

**National Report on the Drug Situation
in The Netherlands
2001**

Draft Final version

December 2001

© *Netherlands Focal Point*

Part I (Henk Rigter, Toine Ketelaars)

Part II (Margriet van Laar)

Part III (André van Gageldonk)

Part IV (André van Gageldonk, Margriet van Laar)

2001 Trimbos Institute
Netherlands Focal Point
PO Box 725
3500 AS Utrecht
The Netherlands
phone: +31-30-2971100
fax: +31-30-2971111

LIST OF ABBREVIATIONS

2C-B	4-bromo-2,5-dimethoxyphenethylamine
4-MTA	4-methylthioamphetamine
ADAM	Arrestee Drug Abuse Monitoring system
ADHD	Attention-Deficit/Hyperactivity Disorder
AIAR	Amsterdam Institute for Addiction Research
AIDS	Acquired Immune Deficiency Syndrome
APZ	General Psychiatric Hospital
AWBZ	General Act on Special Disease Management
CAD	Consultation Agency for Alcohol and Drugs
CAM	Coordination Centre for the Assessment and Monitoring of New Drugs
CBS	Statistics Netherlands
CEDRO	Centre for Drug Research
CIDI	Composite International Diagnostic Interview
CIT	Community Intervention Trial
CMR	Central Methadone Registration
CVS	Client Monitoring System
CVZ	Health Insurance Board
DIMS	Drugs Information and Monitoring System
DMS	Drugs Monitoring System
DOB	2,5-dimethoxy-4-bromoamphetamine
DSM	Diagnostic and Statistical Manual of Mental Disorders
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EU	European Union
GGD	Municipal Health Service
GG&GD	Area Health Authority
GGZ Nederland	Netherlands Association for Mental Health Care
GHB	Gamma-hydroxy-butyrate
GMR	General Mortality Register
HBV	Hepatitis B
HCV	Hepatitis C
HIV	Human Immune Deficiency Virus
HKS	Defendant Recognition System (of the Police)
ICD	International Classification of Diseases
IDUs	Intravenous Drug Users
IGZ	Health Care Inspectorate
IMC	Inpatient Motivation Centres
IPSER	Institute for Psycho-Social and Social-Ecological Research
IVO	Addiction Research Institute Foundation
IVV	Foundation of Information on Addiction Care
IVZ	Care Information Systems Foundation
KLPD	National Police Agency
LCI	National Co-ordination Team for Infectious Diseases
LADIS	National Alcohol and Drugs Information System
LMR	National Information System on Hospital Care and Day Nursing
LSD	D-Lysergic acid diethylamide
LSP	National Support Centre for Drug Prevention

LTP	LifeTime Prevalence
LMP	Last Month Prevalence
LYP	Last Year Prevalence
MAD	Local Monitor Alcohol and Drugs
MBDB	N-methyl-1-(3,4-methylenedioxyphenyl)-2-butanamine
MDA	Methylene-dioxyamphetamine
MDEA	Methylene-dioxyethylamphetamine
MDMA	3,4-methylene-dioxymethamphetamine
MEK	Minimal Evaluation Kit
NDM	National Drug Monitor
NEMESIS	Netherlands Mental Health Survey and Incidence Study
NIGZ	National Institute for Health Promotion and Illness Prevention
NPO	National Drug Use Survey
PiGGz	Inpatient Register Mental Health Care
PMA	Paramethoxyamphetamine
PREFFI	Prevention Effectiveness Instrument
RCT	Randomised Controlled Trial
RGO	Health Research Council
RIKILT	State Institute for Quality Control of Agricultural Products
RIVM	National Institute for Health Promotion and Illness Prevention
RODIS	Rotterdam Drugs Information System
RVZ	National Council for Public Health and Care
SAMHSA	Substance Abuse and Mental Health Services Administration
SCP	National Institute for SocioCultural Studies
SOV	Penal Placement of Addicts in a Penitentiary Treatment Institution
SVO	Steering Committee for the Reduction of Nuisance
TBC	Tuberculosis
THC	Tetrahydrocannabinol
UNRAB	University of Nijmegen Research Group on Addictive Behaviours
USD	Synthetic Drugs Unit
VBA	(Drug-free) Addiction Guidance Departments
VBD	Drugs Information Bureau
VNG	Association of Netherlands Municipalities
VTV	Centre for Public Health Studies
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
ZON/MW	Dutch Health Research and Development Council/Medical Sciences
ZORGIS	Care Information System

INDEX

LIST OF ABBREVIATIONS	3	
EXECUTIVE SUMMARY	7	
PART 1 NATIONAL STRATEGIES: INSTITUTIONAL AND LEGAL FRAMEWORKS		
1	<i>Developments in drug policy and responses</i>	15
1.1	Political framework in the drug field	15
1.2	Policy implementation, legal framework and prosecution	18
1.3	Developments in public attitudes and debates	24
1.4	Budget and funding arrangements	27
PART II EPIDEMIOLOGICAL SITUATION		
2	<i>Prevalence, patterns and developments in drug use</i>	33
2.1	Main developments and emerging trends	33
2.2	Drug use in the population	34
2.3	Problem drug use	46
3	<i>Health consequences</i>	51
3.1	Drug treatment demand	52
3.2	Drug-related mortality	63
3.3	Drug-related infectious diseases	67
3.4	Other drug-related morbidity	74
4	<i>Social and legal correlates and consequences</i>	77
4.1	Social problems	77
4.2	Drug offences and drug-related crime	82
4.3	Social and economic costs of drug consumption	84
5	<i>Drug markets</i>	85
5.1	Availability	85
5.2	Sources of supply and drug seizures	86
5.3	Price/purity	88
6	<i>Main facts and trends per drug</i>	91
7	<i>Discussion</i>	92
7.1	Consistency between indicators	92
7.2	Implications for policy and interventions	93
7.3	Methodological limitations and data quality	94

PART III DEMAND REDUCTION INTERVENTIONS

8	<i>Strategies in demand reduction at national level</i>	99
8.1	Major strategies and activities	107
8.2	Approaches and new developments	108
9	<i>Intervention areas</i>	118
9.1	Primary prevention	120
9.2	Reduction of drug-related harm	132
9.3	Treatments	140
9.4	After-care and re-integration	148
9.5	Interventions in the criminal justice system	149
9.6	Specific targets and settings	154
10	<i>Quality assurance</i>	163
10.1	Quality assurance procedures	165
10.2	Evaluation	165
10.3	Research	166
10.4	Training for professionals	167

PART IV KEY ISSUES

11	<i>Poly drug use: drug set and setting</i>	173
11.1	Patterns and users groups	173
11.2	Health and social consequences	177
11.3	Risk assessment and local market	178
11.4	Specific approaches to the interventions	178
11.5	Methodological issues	179
12	<i>Success treatment: the effectiveness of the interventions</i>	180
12.1	The approaches to treatments and the related concepts of success	180
12.2	Evaluation of the treatments	184
12.3	Methodological issues	179
13	<i>Drug users in prison</i>	188
13.1	Epidemiological situation	188
13.2	Availability and supply	191
13.3	Contextual information	191
13.4	Demand reduction policy in prison	199
13.5	Evaluation of drug users treatments in prison	197
13.6	Methodological issues	197

APPENDIX: ADDITIONAL TABLES	199
------------------------------------	------------

REFERENCES	205
-------------------	------------

EXECUTIVE SUMMARY

PART I NATIONAL STRATEGIES: INSTITUTIONAL AND LEGAL FRAMEWORKS

Drug policy

Realising that drugs are here to stay, the government of the Netherlands stresses the importance of prevention, treatment and harm reduction for the individual, his environment, and for society as a whole. Drug policy in the Netherlands has four objectives:

1. prevention and treatment
2. harm reduction in drug users
3. reduction in the supply of drugs
4. maintenance of public order.

Legislation

The Dutch Opium Act is a penal law. A distinction is made between hard and soft drugs. The maximum penalties for the import or export of a hard drug, for manufacture, transportation or sale, and for possession or storage are specified in the Opium Act. Since the end of the 1980s, legal measures to reduce the public nuisance caused by drug users have received greater emphasis. The Netherlands has introduced or changed laws to meet the EU directive on money laundering, making it more difficult for criminal organisations to retain the proceeds of their illegal activities. National legislation is implemented at both the regional and local level by the courts, the police and municipalities.

Organisational framework

As public health interests are the cornerstone of drug policy in the Netherlands, the Minister of Health, Welfare and Sport is responsible for coordinating activities. Other important key players are the Minister of the Interior, the Minister of Justice, the Synthetic Drugs Unit, the Association of Netherlands Municipalities, and the Organization Information Systems on Addiction Care and Treatment. Policy implementation is to a large extent in the hands of local and regional authorities and organisations.

Recent developments

Measures to reduce the public nuisance caused by drug use and trafficking are high on the political agenda in the Netherlands.

- ◆ In 1997, the policy to close down those coffee shops which cause public nuisance or fail to adhere to the guidelines of the National Public Prosecution Department was tightened, resulting in a decrease in the number of coffee shops. One of the conclusions of the evaluation (in 2001) of this tightening of guidelines was that the flow of cannabis tourists to the Netherlands has not diminished. But the national government still believes coffee shops are essential in keeping youngsters away from hard drugs.
- ◆ In 1999 an article called Damocles was added to the Opium Act. This regulation expanded the legal armament of municipalities to redress unwanted developments such as an unchecked increase in the number of coffee shops.

- ◆ In 2001, an Act (*Penal Placement of Addicts in a Penitentiary Treatment Institution, Wet strafrechtelijke opvang verslaafden*) came into effect to admit substance users into a penitentiary institution with 'treatment' facilities if they continue to cause serious nuisance in the form of criminal recidivism.
- ◆ In 2001, the government announced a series of measures to intensify actions against the production, sale and use of ecstasy.

Other developments in policies and legislation

- ◆ In 2000, 4-MTA was added to list I of the Opium Act.
- ◆ Psilocine and psilocybine – the active components of hallucinogenic mushrooms- are on Schedule I of the Opium Act. A Regional Court of Justice ruled that the Opium Act extends to mushrooms, which have psychedelic properties and have been dried or processed in any way, but not to fresh mushrooms. The Supreme Court will discuss this case in the near future.
- ◆ Since 2001, a governmental agency can grant permission to qualified growers to cultivate cannabis for medical use. Physicians are allowed to prescribe cannabis for patients.

PART II EPIDEMIOLOGICAL SITUATION

Prevalence of drug use

- ◆ *Cannabis* is by far the most popular illicit drug in the Netherlands. In 1997, the total number of current cannabis users in the Netherlands was estimated at some 320,000. About 0.5% of the population of 18 years and above is a 'problematic cannabis user'. Until 1996, cannabis use showed a steep increase among pupils. However, between 1996 and 1999 prevalence rates stabilised.
- ◆ Prevalence rates of *hard drugs*, such as cocaine, amphetamines, ecstasy and opiates, are much lower. Use of these drugs also stabilised among pupils. Changes in policies, availability, attitude or lifestyle have been put forward to explain these trends but the precise factors remain to be determined.
- ◆ Drug use is higher certain subpopulations, including visitors to house-parties, discotheques and cafes (particularly ecstasy), young people with multiple psychosocial problems and (juvenile) delinquents in judicial institutions.
- ◆ The *number of opiate addicts* is estimated at some 29,000. Most of these users also consume other substances. Cocaine (crack) in particular gained an important role in the drug repertoire of poly drug addicts, and some subgroups of marginalised young people (e.g. homeless).
- ◆ There are indications that cocaine sniffing is increasing among 'outgoing' youth in Amsterdam. A small group of users appears to be interested in consuming GHB.

Treatment demand

- ◆ The number of drug clients at outpatient services increased from 20,400 in 1994 to 26,600 in 2000. A main development involves the steep increase in number of *cocaine clients* in the past years. The number of ecstasy clients remained low but declined since 1997, while the increase in the number of cannabis clients is no longer rising appreciably. Opiate users are still the largest group of those who are seeking help: 58% of all drug

users. Cocaine clients formed the second largest group (23%), followed by cannabis (13%), amphetamines (2%) and ecstasy (1%).

- ◆ The demand for treatment at inpatient services also rose over the past decade, although the trend is flawed since 1997 because of incompleteness of the registration.

Risk behaviour

- ◆ The proportion of drug users who *inject* heroin or cocaine has declined sharply, while the proportion of drug users who smoke these drugs has increased. At the national level some 15-20% is currently a drug injector. Among opiate users in treatment, an injection rate of 13% has been recorded.
- ◆ *Sexual* risk behaviour has declined (at least in Amsterdam) but remains high in general.
- ◆ Some 11 to 17% of the drug injectors still have the habit to share needles and syringes with fellow users, although higher rates have been recorded in some regions of the Netherlands.
- ◆ About 40% of the drug injectors share paraphernalia, which could possibly carry a risk of transmission of hepatitis B and C.

Morbidity

- ◆ Since 1985, 5,408 people in the Netherlands were diagnosed with *AIDS*, including 585 drug injectors (11%). The number of *AIDS* cases is decreasing, assumedly due to a reduced HIV incidence and the availability of improved pre-*AIDS* treatment.
- ◆ *HIV prevalence* varies widely between regions. Highest rates are found among drug injectors in Amsterdam (26 per cent) and lowest in other cities and regional towns (between 0 and 12%). HIV prevalence is generally stable but a recent increase from 11% in 1994 to 22% in 1999 has been reported in Heerlen (South of the Netherlands).
- ◆ The prevalence of *hepatitis B* among injecting drug users in Rotterdam and the South of the Netherlands is about 60-75%; seroprevalence of *hepatitis C* in these users is 70-80%, which is quite alarming given its high infectiosity and poor prognosis. Lower (but still high) rates of hepatitis B and C infections have been reported in The Hague (35% and 47%, respectively).
- ◆ The available data suggest that Dutch drug users have not been infected with *Clostridium novyi type A*.
- ◆ The (acute) adverse effects of *ecstasy* use can be serious, but the incidence seems quite low given the degree of exposure to the drug. Chronic *ecstasy* users appear to be at risk of serotonergic brain dysfunctioning and associated cognitive impairment.
- ◆ The incidence of nonfatal GHB emergencise is low but seems to be slightly rising. Precise national figures are lacking.

Mortality

- ◆ Mortality rates among drug users, in particular injecting drug users, are generally higher than those found in the age and gender matched general population. Causes of death include, overdose, infectious diseases and suicide.
- ◆ Data from the Causes of Death Statistics suggest that drug-related deaths (largely overdose) are infrequent in the Netherlands. Most deaths are due to *opiate overdose* (about 40 per year).

- ◆ There is a slight increase in the number of cases where cocaine is mentioned as primary cause of death. Whether this increase is (partly) associated with the introduction of the ICD-10 in 1996 is not known.
- ◆ The total number of fatalities in the Netherlands due to the use of 'ecstasy' (synthetic drugs) is not known. In 2001, the death of four young people has been associated with the use of various ecstasy-like drugs but the precise causes of death have yet to be established.

PART III DEMAND AND HARM REDUCTION

Strategies at national level

- ◆ Demand reduction and harm reduction presuppose that drug use should be contained and curbed, and that drug users should not be socially stigmatised and imprisoned. Informing and persuasion are better means than moralism or repression, though a recent trend points toward more coercive actions against chronic and criminal addicts.
- ◆ Society has to be protected against the small group addicts that commit many offences and causes much public nuisance. It should also be protected against infectious diseases. Judicial interventions are targeting possession, trade and trafficking of hard drugs.
- ◆ Legal measures against the use of soft and hard drugs are separated. It is assumed that efficient policies not only have to reduce drug supplies but should be supplemented by strong investments in demand reduction and harm reduction.
- ◆ Enhancing the quality of demand and harm reduction is an important long-term

Prevention

- ◆ The roles and responsibilities of general practitioners concerning drug using clients were evaluated and consensus guidelines reported. Further professionalisation, increased co-operation and communication between medical and addiction care disciplines was proposed.
- ◆ The number of free of charge courses on drugs and drug use for parents increased and interviews with experts showed that in general effectiveness might increase when family-based programmes are part of larger community-based programmes.
- ◆ Evaluation of the project The Healthy School and Drugs at primary and secondary schools showed some positive effects.
- ◆ Information is presented through telephone help lines. Monitoring the use of the specific Drug Information Line shows a steady increasing frequency in number of telephone calls and website visits.
- ◆ Two recent mass media campaigns and a TV serial ('Out of your mind') were organised. The main targets of the TV serial were giving information about the pros and cons of drug use and stimulating to talk about this subject with parents and friends.
- ◆ Many internet sites have been initiated by organisations of addiction care, research organisations and intermediary institutions, giving access to the Drug Information Line, fact sheets, the Healthy School and Drugs, and answers to frequently asked questions.
- ◆ A large part of outreach work is carried out by services offering daytime shelter. In all major Dutch cities syringe exchange services are available anonymously. Nowadays, HIV

counseling and testing for drug users are also widely available. A Hepatitis B vaccination programme is being implemented for high risk groups.

- ◆ Pill testing has been activated during the past years and a mobile pill testing service is considered for big dance parties.

Treatment

- ◆ There is an abundance of treatment modalities in our varied addiction care system. However, a minority of these modalities have been evaluated in a methodological sound way.
- ◆ A five-year policy programme is targeting at improving the quality of addiction care. Evidence-based addiction care is defended and diverse treatments that have been proven effective in the international literature, are tried out in the Dutch situation.
- ◆ Currently an experiment is funded by the government to determine positive and negative effects of heroin prescription on severely addicted people.
- ◆ Two other research projects study the effectiveness of new pharmacological agents, naltrexone (oral and intravenous) in the detoxification and maintenance treatment of chronic opiate addicts.
- ◆ Since 2001, a new law permits coercive care for criminal drug-using recidivists, resisting regular care and treatment. They are obliged to complete a two year programme offering a mix of psychotherapies, practical and social skills training, education, and adaptation to labour market situations.

