRM	Criminal Justice Monitor
SVO	Steering Committee for the Reduction of Nuisance
TBC	Tuberculosis
TDI	Treatment Demand Indicator
THC	Tetrahydrocannabinol
T.K.	House of Representatives
TM	Treatment Multiplier
USD	Synthetic Drugs Unit
VMBO-p	Secondary practical education at the lower level
VMBO-t	Secondary theoretical education at the lower level
VVGN	Dutch Association of Addiction Physicians
VWO	Secondary education at the higher level, pre-university education
VWS	Ministry of Public Health, Welfare and Sports
WHO	World Health Organisation
WODC	Research and Documentation Centre of the Dutch Ministry of Justice
XTC	Ecstasy
ZORG-IS	Registration System for Mental Health Care

15.4 Map of the Netherlands: provinces and major cities

The Netherlands