Substitution and maintenance programmes

- ◆ In former years, the growth of opiate users increased the number of methadone programmes and these are nowadays offered in all outpatient addiction care organisations and by some Municipal Health Services.
- ◆ Common practice was to distribute small doses of methadone (an average of 40 mg a day). The effects of higher methadone dosages (85 to 160 mg per day) are now evaluated.
- ◆ Other evaluation studies uncover the complex relationship between methadone maintenance and nuisance.
- ◆ Evaluation research also shows that relapses during methadone treatment can be an important stepping stone to success. Stimulating relapsed addicts to continue striving for abstinence may be worthwhile.

After-care and re-integration

Probation, resettlement or rehabilitation have a long history in the Netherlands and are meant as a substitution or complement to imprisonment. Their success is largely dependent on the co-operation of different organisations: the police, public prosecutors, judges, and probation officers (mostly social workers). Results of a local experiment with rehabilitation for hard drug users who have already been prosecuted several times showed that the organisation of activities and the communication between social workers and staff was insufficient.

Interventions in the criminal justice system

- ◆ Up to now the results of penitentiary addiction care remain disappointing. Professionals in penitentiary organisations are often unwilling to realise a differentiated intervention supply in addiction care units.

- ◆ Special funding is recommended and detainees should be able to choose between continuing methadone maintenance or abstinence, while others should be forced to choose.
- ◆ In former years, treatment resistant addicts with a longer history of (petty) crime could not be condemned for longer periods, so detoxification, treatment and rehabilitation was precluded.
- ◆ Recently, compulsory two-year treatment programmes are made possible by law for this target group. The acceptability was publicly debated, and judicial hearings of many addicts show that strong resistance against such treatments are lacking.

PART IV SPECIAL TOPICS

- ◆ (Almost) simultaneous use of multiple substances has been observed among young recreational drug users (in bars, clubs, discotheques, party's). Popular combinations are alcohol and cannabis or cocaine or ecstasy as well as cannabis and ecstasy. The effects and potential dangers of 'mixing' alcohol with other drugs have been summarised by Lecesse et al. (2000). Regular hard drug users often combine heroin and cocaine.
- ◆ Treatment approaches targeting specifically at problems related to the use of cannabis or cocaine are almost non-existent in the Netherlands. Most hard drug users have problems related to both opiates and cocaine, but most treatments only address the former. The standard treatments as well as innovative interventions of opiate dependence are described. Further, chapter 12 gives an overview of the efficacy of various treatment programmes established in the Dutch addiction care sector.
- ◆ The prevalence of drug addiction problems among detainees in remand houses and prisons is fairly high: some 30% to 40% is drug dependent. Co-morbidity (i.e. dependence as well as other mental disorders) is high in this population.
- ◆ There are various measures in the Netherlands for addicted offenders, including dissuasion projects, which offer criminal addicts an alternative to imprisonment; Addiction Counselling Departments (VBAs) and the Penal Care Facility for Addicts (SOV).

PART I

National strategies: Institutional and legal frameworks

1 Developments in drug policy and responses

1.1 Political framework in the drug field

1.1.1 *Historical development of drug use*

For any drug policy it is essential to acknowledge that there are a multitude of drugs and diverse groups of users. People take legal and illegal drugs to reach out to others, to calm down or to seek a thrill, pleasure, relief, relaxation, or oblivion. There are trends in the use of drugs. Drugs became widely available at Western markets from the 1960s onwards. Among the first wave in the Netherlands were cannabis, hallucinogens like LSD, heroin, and amphetamine.

- The use of cannabis peaked in the 1960s and early 1970s, then declined, to increase again in the late 1980s and 1990s. There are signs of a new downward trend in the consumption of cannabis in the Netherlands.
- LSD has never regained the popularity it enjoyed in the sixties.
- Amphetamine entered the illegal market at the end of the 1960s but does not play a major role in drug consumption patterns in the Netherlands.
- A few decades ago, an opiate addiction 'epidemic' appeared to break out. This problem has been contained. The number of regular users of opiates such as heroin rose sharply in the first half of the seventies but slowly during the eighties. This group of users has stabilised so far at between 25 000 and 28 000 users, which is about 275 per 100 000 inhabitants.
- Cocaine hit the market in the 1970s. It is taken for recreation but also as part of the multiple drug intake habits of addicts. Problematic cocaine use may be on the increase. The use of cocaine is gaining in popularity among youth that often go out.
- Since the late 1980s the Netherlands has witnessed an upsurge in the use of synthetic drugs like ecstasy. The popularity of ecstasy-like substances seems to be waning.

The government feels that different drugs require different policy responses and that the national policy should be sensitive to changes in drug use. Main developments and elements of Dutch drug policy are described below.

1.1.2 *A distinction between soft and hard drugs*

Most new drug users in the 1960s and 1970s were part of a 'counterculture' that the government tried to suppress. The consumption of cannabis was declared illegal. Gradually, the national government grew convinced that the use of cannabis does not justify harsh actions. A repressive policy would be counterproductive, fostering illegal activities and overburdening the criminal justice system. In 1976, the Opium Act was revised to distinguish between soft (cannabis) and hard drugs such as heroin, cocaine, amphetamine, LSD, and hash oil. The government began to treat drug problems as being primarily health related. Users of soft drugs were no longer seen as a threat to society. At the heart of the national drug policy is the partial de-penalisation of cannabis. Critics of this approach believe that taking soft drugs is a gateway to the use of hard drugs. There is no direct way to proof or disproof the usefulness of the distinction between soft and hard drugs, but the available data in the Netherlands are supportive of this separation policy. For instance, the number of hard drug addicts and drug related deaths is low when it is compared internationally.

1.1.3 *The emphasis on health issues of Dutch drug policy*

Realising that drugs are there to stay, the Dutch government stresses the importance of

prevention, treatment and harm reduction for the individual, his environment, and for society as a whole. Since the end of the sixties, multidisciplinary care for drug users is available throughout the country, including treatment by primary care physicians and harm reduction programmes run by the municipal health services. In addition, a variety of prevention and educational programmes for the general population and for groups at risk have been set up. Prevention, treatment and harm reduction programmes are tailored to the type of drug and type of user. Heroin may serve as an example. Supply of methadone started in 1968. At present, most large municipalities have methadone programmes. When the HIV infection epidemic began in 1984, needle and syringe exchange programmes were introduced to curb the spread of HIV among drug users.

Another example is ecstasy-like drugs. These hard drugs are taken mainly at recreational events for adolescents and young adults, for example house parties, but also in other settings. Prevention and other harm reduction are fostered through educational interventions, by enforcing public health rules for recreational events and by having pills monitored for content.

1.1.4 Combating drug-related public nuisance

The Dutch drug policy is aimed at reducing supply by actively combating organised crime, maintaining public order and tackling public nuisance caused by drug sales and consumption. From the second half of the 1980s onwards, measures have been taken to reduce public nuisance by drug users and by drug tourism from adjoining countries. This line of action was driven partly by public opinion. In several urban neighbourhoods with a high concentration of addicts and dealers, inhabitants set up neighbourhood watch programmes and took other actions, also against foreigners coming there to buy drugs (see 1.2).

1.1.5 Main objectives of drug policy

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.

This policy is carried out in close collaboration with municipalities, health care and social care professionals and institutions, criminal justice authorities and the police. The main policy instruments are:

- a sharp separation of the markets for soft and hard drugs
- partial decriminalisation of soft drugs
- monitoring of changes in the use of drugs and in the consequences of drug use
- establishing a highly diversified and extensive professional network of health care and social institutions offering help to drug users
- prevention of (problematic) drug use through information and education targeted at both the general public and at special groups
- social reintegration of (former) drug users
- reconciling the interests of crime control with those of public order, public health and welfare
- tackling the trafficking of hard drugs and larger quantities of soft drugs by using the full weight of the criminal law

- financing research into the effectiveness and efficiency of addiction care services and of prevention programmes.

1.1.6 Basic elements of drug policy at the national level

- To some extent all departments (ministries) of the national government are involved in drug policy. Major roles are played by three of these departments. As public health interests are essential in drug policy in the Netherlands, the Minister of Health, Welfare and Sport co-ordinates most activities. She also carries the main responsibility for drug prevention and treatment issues. The Minister of the Interior oversees public authorities—municipalities and police – that are responsible for drug policy at the regional and local level. The task of the Minister of Justice is to design laws and to give guidance to the criminal justice system (see also 8).
- The Ministry of Justice funds the Probation Foundation. This Foundation works together with institutions for ambulatory addiction care in assisting drug users who are in contact with the criminal justice system or who are on probation. Services provided include contacting users who have been apprehended or are held at police stations, writing reports for judges, counselling drug users during and after detention, and assessing compliance with alternative sanctions.
- Since 1997, the Synthetic Drugs Unit (USD) is operational. Its main objectives are to:
 - ✓ improve the national collation of information on synthetic drugs and their precursors and to improve the use of this information for criminal justice purposes
 - ✓ give support to local public prosecutors, to police teams and to special investigation teams in their investigations into synthetic drugs and their precursors
 - ✓ make national and international inquiries into synthetic drugs.

The USD staff members come from the Economic Surveillance Department of the Ministry of Economic Affairs, the Customs Department, the Fiscal Intelligence and Investigation Department (part of the Treasury), the Royal Netherlands Military Constabulary, the Central Criminal Intelligence Service, and the Public Prosecution Department.

- Another national key body in the public domain is the Association of Netherlands Municipalities (VNG). The VNG informs municipalities, police forces and public prosecution departments of possibilities of developing effective local or regional drug policies that will be robust against any legal challenge. To this end, the VNG and the national government established an independent national Guidance and Information Point Drugs and Safety, which started its work in 1997.
- Also working at the national level is Information Systems on Addiction Care (IVZ/IVV), which is responsible for collecting and providing anonymous information on people attending outpatient addiction care institutions. Deliverance of data by the institutions is mandatory according to the Registration Guideline Addiction Care (Registratieregeling Verslavingsbeleid), issued by the national government in 1999.
- The Netherlands Association for Mental Health Care (GGZ Nederland) is the umbrella organisation for institutions for mental health and addiction care, and thus a major player at the national level. GGZ Nederland is in the process of developing a better treatment demand registry.

1.1.7 Co-ordination

The large number of actors in the drug policy field may complicate the implementation of measures in practice, as became apparent in a recent evaluation of the efforts to limit drug-related public nuisance. Therefore, the national government plans to set up an Interagency

Working Group Drug Policy, replacing some of the existing structures for collaboration and consultation. Members of the Working Group will be recruited from ministries, municipalities, the Public Prosecution Office, police, customs, addiction care centres and research institutes.

1.1.8 Basic elements of drug policy at the regional and local level

The national government formulates the national policy on drugs. Policy implementation, however, is to a large extent in the hands of local and regional authorities and organisations because problems become manifest at that level. This decentralisation applies to law enforcement as well as to health and welfare and to administrative measures. In the major municipalities and in other administrative regions a so-called triangular consultation exists in which the mayor, the police commissioner and the principal public prosecutor confer about local or regional law enforcement.

1.2 Policy implementation, legal framework and prosecution

The use of drugs is not penalised in the Netherlands, in contrast to 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 (see hereafter).

Police, customs and other law enforcement agencies increasingly work together with agencies from other countries.

1.2.1 International treaties

The Netherlands is party to a variety of international treaties. First and foremost, the legal basis for international co-operation in combating drugs is provided by three United Nations (UN) conventions:

- 1961 Single Convention on Narcotic Drugs, amended by protocol in 1972
- 1971 Convention on Psychotropic Substances
- 1988 Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances.

The principles from these conventions have been incorporated in Dutch law.

- The UN conventions have been expanded by European bodies and organisations, such as the Council of Europe and the European Union (EU). For example, the Agreement implementing Article 17 of the 1988 UN Convention was drawn up under the auspices of the Council of Europe. This Agreement allows the authorities of the countries concerned to act outside their own territorial waters against one another's vessels if drug smuggling is suspected.
- Both the Treaty establishing the European Community and the Treaty of the European Union refer to drugs.
- The drug issue led to EU regulations and directives, such as those on money laundering (1991), precursors (1992) and the establishment of the European Monitoring Centre on Drugs and Drug Addiction, EMCDDA (1993). Many other EU regulations, directives, recommendations and programmes have some bearing on drugs as well.

1.2.2 The Opium Act

The Dutch Opium Act, or Narcotics Act, is a penal law. The 1919 version resulted from the participation of the Netherlands in the 1912 International Opium Convention of The Hague. A new Act was issued in 1928 and it was fundamentally changed in 1976. Since then, the Opium Act has been amended repeatedly but its basic structure has been maintained.

- The 1976 changes confirmed the distinction between soft and hard drugs suggested in a 1972 report by a governmental Working Group on Narcotic Drugs. This group proposed the introduction of a risk scale based on medical, pharmacological, sociological and psychological data. The new Act distinguished drugs presenting unacceptable risks (hard drugs) and cannabis (soft drugs), which were seen as less dangerous. In an appendix to the Act several substances, including opiates, cocaine, amphetamine and LSD, were listed in Schedule I under the heading 'drugs presenting unacceptable risks'. In Schedule II only cannabis was listed, without the qualification of unacceptability.
- In 1993, the Netherlands ratified the 1971 Convention of the United Nations on Psychotropic Substances. As a result, many other substances had to be added to the two Schedules of the Opium Act. This included MDMA, better known as ecstasy. New substances continue to be placed on the lists. The latest addition (2000) to schedule 1 is 4-MTA, an analogue of MDMA.

The Co-ordination Centre for the Assessment and Monitoring of New Drugs (CAM) has published a risk assessment of GHB (gamma-hydroxybutyric acid). CAM recommended that the use of GHB should be monitored and that a new risk assessment should be carried out as soon as monitoring data call for a re-assessment (Drugbeleid. Voortgangsrapportage, 2001).

- In the two hundred odd so-called smart shops in the Netherlands mushrooms with psychedelic properties can be bought. The active ingredients psilocybine and psilocyne are listed in Schedule I, but until recently it was not clear if the Opium Act also applies to the fresh or dried mushrooms themselves. At issue was whether drying these products should be considered 'processing' in the sense of the Opium Act. *According to a regional Court of Justice, the Opium Act extends to psychedelic mushrooms that have been dried or processed into any other form - for example, waffles -, but not to fresh mushrooms. The Supreme Court of the Netherlands will discuss this case in the near future. According to CAM legal prohibition of psychedelic mushrooms is not required (Drugbeleid. Voortgangsrapportage, 2001).*

1.2.3 Sanctions

Penal law in the Netherlands is strongly influenced by discretionary prosecution. The public prosecutor decides in individual cases if prosecution is necessary or whether the case should be settled out of court. This is not to say that prosecutors are completely free in their decisions. The National Public Prosecution Department, for instance, may issue guidelines. The most recent set of comprehensive guidelines for enforcing the Opium Act was published in 1996. The maximum penalties suggested in guidelines are usually lower than those laid down in law.

Penal law in the Netherlands distinguishes two kinds of criminal acts, major offences (crimes) and minor offences (misdemeanours, infractions). Major offences include the processing and manufacture, the sale, the possession and – except for scientific or medicinal purposes – the import and export of all soft and hard drugs. The severity of the penalty depends on whether the person is a trafficker or a user, whether the substance is traded nationally or internation-

ally, and whether the substance is a soft or a hard drug. The only minor offence with regard to drugs is the possession of small quantities of cannabis.

- The maximum penalty in the Opium Act for the import or export of a hard drug is twelve years of imprisonment; for manufacture, transportation or sale, eight years; and for possession or storage four years. In each case, the imprisonment may be supplemented with a fine of up to € 45 000. The 1996 Guidelines stipulate when the maximum penalty is required and when a lesser sanction. Criteria are the amount of drug, the kind of drug, the place where the drug was sold, and occasional versus long-term dealing.
- The maximum penalties for cannabis in the Opium Act are four years of imprisonment or a fine of up to € 45 000 for import or export. And four years or € 45 000 ECU for manufacture including cultivation of hemp and for transportation, sale or storage. All commercial cultivation of cannabis in glasshouses or domestically is forbidden unless a license has been granted. Open-air cultivation is permitted only for cannabis fibre varieties with clear-cut agricultural applicability as defined by national or European Union regulations.¹ The maximum penalty for the possession of maximum 30 grams of cannabis amounts to one month imprisonment (or € 2270).
- Habitual offenders against the Opium Act are likely to be sentenced to higher penalties than are people without a criminal track record. The maximum penalty for repeated violation of the Opium Act with regard to hard drugs is sixteen years of imprisonment and a fine of € 450 000. The offender may be subject to confiscation of any assets gained from the offence.

In 1999, an article called Damocles was added to the Opium Act. This article allows mayors to act against coffee shops, pubs, shops and other public places if these create drug-related nuisance or trespass against the Opium Act or the Guidelines. Coffee shops are alcohol free outlets resembling bars where adults – eighteen years or older – may purchase soft drugs up to five grams per customer. Measures to be taken under this article include closure of the premises and seizure of any drug stock.

In order to minimize the abuse of GHB the government has changed the Medicines Act in 2001, so that the traffic in GHB is characterized as an economic offence and can be punished as such (maximum 6 years of imprisonment).

1.2.4 Addressing drug-related public nuisance

Since the end of the 1980s legal measures have been taken to reduce the public nuisance caused by drug users.

- The Damocles Regulation has expanded the legal armament of municipalities to redress unwanted developments such as an unchecked increase in the number of coffee shops or to sanction infractions to national or local drug policy. These legal instruments stem from either public health or public order concerns, or both.
- Another tool is the Closing Drug Premises Act, or Victoria Act (*Wet sluiting drugspanden*), which came into effect in 1997. This law added an article to the Municipality Act (*Gemeentewet*). It allows mayors of municipalities to close down premises where drug use or trafficking causes public nuisance. Initial experience with the Victoria Act has been favourable but also illustrative of the legal difficulties local government may face when it

¹ Recently, a Court of Appeal ruled that the commercial growing of psychedelic mushrooms is illegal too. The Court did not speak against cultivation for personal use. This is a verdict in an individual case, not yet general policy.

tries to deprive citizens of access to their property. Municipalities can create additional means of intervention by formulating a coffee shop policy and by introducing bylaws.

- The shutdown of buildings and especially the nailing up of houses may adversely affect the appearance and social structure of a street or neighbourhood. Two members of Parliament have drafted a bill – for the so-called Victor Act - to allow municipalities to give a new destination to closed premises, such as permitting new tenants to move in. The proposal is under discussion.
- Some measures aiming at individual drug users are based on *coercion*, for instance offering those who repeatedly come into contact with law enforcement authorities the choice between suspension of their detention on remand on the condition that they undergo treatment, or serving time in confinement. The main two types of coercive sanctions are: (1) carrying out socially useful work, and (2) following a course or another form of training and education.
- The national government wants to reinforce the legal basis for imposing such alternative sanctions. According to the *Task Penalties Act (Wet Taakstraffen)*, which came into effect on 1 February 2001, an alternative sanction may be imposed both instead of and in addition to imprisonment, provided that the prison sentence does not exceed six months. The sanction may be combined with a fine. The proposed maximum number of hours for a work penalty is 240, for an educational penalty 480. The court may decide on a combined work and educational penalty.
- The *Penitentiary Principles Act (Penitentiare beginselenwet)* is also relevant here. This law applies to detainees who have been sentenced to an unconditional prison term of one year of which at least half has been served but with at least six weeks to go. Such a person may enter a so-called penitentiary programme of at most six months duration. In the future this maximum may be increased to one year. The aim of the penitentiary programme is to facilitate the social reintegration of offenders by helping them to gain job experience outside the prison walls. Breaching the rules of the penitentiary programme will result in the mandatory completion of the remainder of the prison sentence.
- When voluntary treatment and coercion have failed to help people to get at terms with their addiction and to abandon criminal behaviour, or when they refuse to be treated, force may be applied. An Act (*Penal Placement of Addicts in a Penitentiary Treatment Institution, Wet strafrechtelijke opvang verslaafden*) came into effect on 1 April 2001 to admit substance users into a penitentiary institution with ‘treatment’ facilities if they continue to cause serious nuisance in the form of criminal recidivism. The maximum duration of the admission is two years, divided into three phases. Phase 1 is meant for detoxification and to prepare the participants for behavioural change. In Phase 2 and 3 training is offered in the skills needed for social reintegration. The kind of offences committed by these drug users – such as petty thefts and breaking and entry – usually would be punished with a maximum of six months of imprisonment. The extended stay in a penitentiary treatment institution is deemed acceptable insofar this intervention reduces crime rates and improves social reintegration. As this remains to be proven, the Act will be set up as an experiment. Further implementation of the law must await the outcomes of a stringent evaluation for three to four years. The experiment will run in five institutions, totalling 258 admission ‘lots’. *The institutions in Rotterdam and Amsterdam have commenced operation and the first batch of inmates has since been ordered there (see 9.5).*

1.2.5 Chemical precursors

In 1995, a law came into force, dealing with the trafficking in chemical substances that may be used in the production of drugs (*Preventing Abuse of Chemicals Act*, *Wet Voorkoming Misbruik Chemicaliën*). This law addresses international regulations. For the manufacture and the trafficking of substances registered in category 1 of Appendix I of the Act, a licence issued by the Minister of Health, Welfare and Sport is required. The Economic Surveillance Department of the Ministry of Economic Affairs oversees the implementation of the Act. A breach of this law constitutes an economic offence. Profits thus acquired may be confiscated. The Economic Surveillance Department has a 'mailbox' for unusual transactions with chemicals. The Department receives five to ten reports per week, mostly from chemical production and trade companies that do not wish to be associated with leakage of chemicals to illegal enterprises.

To improve the policy response to national and international issues regarding chemical precursors, the national government has installed the National Co-ordination Committee Precursors (*Nationale Coördinatiecommissie Precursoren*). The committee started its work in 1999. Members are representatives of five ministries (Health, Economic Affairs, Justice, State Department, Treasury) and executive public agencies such as the Economic Surveillance Department, the Synthetic Drugs Unit, and Customs).

1.2.6 Money laundering

- The Netherlands has introduced or changed laws to meet the EU directive on money laundering, making it more difficult for criminal organisations to retain the proceeds of their illegal activities. The so-called Confiscation Legislation (*Wet Ontnemingswederrechtelijk verkregen voordeel*) came into force in 1993. An evaluation of the effectiveness of this Act showed that only very small amounts of money could be confiscated (Vruggink, 2000).
- In the same year the Act on Transaction of Execution of Penalties (*Wet Overdracht tenuitvoerlegging strafvonnis*) was expanded to make it easier to divest criminals of illegally gained profits. However, the outcome of five years (1993-1998) of applying confiscation measures did not meet the original expectations. The Treasury counted on € 50 million but only one-fifth of that amount was secured. Public prosecutors have a hard time proving what criminals have been gained from illegal activities. Court procedures are tedious and particularly charges against the 'big fish' appear to be difficult to substantiate. Eight out of every ten charges awarded by court amounted to confiscation of € 13 000 at most. Results may improve with further experience with legal procedures and investigations
- The Act on Reporting Unusual Financial Transactions (*Wet Melding Ongebruikelijke Transacties*) and the Act on Personal Identification at Financial Transactions (*Wet identificatie bij financiële dienstverlening*), both dating from 1993, should be seen in the same light. Both laws aim to prevent money laundering.
- Another new bill, the Act for the Promotion of Integrity Assessments by the Public Administration (*Wet bevordering integriteitsbeoordelingen door het openbaar bestuur*) is also relevant in this respect. By creating an Investigation Agency, which will check the background of organisations asking for subsidies and permits of all kinds, the Dutch government attempts to prevent that criminal organisations can take advantage of public money or can launder money with the unintentional assistance of the Public Administration.

1.2.7 Traffic safety

The Road Traffic Act of 1994 states that “it is forbidden for anyone to drive a vehicle under the influence of any substance which the user knows or may be expected to know that it - alone or in combination with another substance - may reduce driving performance”. Drugs may jeopardise one’s ability to drive a vehicle safely. *An Interdepartmental Working Group is preparing a proposal to accentuate the Road Traffic Act with regard to driving under the influence of drugs and medicines.* (see chapter 3.4.3).

1.2.8 Guidelines and bylaws

National legislation is implemented at the regional and local level by courts, the police and municipalities. To this end, these authorities may receive guidelines from the government or other national organisations.

- Among these are the AHOJ-G criteria to which coffee shops must adhere.
- ‘A’ stands for no Advertising of any drug
- ‘H’ for no Hard drug sale
- ‘J’ for not selling cannabis to Young persons (under 18); up to 1996 the age limit was 16.
- ‘O’ for no public nuisance,
- and ‘G’ for no large quantities (more than 5 grams cannabis) per transaction. Up to 1996 the limit was 30 grams.

The maximum stock allowed is 500 grams per coffee shop.

Recently, the findings of a study into the fidelity of adhering to these AHOJ-G criteria were published. The guidelines apparently have not diminished the flow of cannabis tourists to the Netherlands. Cannabis use among young people aged 16 and 17 has stabilised at about 16 per cent since the increase of the age limit (Korf et al, 2001), with no causality implied. (see 4.12 & 2.2.3)

- Municipalities have some leeway in defining their own policies, subject to the limitations imposed by national legislation. Measures to regulate the establishment and management of coffee shops can be taken, for example, under the terms of the nuisance ordinances, the Catering Establishments Decree, the local non-licensed hotel and catering ordinances, or local bylaws and ordinances on the living and working environment. Planning regulations can be used to combat the establishment of coffee shops in unacceptable locations, for instance opposite schools, clubs and community centres. A number of municipalities have concluded voluntary agreements with coffee shop proprietors. The freedom granted to municipalities is reflected in the varying positions they adopt, which can be categorised in one of two ways: (a) coffee shops not permitted (the zero option), and (b) coffee shops permitted but subject to restrictions on supply and to other strict municipal regulations.
- In recent years, the government policy has been to reduce the number of coffee shops. The estimated number went down from almost 1200 in 1997 to slightly over 800 in 2000 (see chapter 4.1.2). It is unclear yet if this has resulted in increased supply of cannabis through channels outside coffee shops. Eighty-one percent of the Dutch municipalities do not have a coffee shop
- The national government also issues guidelines for penitentiary institutions. One example is a protocol for testing urine on the use of drugs (Regeling Urinecontrole penitentiaire inrichtingen, 1999).
- A related topic is guidelines for investigations for tracing criminal activities. Under discussion at present is the permissibility of methods to search persons suspected for instance of having swallowed packed drugs or having pushed packed drugs into body

orifices (body packing). A Committee on Bodily Investigations advised the Minister of Justice to regulate the use of search methods in the Penal Code and to distinguish between investigations external or internal to the body. The Committee deemed investigations on the body, including rectal and vaginal searching, or of clothes acceptable. Of the methods considered intrusive ('in the body'), X-rays and echoscopy are permissible auxiliary approaches when the suspect refuses to consent to undergo a urine test or when the outcome of such a test is questionable. The Committee rejected other techniques such as administration of laxatives or emetic drugs, endoscopy, CT-scan, rinsing of the intestines, or taking blood for chemical analysis, as these methods either do not yield reliable results, are unnecessarily intrusive, or could damage the packing of the drug. Rather than forcing a suspect to undergo any of these methods, the term of his apprehension should be extended to allow the drug pack to be excreted naturally.

1.2.9 Prosecution priorities

It would be unrealistic to assign equally high prosecution priority to any drug-related offence. Such an indiscriminate ambition would by far exceed the capacity of the police force, the public prosecution offices, the courts, and the penitentiary institutions.

The relative prosecution priorities in the Netherlands are:

- offences involving hard drugs rather than soft drugs
- the production or trafficking of any drug rather than the possession for personal use (lowest priority: possession of a hard drug [heroin] up to 0,5 grams and possession of cannabis up to five grams)
- offences committed by recidivists rather than first-time offences
- the cultivation or sale of cannabis for export rather than for use in the Netherlands
- the sale of cannabis outside coffee shops through street dealers, couriers, internet, pubs, shops and so on, rather than sale in coffee shops.

1.2.10 Intensified actions against ecstasy

In 2001, the national government announced a series of measures against the production, sale and use of ecstasy. The Public Prosecution Department will intensify investigations into the manufacture and sale of ecstasy. The Ministry of Justice and the police will gear up their joint efforts. Actions from 2002 to 2006 also include mass medial health promotion campaigns warning of the adverse effects of ecstasy. This action plan costs € 18.6 million each year. Policy will be evaluated in 2006.

1.2.11 Screening of the cannabis sector

In 2001, the pilot project 'Preventive Screening of the Cannabis Sector' started, which is also aimed at 'smart' and 'grow' shops. The goal is to outline the business and organisational structure of the cannabis 'sector' to gain insight into the potential for organised crime to infiltrate this sector.

1.3 Developments in public attitudes and debates

Public opinion of *hard drugs* has been negative over the years and hard drug addicts are generally seen as outcasts. In 1995, an opinion poll indicated that 82 per cent of the general population rejected (hard) drug consumption. Six out of every ten respondents believed that

drug use should be forbidden. Virtually all respondents (95 per cent) had no major experience with drug-related problems in their immediate surrounding. Strong actions such as compulsory treatment were favoured by slightly over half of the respondents. The idea of giving criminal hard drug users the choice between treatment and imprisonment was supported by 61 per cent. In another poll, only a third of the respondents said they would accept a drug addict as a neighbour, although half of the opponents were prepared to revise their opinion if the addict received professional assistance.

1.3.1 Key topics

The agenda of Parliament illustrates the strong public interest in the drug issue. High on this agenda [is] are combating drug-related crime and the reduction of drug-related public nuisance, including forcing criminal addicts into treatment or guidance (see above). Here we focus on related and other topics featuring in public debates.

1.3.2 International collaboration

- A recurrent theme in the public debate about drugs in the Netherlands is the fear of alienation from the policies in other countries. There is consensus that international collaboration should be sought. In 1997 the French and Dutch governments signed a memorandum of understanding for a closer co-operation between the Customs Departments of the two countries and for exchange of information. Similarly, the Netherlands has strengthened co-operation in drug law enforcement with Belgium, Germany, Norway and the United Kingdom. These efforts are undisputed.
- There is discussion about the agreement with the United States of America concerning the access of US personnel to and the use of facilities (airports, harbours) in the Netherlands Antilles and Aruba for “aerial counter-narcotics detection and monitoring, and, as appropriate, interdiction missions in the neighbouring region”. Critics believe that the Netherlands may get involved in a ‘drug war’ in Latin America, but this is not the majority view in the Lower House of Parliament. *Once the Upper House has given its approval, a treaty will be concluded allowing the United States to establish Forward Operating Locations (FOL) in the Netherlands Antilles and Aruba, which can be used to detect and intercept drug shipments in the Caribbean with the aid of aerial reconnaissance.*
- The discussion is about risk assessment, not about principles. The Netherlands government is doubtful about large-scale attempts to eradicate agriculture in developing countries targeted at plants like coca. Destruction of crops may endanger the already vulnerable ecology in these countries and will deprive poor farmers of their income.
- Another approach – substituting non-drug agriculture for growing drug plants – may work in the long term but not right away. For the time being, the national government prefers diversification, meaning that the cultivation of drug plants is temporarily supplemented rather than acutely and fully replaced by other forms of agriculture. This gradual change holds more promise of success than all-or-nothing measures, especially when the change is supported by community development and by education. Additional requirements for successful programmes are the voluntary participation of the population and the involvement of private local organisations, such as groups of farmers.

1.3.3 Cannabis policy

The major concern here is not so much this policy in itself, but how it is perceived abroad. Cannabis is exemplary of the pragmatic position of the Netherlands: forbidding something,

but tolerating its existence:

- The sale of cannabis is unlawful, yet coffee shops are allowed to maintain a stock of 500 grams and to sell up to 5 grams to a customer.
- Cultivation of cannabis is forbidden, but growth of five or less plants for personal use is 'tolerated'.

A group of twenty mayors has stressed a supposed inconsistency in Dutch coffee shop policy. Why allowing these premises to sell cannabis at the 'front door', while forbidding them to take in a supply of this drug at the 'back door'? The mayors made a plea for the supervised growing of cannabis and supply to coffee shops, in part to ward off criminal intervention. The distinction between soft and hard drugs in the Netherlands has not fully eliminated involvement of criminals in cannabis cultivation and trafficking. Companies providing electricity to households sometimes face high rates of unpaid 'leakage' of current and complaints from neighbourhoods about disruptions in energy supply. The police in the city of Deventer searched ninety houses in a suspect neighbourhood in November 1999 and discovered 52 cannabis plantations with more than 10 000 plants. Actions in problematic neighbourhoods in other cities have confirmed the existence of sizeable home cultivation of cannabis. It is believed that criminal organisations are at the bottom of this phenomenon.

The national government has dismissed the request of the mayors to promote the legal growing of cannabis. The majority of the Lower House of Parliament does not support this stance of the government. The debate will be continued.

The national government increasingly seeks the international debate. Examples are an international conference on cities policies with regard to cannabis (December 2001) and participation in a scientific cannabis meeting jointly organised by Belgium, France, Germany, the Netherlands and Switzerland (February 2002).

1.3.4 *The medical use of cannabis*

Like in many other countries the medical usefulness of cannabis is controversial in the Netherlands. Most scientists agree on the following:

- There is insufficient evidence to justify the medical prescription of cannabis or of the synthetic cannabis-like substances dronabinol and nabilone. Purported medical effects of these substances are reduction of nausea and vomiting in patients with cancer undergoing chemotherapy, stimulation of appetite in patients with AIDS or cancer, diminution of muscle weakness and tremor in multiple sclerosis, and reduction of intra-ocular pressure in glaucoma. Some promising studies have been done, but the jury is still out.
- The cannabis products used in practice for medical reasons are of uncertain composition and are not subject to rigid quality control. This is true irrespective of the route and form of administration (usually smoking or drinking tea). Quality control and the standardisation of medicines are major benefits, which should not be dispensed with lightly.

Patients in the Netherlands, backed by Parliament, have called for more research into the possible medical effects of cannabis. The Minister of Health, Welfare and Sport has agreed with this request. *Since 1 January 2001, a governmental agency (Bureau voor Medicinale Cannabis) is operational, which can grant permission to qualified growers to cultivate cannabis for medical use. Investigators wishing to study the medical effects of cannabis can obtain cannabis from this agency. On 19 October 2001, the Dutch government decided that physicians might prescribe cannabis for patients and that pharmacies are allowed to supply this drug.*

1.3.5 Drugs and Internet

In 2001, the project 'Drugs and the Internet' was started. Its aim is to provide insight into the Internet as source of trafficking and promoting soft and synthetic drugs, to assess the adequacy of present policies derived from the Opium Act and the Public Prosecutions Department's guidelines.

1.4 Budget and funding arrangements

In the Netherlands, the financing system of addiction care and law enforcement in relation to drugs is very complex. There are three main streams of funding.

- *Part of the costs of the addiction care systems is covered by the General Act on Special Disease Management (AWBZ) (inpatient care and methadon maintenance). The inpatient care is offered by specialised addiction clinics as well as by some special units of psychiatric hospitals. About 0.7 per cent of the psychiatric hospital beds are occupied by addicted patients (KPMG, 2001, p.35). The methadone maintenance activities are financed by a special subsidy regulation of the same General Act.*
- *Most of the funding of the outpatient addiction care and social care for drug users is based on the Welfare Act, but the allocation of resources is the responsibility of the municipalities. In 2000, about € 237 million was spent on ambulatory addiction care, social care for homeless people and combating drug-related public nuisance together. It is not (yet) possible to fully separate the costs of drug addiction from this total amount.*
- *The Ministry of Justice is financing activities directed at probation and rehabilitation of criminal addicts. The Probation Foundation is responsible for realising this activities. The enforcement of the Penal Placement of Addicts in a Penitentiary Treatment Institution Act (SOV) is also the responsibility of the Ministry of Justice.*
- *The Synthetic Drugs Unit is a special force combating the production and trading of synthetic drugs and their precursors. It is financed by the Ministry of Justice, the Ministry of the Interior and the Ministry of Economic Affairs.*
- *The Education Programmes for People Offending the Road Traffic Act are primarily programmes directed at people who were caught while driving under the influence of alcohol.*

The total costs of law enforcement are unknown. According to an outdated estimate (1995), the costs were €300 million.

The specific costs which could be detected from several sources are presented in the next table.

Costs of the addiction care and treatment system, and estimates of costs of law enforcement, 2000 (in million €)

Institutions/activities	€million
Addiction clinics	79.6
Psychiatric hospitals#	10.5
Outpatient addiction care	61.9
Methadone maintenance *	2.2
Probation/rehabilitation**	23.1
Penal Placement of addicts***	3.2
Synthetic Drugs Unit (USD) ##	6.4
Education Programmes for People Offending the Road Traffic Act###	6.0
Other costs****	21.5

Costs estimate for specialised drug units: Sources: Tweede Kamer der Staten-Generaal (vergaderjaar 2000-2001). Zorgnota 2001. Den Haag: SDU No.27401, nr. 1-2, p.117-127; KPMG (2001).

* Source: Van Eijkel & Mensink, 2001, p. 17

** Source: KPMG 2001.

*** In 2000, 72 places of the anticipated 258 places were realised. Source: Tweede Kamer der Staten-Generaal. (vergaderjaar 2000-2001). Wijziging van de begroting van de uitgaven en de ontvangsten van het Ministerie van Justitie (VI) voor het jaar 2000 (Slotwet) . Den Haag: SDU, No. 27705 Nr.2 p.59-60

An amount of € 1.9 million is a separate entry of the Justice Budget that covers only the extra costs for the Unit. The current costs contains 46 fte police officers and 10 fte public prosecutors which can be estimated at approx. € 4.5 million. So € 7.4 million is a rough estimation. From 2001 to 2006 an intensification of € 18.6 million per year is estimated. Source: Tweede Kamer der Staten-Generaal (vergaderjaar 2000-2001). Vaststelling van de begroting van de uitgaven en de ontvangsten van het Ministerie van Justitie (VI) voor het jaar 2001. Den Haag: SDU, No. 27400 VI, nr.10, p.21

Ministry of Health: personal communication

**** Includes research, prevention programmes, and activities to enhance the quality of addiction care.

Policy documents 2001

- Drugbeleid. Brief van de minister van Volksgezondheid, Welzijn en Sport. Tweede Kamer der Staten-Generaal 2000-2001; 24 077, nr. 86 (Status: report to Parliament).
- Ministerie van Volksgezondheid, Welzijn en Sport. Drugbeleid. Voortgangsrapportage september 1999 - september 2001 (2001). [Progress Report on the Drug Policy of the Netherlands, 1999-2001]. (Status: report to Parliament).
- Ministerie van Volksgezondheid, Welzijn en Sport, Trimbos-instituut (2001). Brancherapport Volksgezondheid.Deelrapport Geestelijke Gezondheidszorg en Maatschappelijke Zorg. Een eerste proeve. (Status: report to Parliament).
- Korf, D.J., M. van der Woude, A. Benschop & T. Nabben (2001). Coffeeshops, jeugd & toerisme. Amsterdam: Rozenberg Publishers.
- Wet van 21 december 2000 tot wijziging van het Wetboek van Strafrecht, het Wetboek van Stafvordering, de Wet op de rechterlijke organisatie en de Penitentiaire beginselenwet (strafrechtelijke opvang verslaafden). Staatsblad 2001, nr. 28 (Status: law. Entry into force: 1 April 2001.)
- Besluit van 27 maart 2001 tot wijziging van de Penitentiaire maatregel met betrekking tot de strafrechtelijke opvang van verslaafden. Staatsblad 2001, nr. 159 (Status: decree. Entry into force: 1 April 2001.)
- Samenspannen tegen XTC. [Uniting against XTC]. Tweede Kamer der Staten-Generaal 2000-2001; nr. 14. (Status: report to Parliament).
- Aanwijzing Opiumwet. Staatscourant, 27 december 2000, nr. 250, p. 26. (Status: decree. Entry into force: 1 January 2001).

- Aanwijzing taakstraffen. Staatscourant, 8 februari 2001, nr. 28, p.9. (Status: decree. Entry into force: 1 February 2001).
- Besluit van 5 juli 2001, houdende vaststelling van het Reglement justitiële jeugdinrichtingen en daarmee verband houdende wijziging van enkele besluiten (Reglement justitiële jeugdinrichtingen). Staatsblad 2001, nr. 350. (Status: decree. Entry into force: 6 July 2001).

PART II

Epidemiological Situation

2 Prevalence, patterns and developments in drug use

2.1 Main developments and emerging trends

Similar to other Western countries, cannabis is by far the most popular illicit drug in the Netherlands. In 1997 the lifetime prevalence of use in the general population of 12 years and older was 16 percent and the last month prevalence 2.5 percent (Abraham *et al.* 1999). The highest drug use rates are found in the four major cities (Amsterdam, Rotterdam, The Hague, and Utrecht). A main development concerns the stabilising or decreasing drug use among young people, at least the school youth. In the past decade the consumption of cannabis among pupils showed a steady increase but recently it levelled off (De Zwart *et al.* 2000).

Cocaine, amphetamine and ecstasy are used by appreciably less pupils than cannabis. Yet, the use of these drugs also stabilised or slightly decreased (ever use of ecstasy and amphetamine). It is difficult to explain such trends. Perhaps a 'ceiling or saturation' effect plays a role, or a more cautious attitude among young people towards drug use in general. In Amsterdam this trend has also been associated with a reduction in pleasure-seeking behaviour (going out to bars, pubs and parties), which in turn is associated with an increasing influx of non-western youth (Korf *et al.*, 2000). Changes in policy might also play a role.

Ecstasy, cocaine and amphetamine are still popular among subpopulations, such as young people visiting raves and *clubs and to a lesser extent pubgoers* (Korf *et al.* 2001). There are some indications that ecstasy is used in a less compulsive way (although still being the most common party-drug). There appears to be an upsurge in cocaine sniffing, at least among party and club visitors in the capital city (Korf *et al.*, 2000). Young people with a pleasure-seeking lifestyle may experiment with a variety of (new) drugs. Some of them have the habit to use more than one substance at a time, among others to augment the positive effects ('combi-high') or to reduce adverse consequences of the primary drug (Nabben and Korf, 2000). This pattern of use may increase (health)risks (Lecesse *et al.*, 2000). *Use of synthetic drugs other than MDMA is rare and restricted to specific user groups (e.g. ketamine). However, there are some indications pointing at a spread of GHB use* (Korf *et al.* 2001).

Illicit opiate use is largely non-existent in the general population. Various estimation methods arrive at a number of some 29,000 problematic opiate users in the Netherlands (Smit and Toet, 2001). Today the large majority of these opiate users do not stick to heroin and/or methadone but they also regularly consume cannabis, alcohol and psychoactive medicines. Above all, cocaine use increased dramatically with the introduction of crack in the late eighties and early nineties. Nowadays over 80 percent of the problematic hard drug users also regularly consumes cocaine. There is an ageing trend in this population, which is in part explained by a decreasing influx of young opiate (or polydrug) users. Heroin has lost much of its attraction for the young; it is seen as a 'losers' drug. *On the other hand, there are some indications pointing at the growing popularity of base coke among of young (homeless) problematic drug users* (Korf *et al.* 2001).

The rate of drug injection, has declined sharply in the past decade and is around 13 percent among opiate users in treatment. Today, smoking of heroin and cocaine (crack) is the main route of drug administration. This trend may be related to various cultural and drug market factors. *The prevalence of infectious diseases among injecting drug users varies widely between different geographical regions but is generally stable, with the exception of the city of Heerlen where HIV prevalence doubled between 1994 and 1999.*

2.2 Drug use in the population

The main sources of information to monitor the prevalence of drug use in the Dutch population are given below.

Survey	Scope	Measurements	Organisation
National Drug Use Survey (NPO)	National, Dutch population of 12 years and older	1997, 2000/2001	CEDRO, University of Amsterdam, with Statistics Netherlands
Local Monitor Alcohol and Drugs (MAD)	Population of Utrecht, Rotterdam, Parkstad-Limburg 16-69 years; sites will be expanded	1999 (first round)	Trimbos Institute, IVO and University of Maastricht
National Youth Health Survey	National, pupils of primary and secondary schools (10-18+ years)	1984, 1988, 1992, 1996 and 1999	Trimbos Institute, with municipal health services
National Youth Health Survey 'Special'	National, pupils of special schools and participants in truancy projects	1990, 1997	Trimbos Institute, with municipal health services and committees of school truancy projects
Antenna Survey	Amsterdam youth, incl. pupils and occasionally other groups	annual since 1993, but frequency depends on target group	Institute Bonger, University of Amsterdam and Jellinek Prevention

2.2.1 General Population

The first *National Drug Use Survey* was carried out in 1997 among 22, 000 persons in the Dutch population of 12 years and older using a computer-assisted personal interview (Abraham et al., 1999). The design allows a breakdown of prevalence data into four metropolitan areas (Amsterdam, Rotterdam, Utrecht, the Hague) and five areas with different population densities. The second survey was carried out in 2000/2001. The data will be available by the end of 2001.

Table 1: Drug use (%) in the Dutch population of 12 years and older in 1997

	Amsterdam	Rotterdam	The Hague	Utrecht	Non-urban*	National average
<i>Lifetime</i>						
- Cannabis	36.7	18.5	20.1	27.3	10.5	15.6
- Cocaine	9.5	3.4	3.4	3.6	1.0	2.1
- Ecstasy	7.0	2.2	2.6	3.2	1.2	1.9
- Amphetamines	6.0	2.7	2.2	2.6	1.1	1.9
- Hallucinogens**	6.3	1.8	2.8	3.0	1.1	1.8
- Mushrooms	6.6	2.4	2.5	n.a.	1.0	1.6
- Heroin	1.8	0.4	0.5	0.3	0.3	0.3

<i>Last month</i>						
- Cannabis	8.1	3.3	4.2	4.2	1.5	2.5
- Cocaine	1.0	0.4	0.6	0.4	0.1	0.2
- Ecstasy	1.1	0.1	0.2	0.7	0.1	0.3
- Amphetamines	0.3	0.1	0.2	0.3	0.1	0.1
- Hallucinogens**	0.0	0.0	0.1	0.4	0.0	0.0
- Mushrooms	0.6	0.1	0.1	n.a.	0.1	0.1
- Heroin	0.3	0.0	0.1	-	-	-

* Defined by Statistics Netherlands as municipalities with less than 500 addresses per square kilometre. ** Hallucinogens, including LSD, mescaline, psilocybin, 2CB, ayahuasca, and excluding mushrooms. N.a.=not available, because not included in survey. Source: National Drug Use Survey, CEDRO (Abraham et al., 1999).

It is evident from table 1 that cannabis was the most popular illicit drug both in terms of lifetime or 'ever use' and last month or 'current use'. Use of other illicit drugs was many times lower. Looking at lifetime prevalence rates, cocaine was most popular followed at a short distance by amphetamines, ecstasy and hallucinogens; 0.5% of the respondents had used any 'hard drug' in the month preceding the interview. Mushrooms were used at a similarly low rate as hard drugs. Heroin use is hardly measurable, but population surveys are not suitable to quantify levels of heroin use (see 2.3). For all drugs, the difference between ever and recent use indicates that most people who experiment with the drug do not continue their use. This has been expressed in a so-called continuation rate: some 16 percent of the lifetime cannabis users continued use in the past month. For comparison, continuation rates for alcohol and tobacco were 80 and 51, respectively.

Table 2: Minimum estimates of the number of drug users in the Netherlands (1997)

	Absolute number of users*
Cannabis	323,000
Cocaine	26,500
Ecstasy	40,000
Amphetamine	13,000

* extrapolated from last month prevalence rates to the Dutch population of 12 years and older

If we extrapolate prevalence rates of last-month use to the general population of 12 years and older, we obtain a lower bound estimate of the number of users (table 2). It is called 'lower bound' because various groups of drug users are likely to be underrepresented in the survey, such as homeless youth, prisoners, opiate addicts and frequent visitors of coffee shops. For example, cocaine is used by the large majority of opiate users, who are generally not captured sufficiently in the sample of a population survey. Therefore the actual estimate of the number of cocaine users is probably much higher.

Population density and drug use

Table 1 shows wide variations in drug use between the four major Dutch cities and rural regions. In general drug use is appreciably higher in urbanised regions with a high population density (e.g. the four major cities) compared with non-urban regions. However, there are also differences between the four major cities. Clearly, Amsterdam peaked on most measures while Utrecht scored relatively high on lifetime use of cannabis. This finding supports the notion that Amsterdam data are not at all representative of the Netherlands as a whole. Differences in drug use between the four major cities can not be explained by differences in population density, which are comparable. Age and gender are related to drug use in all

cities and do not offer a sufficient explanation either. Following a detailed comparative analysis of drug use patterns in the four major cities of the Netherlands, the precise factors underlying differences in drug use remain obscure (Abraham, 1999). Possibly, differences in lifestyle (e.g. the frequency of visiting bars, clubs or disco's), experimental behaviour and local policies may play a role.

Age and gender

Use of all drugs is about two to three times higher among male than female users. Figure 1 depicts the age distribution of cannabis users. Current use (as indicated by the last month percentages) peaks between 16 and 24 years.

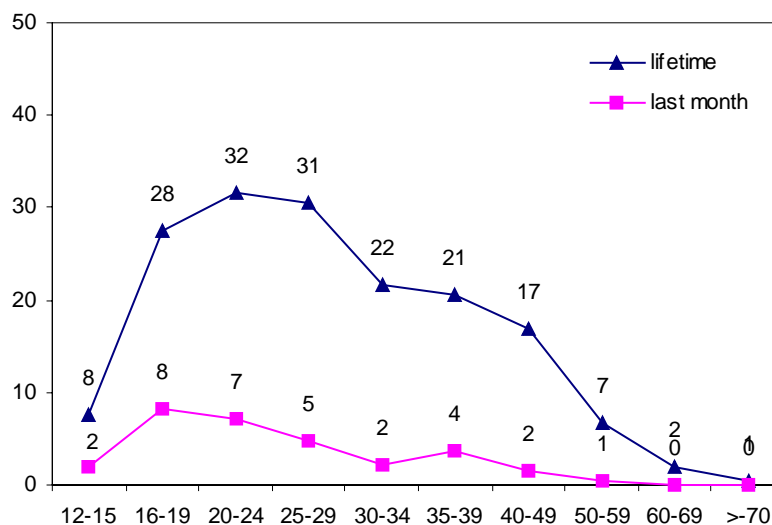


Figure 1: Prevalence of cannabis use (%) across age groups in the general population in the Netherlands of 12 years and older

Table 3 shows the mean age of first use, as reported (and remembered) by all lifetime users, and the median and mean age of the current users of the other drugs. The median age shows, for example, that half of the current cannabis users are between 12 and 26 years of age. It must be noted that information on the age of onset of drug use may be biased by memory deficits. Moreover, the mean age of the users is highly dependent on the age range of the sample.

Table 3: Age of first and current drug use in the Dutch population (≥ 12 years)

	Mean age first use*	Median age of current users	Mean age current users
Cannabis	19.7	26	27.8
Cocaine	23.4	27	28.9
Ecstasy	23.4	23	24.9
Amphetamines	21.4	23	30.3
Mushrooms	23.5	22	21.4

* reported by lifetime users. Heroin is not included because of the low numbers of users. Source: Abraham et al., 1999.

Intensity of use

About two-thirds of all persons who have ever tried cannabis or amphetamines did not use more than 25 times. For the other drugs even lower percentages of experienced users are found. Mushrooms, with a very low dependence potential, are hardly used more than 25 times in a life. This may also be related to the relatively recent (re)introduction on the market.

Table 4: Experienced drug use: 25 times or more

	% of lifetime users
Cannabis	33
Cocaine	23
Ecstasy	25
Amphetamines	33
Hallucinogens (total, incl. mushrooms)	13
Mushrooms	5

Source: National Drug Use Survey (Abraham et al., 1999)

Concerning the frequency of use among recent cannabis users, it appears that almost half consumed the drug once a week or less, on average. A quarter of them used almost every day. This group may be at risk of developing a problematic pattern of use.

2.2.2 Local population surveys: the Local Monitor on Alcohol and Drugs (MAD)

In 1998, the Trimbos Institute in co-operation with other research institutes and health and addiction services, developed an integrated model for monitoring trends in drug use at the local or regional level. The so-called MAD monitor includes, among others, population surveys, community-based studies among problematic drug users, and police and treatment data. There are protocols to ensure harmonisation of data collection and reporting. Data on drug use in the general population are obtained by including relevant questions in the Health Surveys of municipal health services.

The pilot phase of the project included three different sites: the city of Utrecht, Rotterdam and Parkstad-Limburg, a region in the South of the Netherlands, with Heerlen as the main city. Data on the prevalence of substance use were collected in 1999. The samples were restricted to age groups 16-69 years. This is because persons below the age of 16 are represented relatively well in school surveys, while (illicit) drug use hardly occurs among persons older than 69 years.

In spite of using different methods (self-completed paper questionnaire sent by mail versus face-to-face computer assisted interview), the results for Utrecht and Rotterdam were largely consistent with the local or regional variation found in the National Drug Use Survey. Interestingly, the response rate in Parkstad-Limburg was quite high: 70 percent, against 52 and 56 percent in Rotterdam and Utrecht, respectively. This might have been achieved by putting up a reward (lottery of monetary price) for completing and returning the questionnaire.

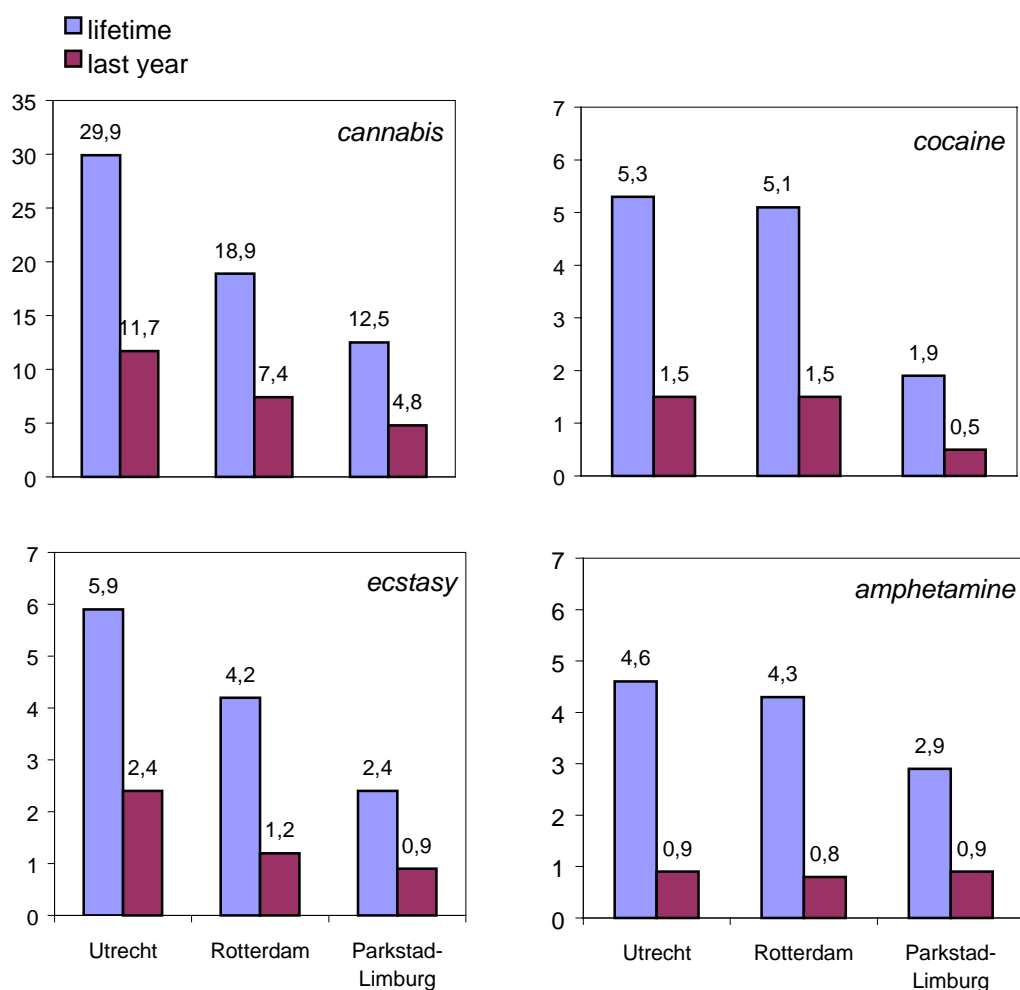


Figure 2: Prevalence of illicit drug use (%) in the population of 16-69 years in Utrecht, Rotterdam and Parkstad-Limburg in 1999.

Figure 2 shows that Utrecht scored highest on most drug use measures, especially lifetime use of cannabis. Utrecht is a typical college town. Perhaps students have an increased tendency to experiment with cannabis (Verdurmen et al., 2000). Questions about the frequency of cannabis use showed that about half of all current users restricted their consumption to a maximum of one or two times a week. However, about one-quarter to one-third had a more intensive use pattern, reporting the almost daily consumption of cannabis.

Table 5: Frequency of cannabis use among last month users (%)*

	Utrecht	Rotterdam	Parkstad-Limburg
< 1 time per week	45	33	36
1-2 times per week	19	15	20
3-4 times per week	13	21	13
5-7 times per week	23	31	31

* age group 16-55 jaar. Source: Local Monitor Alcohol and Drugs (Van de Mheen, 2000; De Graaf et al., 2000; Coumans et al., 2000).

Questions about the *frequency of ecstasy use* pertained to the total number of experiences on a lifetime basis.

- The large majority of ever users appeared to restrict their experience to no more than 25 times.
- A minority reported the use of more than 100 times. These users may be at risk of developing (health) problems.
- Note that the number of persons who used ecstasy 100 times or more is very low so these percentages should be interpreted with caution.

Table 6: Frequency of ecstasy use among lifetime users (%)*

	Utrecht	Rotterdam	Parkstad-Limburg
< 25 times	82	69	66
25 – 100 times	13	18	21
100 – 200 times	3	9	8
200 times or more	2	4	5

* age group 16-34 jaar. Number of persons: 130 in Utrecht, 46 in Rotterdam, 88 in Parkstad-Limburg.

Source: Local Monitor Alcohol and Drugs (Van de Mheen, 2000; De Graaf et al., 2000; Coumans et al., 2000).

Smart products

Questions on the use of smart products were only completed by respondents of 16-34 years.

Smart products include the following classes of substances:

- ecodrugs, such as hallucinogenic mushrooms (containing psilocybine or psilocine) or peyote cactus
- herbs with stimulant, relaxing or sexually arousing properties (e.g. Guarana, Ginseng, herbal ecstasy)
- energy drinks containing cafeine, guarana or taurine
- food additives, such as vitamins en minerals, pills 'after coke' and 'after ecstasy'.

Table 7: Use of smart products in the population of 12-34 years in Utrecht, Rotterdam and Parkstad-Limburg

	Utrecht		Rotterdam		Parkstad-Limburg	
	male	Female	Male	female	male	female
Lifetime	33	26	34	23	40	21
Last-year	24	18	25	17	30	14

Source: Local Monitor Alcohol and Drugs (Van de Mheen, 2000; De Graaf et al., 2000; Coumans et al., 2000).

The prevalence of use of all smart products together was fairly high: about one out of three respondents between 12 and 34 years had ever tried these substances and about one out of five respondents reported use in the past year. Highest rates were found among males in Parkstad-Limburg. When looking at the different classes of smart products, energy drinks score highest (e.g. LTP of 25% and LYP of 18% in Utrecht). These drinks are easily available in super markets and schools for martial arts.

2.2.3 Youth

The *National Youth Health Survey* gives insight into the development of drug use among pupils of 10-18 years. Measurements were carried out in 1984, 1988, 1992, 1996 and 1999. Data of the 1984 survey will not be presented here because there were slight differences in

methodology, which hamper comparability of results. Pupils completed written questionnaires in the classroom. The 1999 sample consisted of 2,945 students from primary schools and 7,094 pupils from secondary schools. Pupils from primary schools were only questioned about lifetime cannabis use (as far as questions on drugs were concerned). For this reason, and because cannabis use was almost non-existent in this group, only results for secondary school pupils will be presented¹.

Cannabis

Cannabis is clearly the most popular illicit drug among pupils.

- It is evident from figure 3 that prevalence rates steadily increased between 1999 and 1996, but levelled off in 1999.
- Use was higher among boys than among girls but the difference remained quite stable over the years.
- Cannabis use increased with age (not depicted here). For example, in age group 16-17 years the lifetime prevalence was 43% among boys and 31 percent among girls, and last month prevalence was 22% and 11%, respectively.

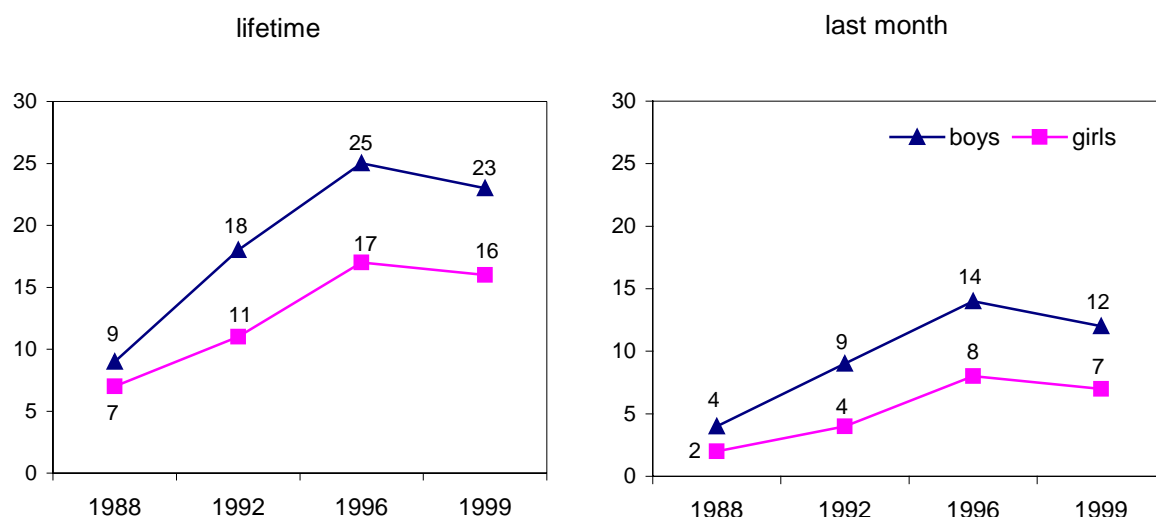


Figure 3: Development of cannabis use (%) among pupils of 12-18 years at secondary schools

Frequency and intensity of cannabis use

- Of all current users (9.3%), over one-third had used only 1-2 times in the past month (3.8%).
- About one out of four current users had smoked more than 10 times (2.2%). The frequency of use increases with age and is higher among boys than girls. For example, in age group 16-17 years of the current users, one of three boys had smoked 10 times or more (7.5%) against almost one out of girls (1.5%).
- On average, current users reported to smoke some two joints per occasion (2.4 for boys and 1.8 for girls).

¹ Data between 1992 and 1999 have been corrected for a cluster effect (at the level of municipal health services, schools and classes), which can occur by applied sampling method.

Other illicit drugs

Use of other drugs, such as ecstasy, amphetamine, cocaine and mushrooms, was much lower while heroin use was almost non-existent. Figure 4 shows that prevalence rates also stabilised over the past decade (or less). The data are given in table A1 and A2 (appendix). Statistical analysis even revealed a significant decrease in the lifetime prevalence of ecstasy and amphetamine use.

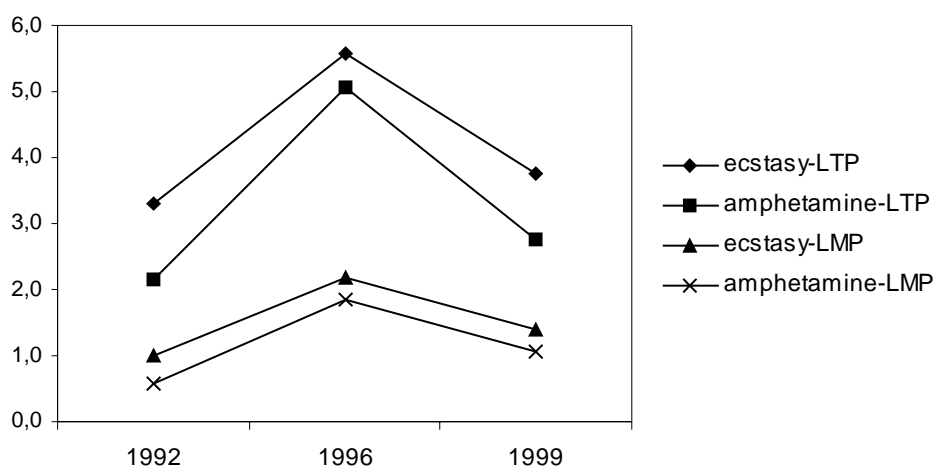


Figure 4: Development of lifetime and last month use (%) of ecstasy and amphetamine among secondary school pupils of 12-18+ years.

It is hard to explain such trends. Changes in policy might play a role. For example, measures to reduce the number of coffee shops, which resulted in a decrease from almost 1200 in 1997 to 813 in 2000 (Bieleman and Goeree, 2001), or changes in the minimum age (from 16 to 18 years, implemented in 1996) at which people are 'allowed' to buy cannabis in coffee shops. Whether such measures influence the availability of cannabis can be questioned. According to Korf et al., (2000) increasing the minimum age influences the way young people obtain cannabis, i.e. buying less often in coffee shops, while having negligible effects on the availability or level of cannabis use. Figures in table 8 seem to be at least partially consistent with this view. That means, young people tend to buy cannabis less often in coffeeshops and more often through friends. A recent evaluation study on the effects of increasing the minimum age for selling cannabis in coffeeshops seemed to confirm these suggestions (Korf et al., 2001). Moreover, this study indicated that the age measure had no unwanted side effect on the use of hard drugs among young people.

Table 8: Place of purchase of cannabis*

	1996	1999
Friends	41	47
Coffee shops	41	32
Dealer	11	11
Others	5	8
At school	3	1
Home-grown**	-	2

* % current users 12-18 years, pupils of secondary schools.

** not included in 1996 survey. Source: De Zwart et al., 2000.

Taking the stabilisation or reduction in use of other drugs into account as well, it could be hypothesised that drug use in general has reached an upper limit (ceiling effect) and/or that young people exhibit a more critical and cautious attitude towards drugs. Moreover, changes in pleasure-seeking behaviour (e.g. visiting bars, café's and clubs) might play a role (Korf et al., 2000). However, such explanations are speculative and remain subject for further research.

Pupils from special schools and truancy projects

Drug use is appreciably higher among pupils of secondary schools for special education, i.e. youth with learning and/or education problems, and among young dropouts attending truancy projects (Stam et al., 1998). The survey methods were adapted from the National Youth Health Survey, with the exception of using a simplified questionnaire. In the 1997 survey, 1763 questionnaires were distributed at special schools and 421 at truancy projects. A total of 1584 and 323 questionnaires, respectively, were completed and eligible for further analysis. The data are given in table A3 and A4 (appendix).

- Cannabis was the most popular drug among pupils from both special schools and youth of truancy projects.
- Compared with pupils of regular schools, youth of truancy projects scored about two times higher on most drug use measures. These differences were statistically significant for all measures, with the exception of last month use of heroin.
- Differences in drug use between regular and special school types were smaller but significant for almost all drugs.

2.2.4 Other populations

Drug use is higher among special populations, such as young people with multiple psychosocial problems and youth delinquents (in judicial institutions) (Konijn, 1999; Wits et al., 1999). For example, almost half of a group of problem youth with frequent truancy and delinquent behaviour had smoked cannabis in the past month while one-third did so nearly daily (Wits et al., 1999). Since drug use is highly associated with a pleasure-seeking and outgoing lifestyle, visitors of coffee shops, bar, café's, discotheques and raves have usually more experience than the average population. Use of ecstasy and amphetamine is particularly prevalent at house-and other dance parties (see below).

Visitors of clubs and house parties

The use of ecstasy and amphetamine is relatively high among young people who frequently visit (house-) parties and clubs, which is the reason why these drugs are referred to as typical dance or party drugs. Use of other drugs is also fairly high in this subgroup of users (e.g. Van de Wijngaart et al., 1997). The Antenna monitor among Amsterdam youth examined drug use patterns among visitors of discotheques, raves and clubs. In addition to the annually obtained qualitative data on trends in drug use from a panel of experts in the scene, a quantitative survey was held in 1995 and 1998 among almost 500 visitors of trendy clubs and ravers (Korf et al., 1999a).

- The respondents were 25 years on average in 1995 and 26 years on average in 1998.
- Forty percent was female (both surveys) and 14 and 18 percent, respectively, were non-Western.

Table 9: Drug use (%) among 456 young clubbers & ravers in Amsterdam

	1995 (N=462)		1998 (N=456)	
	Lifetime	Last month	Lifetime	Last month
Cannabis	76	50	85	52
Cocaine	33	14	48	24
Ecstasy	50	33	66	41
Amphetamine	35	13	45	13
Mushrooms	29	6	45	8
LSD	23	2	21	1
Poppers	27	7	39	11
Ketamine	n.r.	n.r.	4	n.r.
GHB	n.r.	n.r.	10	2

Source: Antenna monitor Amsterdam (Korf et al., 1999a). n.r.=not recorded. Trends should be interpreted with some caution because sites and study population did not match in both years. Moreover, these figures may not be representative of drug use in 'outgoing' locations in general. Response rate was fairly low for both surveys: 25% and 23%, respectively, although not unusual (or even better) compared to previous surveys using this method.

- The results of these surveys revealed an increase in the consumption of ecstasy in these years on all prevalence measures.
- The percentage of current cocaine users (mainly sniffing) almost doubled.
- Levels of cannabis use were high but stable.
- The proportion of visitors who ever tried amphetamine increased but the level of current use did not change (about one out of ten).
- Almost one out of five visitors had ever tried LSD but current use remained low.
- One out of every two ravers or clubbers had ever tried mushrooms, with higher rates of consumption among visitors living in Amsterdam compared to people living elsewhere. Assumedly most people who experiment with mushrooms do not become regular users since the prevalence of current use was appreciably lower (8%).
- Poppers are slightly more popular than mushrooms. Lifetime prevalence increased between 1995 and 1998.
- *Use of new drugs, such as ketamine and GHB, was fairly low and largely experimental. However, according to insiders to the night life of Amsterdam, GHB seems to gain popularity in some networks of users, despite its infamous reputation and emergencies associated with this drug (Korf et al., 2001).*
- Concerning experience with other substances, energy drinks scored highest followed by so-called 'eco-drugs', such as ephedra and herbal ecstasy.

According to qualitative data collected in the 2000 Antenne survey, ecstasy is still widely used as a party drug, although its novelty has waned and the drug past its peak (Korf et al., 2001). Although its specific entactogenic effects are still appreciated, anecdotal and qualitative information suggests that the attractiveness of ecstasy is waning among experienced users. There seems to be a kind of ecstasy-fatigue and people are becoming less inclined to use because of adverse (residual) effects, such as mood-lowering and depressive feelings. This has probably caused a trend towards moderation, i.e. users seem to be more cautious by reducing the frequency of consumption.

Cocaine use appears to have normalised in Amsterdam nightlife and has entered networks where cocaine sniffing was previously taboo. Nowadays, cocaine is used not only in clubs

but also in cafés, pubs, lounges and home parties. According to insiders and clubgoers themselves, weekend use of cocaine is on the increase and some users have difficulties keeping their consumption under control. Prevalence figures for other cities are lacking but according to field workers the popularity of cocaine in nightlife is not specific to Amsterdam.

Pubgoers

The 2000 Antenne survey focused on substance use among visitors of four types of pubs and cafés in the Amsterdam city centre. Compared to the samples of clubbers and ravers, the sample of pubgoers contained relatively more females (65%) and fewer respondents from non-Western ethnicity (7%). The response rate was also fairly low 26%, although common for such kind of surveys.

- In general, substance use of visitors of mainstream and student pubs was lower than that of customers of gay and trendy pubs).
- Recent use (last month) of cannabis was about two times lower among pubgoers than clubbers and ravers, and the rate of daily cannabis use was five times lower (2% versus 10-11%).
- Almost one out of every ten pubgoers had recently consumed cocaine or ecstasy. This is markedly lower compared to the percentage of clubbers and ravers reporting recent use of these drugs (table 10).
- Few pubgoers had experience with other illicit drugs, such as LSD, heroine and crack.
- Use of new drugs, like ketamine and GHB, was limited. However, ever use of these drugs was more likely to be reported by older people (especially ketamine), Amsterdam residents and customers of trendy and gay pubs.

Table 10: Drug use (%) among pubgoers in Amsterdam (N=504; 2000)

	Lifetime	Last month
Cannabis	75	24
Ecstasy	34	10
Cocaine*	26	9
Mushrooms	25	2
Amphetamine	17	2
LSD	8	0
GHB	7	1
Ketamine	3	n.r.

* 5% has ever used base-coke/crack and 1% did so in the past month. N.r.=not recorded.

Homeless youth

There are an estimated 3,500 homeless young people in the Netherlands, which is 2.4 per 1000 people between 15 and 22 years. Substance use is high in this population. In 1999, 91 homeless young people, recruited in five Dutch cities and towns, were interviewed, among others, about substance use.

- Experience with cannabis was almost 100 percent (Table 11). About half of the sample smoked cannabis daily, often in fairly large amounts (3.3 joints per occasion) (Korf et al. 1999).
- Cocaine use was much higher in among homeless youth compared to other young people of the same age. Smoking (crack) was the most commonly reported route of administration (58%), followed by sniffing (39%).

- Consumption of heroin was much lower than that of cocaine but high compared to other groups of young people.
- The same applies to the recent use of ecstasy, mushrooms and amphetamine.

Table 11: Drug use (%) among homeless youth (N=91; 1999)*

Drug	Lifetime	Last month	Last 24 hours (daily)
Cannabis	96	76	(43)
Cocaine	66	36	18
Ecstasy	55	18	1
Mushrooms	50	18	1
Amphetamine	47	10	0
LSD	26	2	1
Heroin	21	11	7

* Young people below 23 years of age who have been homeless for at least three months at the time of the survey and who had slept in at least three different places during that period.

Detainees

There is little information on drug use among persons arrested at police stations. In 1999 a pilot study was conducted to test the feasibility of implementing the American Arrestee Drug Abuse Monitoring system (ADAM) in the Netherlands. The pilot was held at one police station in the region "Haaglanden". During a period of 6 weeks, 246 detainees were asked to take part in an interview and to provide a urine sample. A positive response with regard to the interview was obtained from 125 (51%) persons, including 80 persons who also agreed to provide a urine sample. Table 12 gives an overview of the self-reported last-year and last three-day prevalence of substance use. The last column gives the results of the urinalysis. The results show that substance use is quite common among detainees, with alcohol and cannabis on top. For alcohol the analysis of urine samples appeared to be unreliable.

Table 12: Substance use by detainees* based on self-reports (interview) and urinalysis

	% last year** (N=125)	% past 3 days (N=125)	% positive test (N=80)
Alcohol	-	46	4
Cannabis	57	34	41
Crack	13	10	-
Cocaine	27	13	33
Opiates	20	14	18
Methadone	14	8	9
Amphetamines	4	1	3
Benzodiazepines	10	7	16

* Arrested because of property crimes (46%), homicide and violent crime (32%), offences against opium act (10%) en other offences (12%). Bron: Van den Broek et al. (2000)

It must be noted that a positive urine test does not necessarily mean that the respondents were actually under the influence of the drug. For example, traces of THC (main psychoactive component of cannabis) can be detected for many days after consumption. Moreover, these results do not mean that there is a causal relationship between drug use and criminality. Both behaviours may be related to another underlying factor, e.g. a deviant lifestyle.

Prison population

Some 30 percent of all prisoners interviewed at two different sites in the Netherlands fulfilled a diagnosis of drug dependence (see table). Respondents in the Amsterdam penitentiary institution were typical recidivists and stayed some 2.5 -3 years of their life on average in prison. They committed some 161-360 property crimes on average in the year before incarceration, depending on the department (regular or specially designed for drug addicts).

Table 13: Percentage of drug addicts at regular departments in prison

Site	Definition	Explanation	%
Amsterdam	Drug dependent*	Use on 3 or more days/week during 2 months in past 2 years (mainly heroin, cocaine, cannabis) + score ≥ 4 on drug section EuropASI.	44
	Severe addiction	Ditto, but score ≥ 6 on drug section EuropASI.	29
Scheveningen	Drug dependent	DSM-III-r diagnosis	29

Sources: Koeter & Lührman, 1998; Schoemaker & Van Zessen, 1997.

2.3 Problem drug use

2.3.1 Cannabis

Most experienced cannabis users can control their use (Cohen & Sas, 1997). However, a minority of them may run into problems. Little is known about the prevalence of problematic cannabis use in the general population, which is partly due to the lack of an unambiguous definition. Information on clinical disorders, such as cannabis dependence, is available from Nemesis, the Netherlands Mental Health Survey and Incidence Study in the Dutch population between 18-64 years (Bijl et al., 1998). The first round of this study was carried out in 1996. Some 7,000 persons were questioned at home using the CIDI (Composite International Diagnostic Interview).

Table 14: Prevalence of DSM-III-r diagnosis of cannabis dependence* (weighed data)

	% of total population [95% CI]	% of 'ever users'*** [95%CI]
Ever in life	1.00 [0.8 - 1.3]	9.7 [7.1- 12.3]
Last year	0.5 [0.3 - 0.8]	4.8 [2.8 - 6.9]

* in Dutch population 18- 64 years. ** = defined as 5 times or more. Was 11% [9.8-11.5%] in 1996. Source: Nemesis, Trimbos Institute (unpublished data).

- The results showed that among all respondents the last-year prevalence of drug dependence was 0.8%.
- Cannabis dependence appeared to be most prevalent (0.5 %). It must be noted, however, that the number of cases was very low, which is manifest in the wide confidence interval.
- The lifetime prevalence of cannabis use (11%) was lower compared to the National Drugs Use Survey NPO I (16%), because of the more stringent criterion of lifetime use (5 times or more), which excludes single occasion users.
- About one out of ten persons who ever tried cannabis (5 times or more) received the diagnosis cannabis dependence at some time in their life. This finding is almost similar to

that reported by Anthony et al. (1994) based on data from the US National Comorbidity survey.

- Almost 5% of the users in the Nemesis sample fulfilled the diagnosis cannabis dependence in the year prior to the interview. Most of these persons were between 18 and 22 years of age (note, however, that persons below 18 were not included in the sample).
- Extrapolating the prevalence of cannabis dependence in the last year to the general population suggests that there were some 30,000-80,000 persons dependent on cannabis in 1995/1996. Note that this is a very crude estimate, which excludes persons below 18 years. Moreover, high-risk groups, such as youth delinquents, homeless and poly-drug addicts, are likely to be underrepresented.

In another survey among 3,940 persons between 16 and 50 years in a central region of the Netherlands, 0.5% of the respondents fulfilled criteria for 'problematic cannabis use' (Van der Poel, Van der Mheen, 1999). The latter was defined as the consumption of cannabis on at least 15 days during the month prior to the interview and having psychological, social or financial problems associated with cannabis use. Although the methods and sample characteristics were different from those of Nemesis, this prevalence figure of problem use of cannabis is fairly in the range of those obtained in the Nemesis study on cannabis dependence.

Problematic use was not gender-specific and did not depend on daytime activities (work, study, other), living situation or being religious. However, problematic blowers had a different pattern of use, i.e. they consumed cannabis on more occasions than non-problematic blowers (e.g. more during weekdays), and used more commonly in response to negative feelings, e.g. to counteract a depressed mood (Van der Poel en Van de Mheen, 2001).

2.3.2 Ecstasy, amphetamines and cocaine

The number of problematic users of these drugs is not known. Ecstasy has no strong dependence potential. In spite of this a minority of persons have a compulsive use pattern with associated psychological and somatic problems. According to a study carried out in 1996 among visitors of large-scale house parties, 6 percent of the users can be characterised as an excessive user (Van de Wijngaart et al., 1997). They consume the drug more than once a week and often more than one pill per occasion, use multiple other substances and have an active party-life throughout the weekends with a lack of sleep. They are commonly part of a network where drug use is very common. A similar percentage of the amphetamine consumers (7) had an excessive pattern of use. It is not known whether these figures still apply today. According to Korf et al., (2000), ecstasy consumers are more cautious now. They seem to lower the frequency of use. Information on problematic cocaine use is given in chapter 13.

2.3.3 Opiates

Most household or other population surveys do not yield accurate estimates of regular use of opiates and other hard drugs. The samples are either too small to include enough hard drug users for that sort of calculations, or are biased owing to under-representation of these persons. Common methods of estimating the number of these 'hard to reach' opiate and/or

poly drug users are capture-recapture, nominative techniques and extrapolation from registration data.

The number of problematic opiate users in the Netherlands has been estimated several times in the past years. Research agency Intraval applied multiple methods to calculate the number of regular opiate users in the Netherlands in 1993 (Bieleman et al., 1995). Each time, the investigators arrived at a global estimate of *about 28,000*. In a subsequent project commissioned by the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), various methods have been compared and evaluated. Using a so-called multivariate indicator method, based on social indicators, the number of opiate addicts in the Netherlands in 1996 was estimated at 26,984 (table 15). This is close to the number reported by Intraval. Another method based on extrapolation from treatment data estimated the number of problematic opiate users *between 25,145 and 29,104* (Toet, 1999).

Table 15: National estimates of the number of problematic opiate users

Year	Method	Estimate	Source
1993	Multiple	28,000	Bieleman et al., 1995
1996	Multiplier (treatment data)	25,000-29,000	Toet, 1999
	Multivariate social indicator	27,000	
1999	Multiplier (treatment data)	25,970-30,298	Smit and Toet, 2001
	Multivariate social indicator	29,213	

A recent update on the basis of 1999 data revealed estimates largely in the range of the estimates for 1996, although slightly more in upward direction (table 15).

In addition to the treatment demand multiplier and multivariate indicator method, a preliminary estimate was calculated by using the police multiplier method. This estimate is based on the number of suspected drug addicts recorded in the HKS (information/recognition system of the police) and an assumed arrest rate. The data should be interpreted with caution since there are various limitations in using this information system for estimating the number of problematic opiate users. Flaws in the data can be caused by misclassifications (e.g. drug addicts not recognised as such, no distinction between primary cocaine users and opiate users, etc.). For illustration, a study in The Hague (Burger and Struber, 2001) showed that some 400 hard drug addicts known in the treatment information system were not recognised as drug addicts in the police statistics. Moreover, a reliable and nationally representative arrest rate for the target group is lacking.

Table 16: Local estimates of the number of problematic hard drug users

Site	Year	Method	Estimate	Source
Amsterdam	2000	2-sample C-RC	4,731	GG&GD Amsterdam
Rotterdam	1994	Truncated Poisson	3,500 - 4,000	Smit et al., 1997
Den Haag	1998	2-sample C-RC	2,586 - 2,740	Burger and Struber, 2001
Utrecht*	1995	Multiple	950	Ten Den et al., 1995
	1999	Extrapol. treatment data	570	De Graaf et al., 2000
P.- Limburg**	1999	Multiple	800	Coumans et al., 2000

C-RC=capture-recapture. *1995: all *opiate* and/or hard drug users. 1999: problematic, almost daily users of heroin, cocaine and/or other drugs. ** Parkstad-Limburg involves Heerlen and seven smaller towns.

Table 16 gives an overview of the methods and outcomes of estimates of the number of problematic hard drug users in different Dutch cities and regions. Note that the target group largely concerns regular users of opiates who also consume other drugs, such as cocaine, methadone, alcohol and tranquillisers. Estimates of Utrecht (1999) and Parkstad-Limburg may also involve primary cocaine users.

3-sample capture-recapture

The EMCDDA standard for local estimates focuses on a 3-sample capture recapture estimate. In the Netherlands this method has been applied two times, in Amsterdam (1997) and in Parkstad-Limburg (1999). In Amsterdam, three lists were constructed to estimate the number of *problematic opiate users* (e.g. having a medical or judicial problem or being unable to control their addiction). The lists were drawn from registrations of participants of low-threshold methadone programmes, arrested opiate users who received methadone at police stations and opiate users admitted to a hospital (Buster et al., 2000, draft). Data sources involved the Central Methadone Register and a register of hospital admissions. The results revealed that there were some 4,130 problematic drug users in Amsterdam. In Parkstad-Limburg samples were drawn from the following registries: methadone supply, a heroin prostitution project and a low-threshold service (OAC) (Coumans et al., 2000). The resulting estimate ranged from 774 to 1022 problematic hard drug users (95% CI) or 883 on average.

The national working group on prevalence estimations is now looking for possibilities to apply the 3-sample C-RC in other cities, e.g. the Hague or Rotterdam.

Declining number of opiate addicts in Amsterdam

Estimates for Amsterdam are available since 1984, which allows trends to be examined. The Amsterdam Municipal Health Service applied a 2-sample capture-recapture to data from the Central Methadone Register (CMR). Figure 5 shows the estimated number of regular opiate users broken down by country of origin.

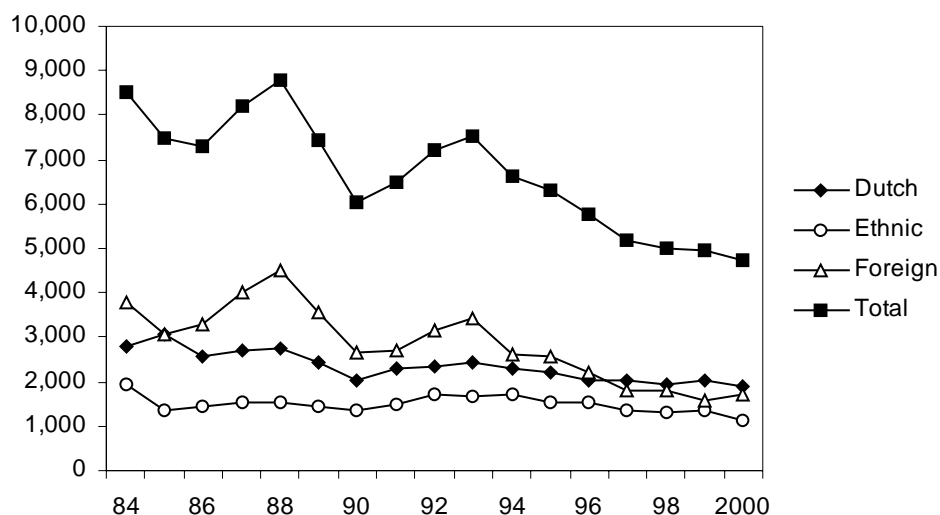


Figure 5: Estimated number of opiate addicts in Amsterdam by ethnicity and nationality

Dutch drug users are born in the Netherlands; ethnic drug users are born in Surinam, Dutch Antilles, Morocco, Turkey; and foreign drug users are born elsewhere. In 2000, the proportion of foreigners was 36%, the proportion of Dutch addicts 40% and ethnic addicts 24%. The declining trend is especially evident among foreign drug users, whereas the number of Dutch and ethnic-Dutch users remained relatively stable. To some extent this decline can be explained by the return of foreign drug users to their home country owing to the development or improvement of treatment facilities abroad and the implementation of more restricted entrance criteria for methadone maintenance treatment in Amsterdam (push and pull factors).

There are, however, some methodological factors of concern with regard to this method, which might result in an overestimate of the number of opiate users, especially during the early years (pers. Communication M. Buster). The two samples are drawn from recordings of methadone supply at the police office after being arrested and from methadone supply at the Municipal Health Service of Amsterdam. If estimates (as presented in figure 5) are based on an annual observation period, many people who stay in Amsterdam only temporarily (e.g. German and Italian heroin tourists) are likely to be captured in either sample (although most usually in the police sample) but not in both. Therefore, the overlap between both samples is fairly small, which results in an overestimate, especially in the early years when there was more drug tourism. If the observation period is reduced to three months, the resulting estimate is lower. Finally, there has been a correction procedure applied in the past years by which double registrations of persons have been removed from the database. In former days such double registration might also have contributed to an overestimate.

Characteristics of problematic hard drug users

Most problematic hard drug users are poly-substance users consuming heroin, methadone, cocaine, cannabis, alcohol and psychoactive medicines. The large majority of opiate users also regularly consume cocaine (base-coke or crack) and for a minority crack is the main drug. Table 17 illustrates this pattern of poly-substance use among a field sample of 149 problematic hard drug users in Utrecht.

Table 17: Substance use among problematic hard drug users in Utrecht*

	% of users	Average number of use days
Heroin	84	23
Cocaine	95	22
Methadone	52	23
Amphetamine	8	8
Ecstasy	5	4
Alcohol	26	17
Medicines	28	14
Cannabis	64	14
LSD	3	2

Source: Local Monitor Alcohol and Drugs: Utrecht. De Graaf et al., 2000.

- Smoking (chinesing or basing) is the most common route of heroin and cocaine administration among hard drug users in the Netherlands (see chapter 3.3.1).
- Depending on the definition, about one-third to one-half of the opiate or poly-substance users suffers from psychiatric co-morbidity (dual diagnosis; see chapter 3.4.2).
- Most addicts are male (some 80%).

- There is an ageing trend. The municipal health service in Amsterdam recorded an increase in average age of opiate users in methadone treatment from 32 years in 1989 to 39 years in 1998 (Van Brussel and Buster, 1999). The age trend has also been reported in non-treatment populations. For example, Fennema (1997) analysed data from 594 street recruited active drug injectors in Amsterdam and revealed a significant increase in mean age from 28 years in 1990 to 37 years in 1996. In the same study the proportion of drug injectors of 30 years and older nearly doubled from 44% in 1990 to 82% in 1996. Field studies in Utrecht, Rotterdam and Parkstad-Limburg among problematic hard drug users also revealed an average age of 37 years (Van de Mheen, 2000; De Graaf et al., 2000; Coumans et al., 2000).
- “Allochtonous” drug users were overrepresented in Utrecht (45%) and Rotterdam (42%), including in particular Surinamese, Moroccan and Antillian persons (see also 4.1). In Parkstad-Limburg 24% of the problematic drug users was allochtonous, with a relatively high proportion of Germans. The average age of Surinamese drug users is higher than that of the other drug users (Van Brussel and Buster, 1999; Van de Mheen, 2000), which is related to the low injection rate and subsequent lower mortality risk.

3. Health consequences

The main sources of information to monitor drug treatment demand in the Dutch population are given in the table below.

Monitoring treatment demand

Information system	Scope	Population	Organisation	Last reporting year
LADIS. National alcohol & drugs information system	National	Outpatients of specialised addiction care and treatment centres	IVV/IVZ, Houten	2000
PIGGz. Inpatient register mental health care	National	Inpatients of mental health care institutions, incl. addiction clinics. ICD-9 diagnosis	Prismant (former SIG/NZi)	1999*
LMR. National Information System on Hospital Care and Day Nursing	National	Inpatients of general hospitals ICD-9 diagnoses	Prismant (former SIG/NZi)	2000
CMR. Central methadone register	Amsterdam region	Methadone clients	Municipal Health Service of Amsterdam	1998

* Since 1997 the data are not complete. Trends in inpatient treatment demand are therefore not reliable.

The main sources of information to monitor morbidity and mortality in the Dutch population are given in the table below.

Monitoring diseases and mortality

Information system	Target group and scope	Organisations responsible
HIV monitoring	Injecting drug users in different towns	RIVM
AIDS registration ^a	Injecting drug users	IGZ
Cause of Death Statistics ^b	National, people listed in the population register	CBS

^{a)} Will be replaced in 2002 by an HIV/AIDS registration system.

^{b)} Mortality among Amsterdam drug users is recorded yearly by the Amsterdam GG&GD.

3.1 Drug treatment demand

We will first describe overall trends in treatment demand at 1) outpatient centres, 2) inpatient centres and 3) general hospitals. Then we will describe treatment demand and client characteristics per main class of drugs: cannabis, cocaine, opiates, including methadone, and ecstasy and other amphetamines. The data are given in Table A5 through A8 (appendix).

3.1. 1 Overall treatment demand

In the Netherlands people with drug addiction problems are mostly seen in specialised outpatient centres, and to a lesser extent in specialised inpatient clinics or general hospitals.

Outpatient addiction centres

Terminology

- *Basically, a distinction is made between ‘registrations’ and (unique) persons. In 1994, IVV (administrator of LADIS) introduced a unique client code. Since then the data can be cleaned from double counting of persons who apply for assistance more than once in a given year. We will still refer to the total number of registrations (uncorrected) for the purpose of analysing trends since 1990.*
- *Further, a distinction can be made between 1) all treatments (persons), 2) treatment demands (persons) recorded in a certain recording year (thus excluding persons who were already recorded in the preceding year) and 3) first treatments (persons)*
- *The definition of ‘treatment’ as used in the key figures of IVV is slightly different from that required by the TDI protocol. The standard key figures concern all administrative registrations of persons at an outpatient treatment service, while the TDI definition is restricted to persons who have actually had at least one face-to-face contact. Therefore, figures under TDI definition are lower than those presented under the original definition. In the following text we will present figures under the broader definition, unless it is explicitly mentioned that they refer to the TDI. IVV will examine these differences in more detail with the aim to enhance consistency between both data sets in the future.*

Table 18 Number of unique clients registered at outpatient services

	1994	1995	1996	1997	1998	1999	2000
NUMBER OF CLIENT REGISTRATIONS							
Drugs	24 409	25 726	28 050	32 788	34 226	37 974	36 658
Alcohol	22 170	21 891	22 966	23 637	25 584	25 843	25 510
All (incl. gambling)	56 938	55 184	56 833	62 467	65 622	69 528	67 262
NUMBER OF UNIQUE CLIENTS							
Drugs	20 375	21 641	23 025	25 202	25 261	26 333	26 605
Alcohol	20 237	20 204	20 939	21 134	22 378	22 554	22 365
All (incl. gambling)	50 053	48 835	49 319	51 783	52 744	53 863	53 428

Source: LADIS, IVV/Houten

The development of all drug client registrations (including double counting of persons) since 1990 is shown in figure 6. The number of drug client registrations doubled from about 19,000 in 1990 to 38,000 in 1999 and seems to level off slightly in 2000. This decrease is, however, not paralleled by a similar decline in unique drug clients. Opiates were the main drugs for the

large majority of clients. Part of the increase had not to do with treatment demand but rather with an expansion of LADIS coverage.

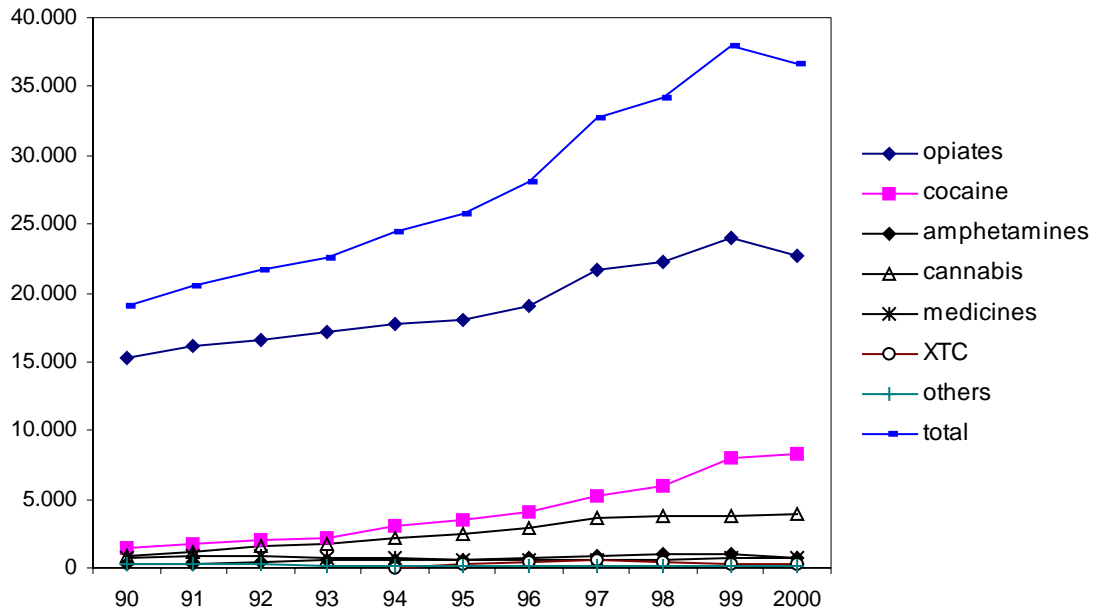


Figure 6: Development of the number of drug clients at outpatient addiction centres (LADIS). See also table A5.

As shown in table 16, the number of unique clients is much higher among drug clients compared to alcohol clients. This is due to the higher number of 'repeat registrations' for drug clients, in particular opiate clients, within one registration year ('draaideurclinten'). Most registrations are related to opiate use, followed at a distance by cocaine and cannabis.

Inpatient treatment services.

Inpatient services include addiction clinics and specialised addiction units in general psychiatric hospitals. Treatment demand for drug use problems is much lower at inpatient centres (largely aiming at detoxification) compared with outpatient centres (various programmes) but shows a similar increase over the past decade. The total count of drug-related inpatient admissions increased from almost 2700 in 1990 to about 4900 in 1996 (figure 7). These cases refer to ICD-9 codes for nondependent drug abuse (305.2-9) and drug dependence (304). The large majority of admissions are related to opiate dependence.

- The data set is incomplete since 1997 because the number of services supplying data has dropped sharply. The Netherlands Association for Mental Health Care (GGZ-Nederland) is now busy developing a new registration system, the Care Information System (Zorg Informatie Systeem – ZORGIS), in order to replace the PIGGz. The first lot of data will be available from the Care Information System in the autumn of 2001, albeit not based on all the institutions concerned.
- Note that the PIGGz is episode-based and may include double counting of persons.

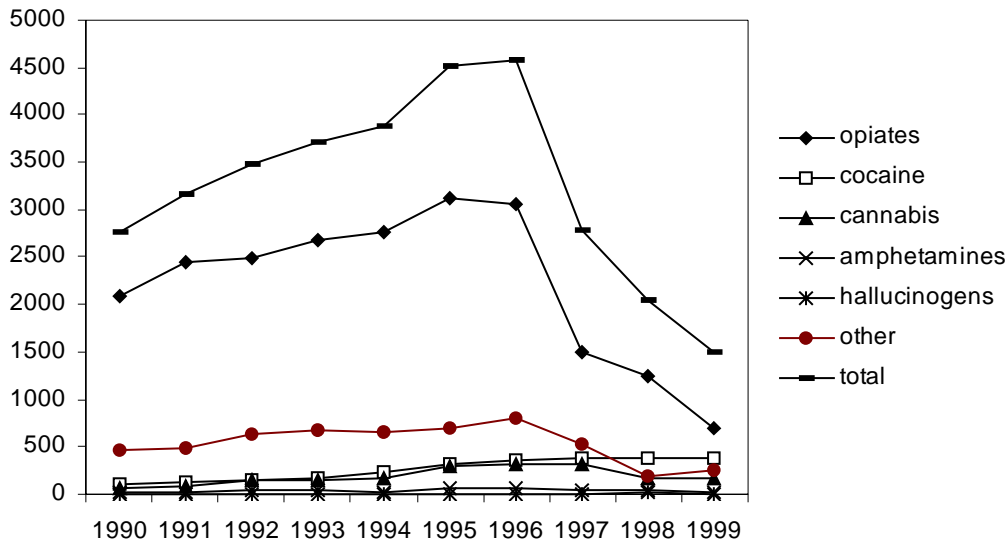


Figure 7: Number of admissions to inpatient addiction services because of drug dependence or nondependent drug abuse (ICD-9 codes 304 and 305.2-9). The registration is incomplete since 1997. Therefore this trend does not reflect reduced treatment demand. See also table A6.

General hospital admissions

Figure 8 shows the number of admissions to general hospitals because of drug dependence or abuse.

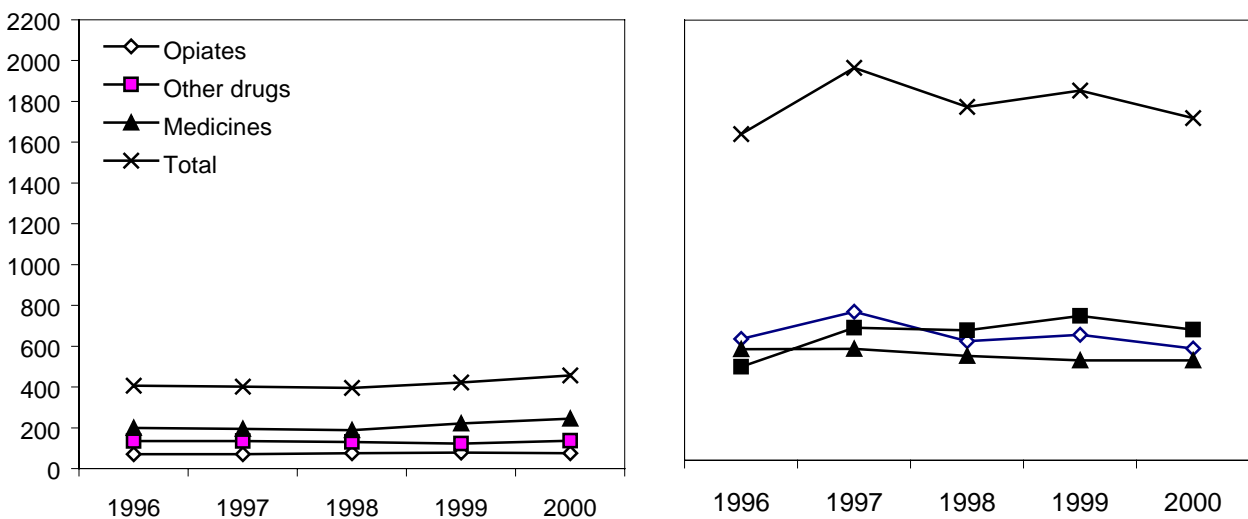


Figure 8: Number of admissions to general hospitals because of a primary (left) or secondary (right) diagnosis drug dependence or nondependent drug abuse (ICD-9 codes 304 and 305.2-9). See also table A7 and A8.

It is clear that these disorders are counted much more often as a secondary diagnosis than a primary diagnosis, but the overall number related to illicit drugs is still relatively low and stable over the years. Moreover, half of the cases counted as primary diagnoses and over one quarter of the cases counted as secondary diagnosis were due to the use of psychoactive medicines (e.g. benzodiazepines).

3.1.2 Treatment demand related to specific drugs

Cannabis: outpatient treatment demand seems to stabilise

- The number of registrations in LADIS because of a primary cannabis problem was about four times as high in 1997 than in 1990 (see table A5).
- The proportion of cannabis among all drug client registrations also increased (from 5 to 10-11 percent).
- *The increase in treatment demand levelled off in the past four years.*
- *In 2000 over 3,400 individual persons sought help for problems related to cannabis as their main drug (table 19).*
- *Of all cannabis clients applying for help in 2000 (= 1,850), 69% was 'new', i.e. had not been registered in the years before (since 1994). They make up about one-third of the total number of cannabis clients recorded.*
- *Most cannabis clients registered in 2000 (TDI-definition) were between 15 and 29 years (see figure 9). This is fairly young compared with the age distribution of opiate clients (below), which peaks between 30 and 39 years.*

Table 19: Cannabis clients at outpatient addiction centres in 2000

Number of client registrations	3974
Number of persons with primary cannabis problem*	3443
• Percentage of all drug clients	13
• Mean age (years)	28
• Percentage males	81
Number of persons with secondary cannabis problem*	3 144

* Corrected for double counting of persons. Source: LADIS, IVV, Houten

- *Quite some persons also mentioned cannabis as their secondary problem drug (table 19). Among these, 36% had a primary problem with alcohol, 25% with heroin and 27% with cocaine.*
- *It is important to note that a significant proportion of the primary cannabis clients (one out of three) also reported to have problems with the use of other, assumedly more addictive, substances, such as alcohol, cocaine and ecstasy.*
- Whether the use of a given substance is reported as a primary or secondary problem depends upon the perception of the client. Figures on the number of primary cannabis clients may therefore overestimate the cannabis problem or, conversely, underestimate problems with other substances.

Cannabis clients registered in 2000 by age group

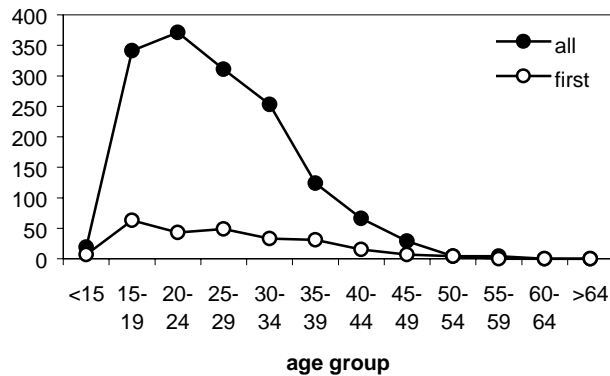


Figure 9: Age distribution of cannabis clients registered in 2000 by age group. First treatment demands are given separately (restricted TDI data set).

Admissions of people with the diagnosis cannabis dependence or abuse to an inpatient institution have also gone up until 1997 but are still rather uncommon: 323 cases in 1997 or 10% of all drug-related admissions. The decreasing trend observed in Table A6 is not reliable because of the incomplete data set.

The number of persons admitted to general hospitals with cannabis dependence or abuse as the primary diagnosis is even lower (29 in 2000). However, counts are higher for these disorders as a secondary diagnosis (193 in 2000). Figures are slightly fluctuating over the years without clearly pointing at an increasing or decreasing trend.

Note that the three registers (LADIS, PIGGz, and LMR) are independent and that one person may be recorded in each of these registers within the same year. In spite of this, a comparison of the estimated number of persons with cannabis dependence in the general population and figures on treatment demand, suggests that most people who have problems with their cannabis use stay out of sight of treatment institutions.

Cocaine: strong increase in outpatient treatment demand

Clients visiting outpatient facilities because of a primary cocaine problem are apparently a small minority of all cocaine users, but the precise proportion is not known. However, the number of registrations for a primary cocaine problem in outpatient centres has increased 10-fold in the past ten years. The care sector has noticed an increasingly aggressive disposition on the part of clients due to cocaine use, amongst other things (Ministerie van VWS, 2001).

- The proportion of cocaine client registrations among all drug users seeking outpatient help also showed a strong increase: from 8% in 1990 to 22% in 2000.
- Quite some clients applying for help in 2000 were 'new' (44%), i.e. had not been recorded before in LADIS since 1994. They make up a quarter (24%) of all cocaine clients.
- Cocaine clients are on average younger than opiate clients but older than cannabis clients.

Table 20: Cocaine clients at outpatient addiction centres in 2000

Number of client registrations	8,241
Number of persons with primary cocaine problem*	6,103
• Percentage of all drug clients	23
• Mean age (years)	32
• Percentage males	83
Number of persons with secondary cocaine problem*	7,111

* Corrected for double counting of persons. Including crack. Source: LADIS, IVV, Houten

- The number of unique persons who report cocaine as secondary drug outweighs the number of persons mentioning cocaine as main drug. As expected, about three-quarter of these persons had a primary opiate problem (76%); 16% applied for a primary alcohol problem and 4% for a primary cannabis problem.

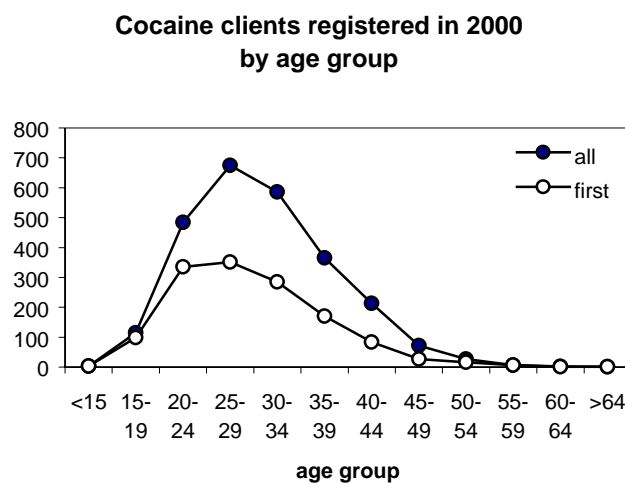


Figure 10: Age distribution of cocaine clients registered in 2000 by age group. First treatment demands are given separately (TDI data).

- The use of crack has been reported by 219 of all primary cocaine clients. Crack is recorded as a separate entry since 1996. However, at data entry the distinction between the various cocaine products is probably not made in a consistent and reliable way.

Of all European Union countries, the proportion of cocaine clients among all drug clients applying for treatment is highest in the Netherlands. Whether the strong increase reflects (only) an increase in cocaine use is not known. Opiate addicts are increasingly smoking cocaine (crack). If the opiate is injected (such as in most countries abroad) it is likely that this drug will be reported as the main problem drug. However, in the Netherlands drug injection rates are low, which might increase the likelihood that drug users report cocaine as the main drug.

Inpatient treatment for cocaine addiction has slightly increased over the years. In 1996, 364 clients with the diagnosis cocaine dependence or abuse were admitted to a psychiatric hospital or an addiction clinic, representing 8 per cent of all admissions for drug dependence or abuse. Since then, inpatient treatment demand has stabilised at around 370-390

admissions per year. Knowing, however, that the number of inpatients services supplying data to the PIGGz has strongly reduced as of 1997, it seems likely that treatment demand has increased rather than stabilised in the past years.

Admissions to general hospitals are higher for cocaine dependence and abuse as a secondary diagnosis (377 in 2000) compared with the number of cases for which these disorders were recorded as a primary diagnosis (67 in 2000). Cocaine use is associated with various natural diseases (e.g. cardiovascular, neurological, respiratory). These diseases might have been recorded as the primary diagnosis but this assumption needs to be verified.

Opiates

The number of client registrations for opiates (largely heroin) increased until 1999 and slightly decreased in 2000. Part of the increase in the early years was due to an expansion of services participating in LADIS.

- The number of unique opiate clients was stable in the past five years.
- The big difference between the number of registrations and number of persons indicates that opiate clients are often recorded more than once a year. Among others, this may be due to low therapy compliance and/or high mobility (applying repeatedly at different centres).
- 22% of the opiate clients who were registered in 2000, applied for the first time at an outpatient centre for a drug problem, which is only 7% of the total number of opiate clients. This shows that the large majority of opiate clients belong to a relatively stable population of problematic users.

Table 21: Opiate clients at outpatient addiction centres in 2000

Number of client registrations	22,685
Number of persons with primary opiate problem*	15,544
• Percentage of all drug clients	58
• Mean age (years)	37
• Percentage males	80
Number of persons with secondary problem*	1,387

* Corrected for double-counting of persons. Persons with an opiate both as their main and secondary drug (eg. heroin and methadone) are counted as primary clients. Source: LADIS 1999, IVV, Houten

- On the other hand, these figures still indicate that almost 1,100 clients are still recorded as new cases.
- It could signal at a higher proportion of opiate users making contact with addiction services, for instance because of pressure from society or law enforcement agencies. Note that various local studies have indicated that the intreatment rate of opiate users varies between 50-70 %, which still leaves room for new entries. It could also point at a stronger demand for treatment owing to the ageing of the opiate user population. Looking at the age distribution in figure 11, it seems that the new opiate clients are not specifically falling within the higher age groups. In contrast, the average age appears to be lower for the new clients (mean 33 years and median 32 years) than for all clients together who were registered in 2000 (mean and median 37 years).
- According to IVV, the first seen opiate clients are relatively more often allochtonous, seem to suffer relatively often from psychiatric comorbidity and/or have an extensive criminal record.

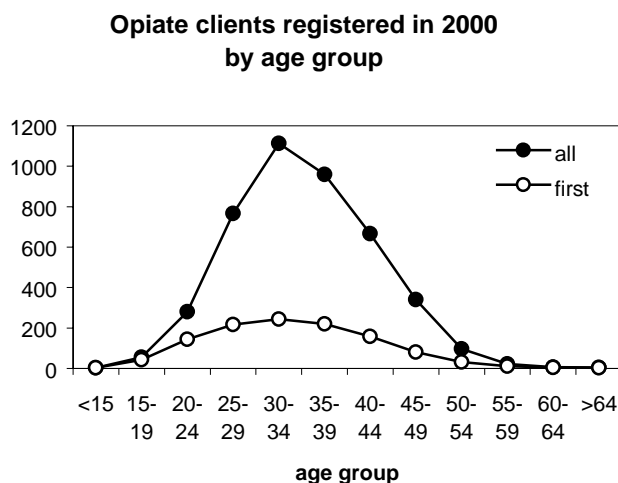


Figure 11: Age distribution of opiate clients registered in 2000 by age group. First treatment demands are given separately (TDI data).

As for inpatient services, opiate dependence makes up the large majority of drug-related admissions. Nondependent opiate abuse was rarely recorded in 1996 (36 admissions). Together they formed 67% of all drug related admissions. The downward trend after 1996 is not reliable because of incompleteness of the registration.

Opiate clients are also seen in general psychiatric hospitals. However, opiate dependence or abuse is diagnosed appreciably more often as a secondary diagnosis than a main diagnosis (79 times against 627; see table A6/7). Probably these patients are admitted because of a complication of long-term (injecting) drug use, such as sepsis, endocarditis, abscesses, respiratory diseases etc. Note that these numbers do not adequately reflect the total number of opiate addicts admitted to hospitals, because admissions in this population may be unrelated to drug use, such as pregnancy or alcoholism (Van Haastrecht et al., 1996).

Methadone

Methadone supply is one of the key elements of assistance to opiate users in the Netherlands. Some key figures on methadone supply through outpatient centres taking part in the LADIS registration is given in table 22. In 2000 LADIS recorded almost 11,000 methadone clients. About 96 % of these clients joined a methadone maintenance programme and the others took methadone on a reduction basis for detoxification.

Table 22: Characteristics of methadone supply at outpatient centres

	Number of persons	Number of Contacts	Number of portions	Average dose (mg)*
1993	8,698	955,718	-	-
1994	8,882	811,161	1,055,434	46
1995	8,817	633,813	1,527,067	37
1996	9,068	681,631	1,804,695	38
1997	9,838	674,118	1,914,190	40
1998	9,754	662,328	2,129,678	42

1999	10,666	726,986	2,311,323	45
2000	10,805	685,818	2,421,042	48

* Per portion. Bron: LADIS, IVV

Table 22 also shows that the number of persons, portions and average dose increased over the years, while the number of contacts decreased. More specifically, between 1994 and 1999 the number of contacts per person decreased from 91 to 64, while the average number of portions per contact increased from 1.3 to 3.5. Moreover, the number of portions per person increased from 119 to 224 in these years. Between 1994 and 2000 the average consumption per person per year² increased from 5.6 gram to 11 gram (maintenance supply; see figure 12). These data suggest that “supply practices” have changed in that opiate addicts receive more portions at a time but they also seem consume more methadone. However, this explanation needs to be verified.

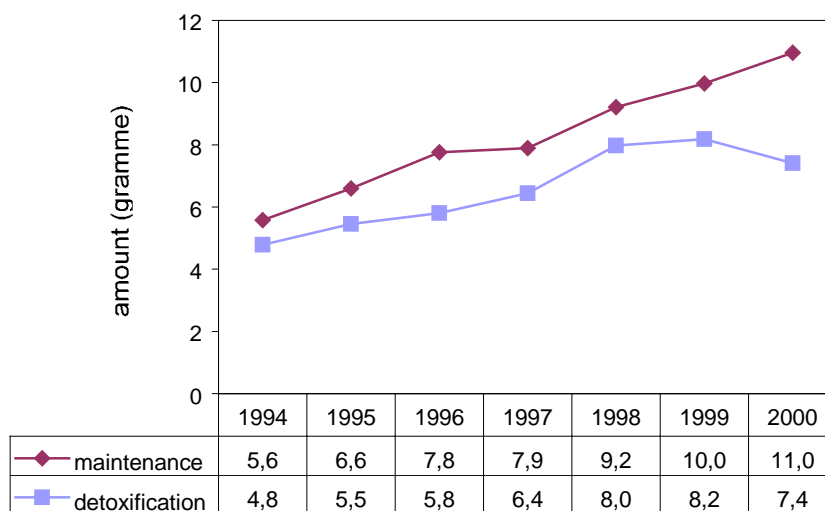


Figure 12: Methadone consumption (gramme) per person per year. Source: LADIS/IVZ.

Van Alem and Mol (2001) have analysed LADIS data to draw up a profile of methadone clients and to determine trends between 1995 and 1999. Some results:

- Methadone clients are intensive and long-lasting care consumers compared with other drug clients. Between 1995 and 1999:
- the average age of methadon clients increased from 33 to 36 years,
- the percentage of never injectors increased from 21 to 25
- the percentage of poly drug users increased from 19 to 28
- the percentage of homeless clients increased from 3 to 8
- the influx and efflux of clients decreases.

New methadone clients, i.e. first treatments in 1999 (n=536 = 5% of all methadone clients) differ in some respects from the total group of methadone clients:

- they are younger (12% is below 23 years against 2% in the total group)
- they are more likely to be allochtonous (52% against 29%)
- they are more likely to be a never-injector (44% against 35%)
- they are more likely to be daily participants of a methadone programma.

² (Portions x dose)/ number of persons.

LADIS coverage of methadone clients in the Netherlands is not complete. Data are missing from the municipal health service Amsterdam, general practitioners, prisons and police stations. Part of these data is recorded in the Amsterdam CMR. Data from the national Health Insurance Board (CVZ) can be used to estimate outpatient prescriptions of methadone by GPs and specialists. Van Alem and Mol (2001) made the following calculation based on 1999 data:

Table 23: Estimate of the number of methadone clients in the Netherlands

Source	Number of clients
LADIS	10.666
CMR, not included in LADIS	2,000
CVZ, not included in LADIS/ CMR	900
Total	About 13,500

Source: IVV, Van Alem and Mol (2001)

Table 24 gives some characteristics of methadone supply in Amsterdam, as recorded in the CMR. Methadone is supplied on the basis of a differentiated system, indicating that the Municipal Health Service takes care of the most problematic users who receive a higher dose (63 mg on average) compared with more socially integrated clients seen at the Jellinek centre (39 mg) or general practitioners (42 mg). The average dose increased over the years. There are some indications that high methadone doses reduce the additional use of heroin and increase therapy compliance (Van Brussel & Buster, 1999).

Over the years the total number of clients and the *new clients* recorded for in the CMR for the first time generally decreased. This trend can be attributed in part to the decreasing number of foreign clients, in particular German and Italian clients. So-called 'push and pull' factors may be at work here. Since 1989, the city of Amsterdam has taken measures to discourage foreign users from coming to Amsterdam, for example by tightening entrance criteria to a methadone programme. At the same time the improvement of drug treatment facilities abroad (e.g. methadone programmes in Germany) may encourage foreign users to return home.

Table 24: Methadone supply in Amsterdam

	1989	1998	2000
Total number of clients*	4,765	3,881	3,705
Number of first registrations	978	454	480
Average age (year)	32	39	40
Average methadone dose (mg)	37	53	55

* Municipal Health Service and Jellinek, including short term supply at police office.

Source: CMR, Municipal Health Service Amsterdam (Buster & Reurs, 1999)

Despite decreasing *annual* figures, the demand of clients on methadone programmes on a *weekly* basis remained quite stable or even slightly increased over the years. This is explained in part by an increasing patient compliance, particularly among Dutch/ethnic clients, and the aforementioned decline in foreign clients who usually stay for only a very short time in a methadone programme. The latter group has a relatively great impact on annual statistics compared to those calculated per week (Buster & Reurs, 1999).

Buster (personal communication, 2001) recently presented data on the percentage of drug users within the reach of drug treatment services in Amsterdam. This percentage is different when calculated for an observation period of a quarter or a year. The number of problematic opiate users (methadone clients) in Amsterdam was estimated at 4130 in 1997, of whom 1645 showed up in treatment in the first quarter of the year. The reach is therefore 40%. When calculated on an annual basis, 60% of the problematic drug users were within the reach of treatment services. Buster argued that the interpretation of this percentage depends on the kind of assistance or intervention. For hepatitis B vaccination, a single contact per year may be sufficient. For TBC control several times a year is required, while for methadone supply or syringe exchange daily contacts are needed.

Ecstasy and amphetamine

Problematic ecstasy users are infrequently seen at outpatient facilities compared with other drugs.

- The number of registrations rose rapidly from 29 in 1994 to 514 in 1997, but dropped since then. Whether this is related to a more cautious use pattern, as suggested by Korf et al. (2000) is not known.
- Ecstasy makes up no more than one per cent of all drug client registrations.
- The apparent initial increase in the number of ecstasy clients is due, at least in part, to improved registration. A separate entry for ecstasy was added to LADIS in 1994 and complete registration took place in 1995.
- One out of three clients was 'new', i.e. was not recorded before in LADIS (since 1994).
- Interestingly the number of clients reporting ecstasy as secondary drug was twice the number of clients with ecstasy as main drug. For this group, cocaine (37%), cannabis (26%), amphetamine (19%) or alcohol (11%) was the main problem.

Table 25: Clients at outpatient addiction centres in 2000

	Amphetamine	Ecstasy
Number of client registrations	747	281
Number of persons with primary problem*	623	241
• Percentage of all drug clients	2	1
• Mean age (years)	28	25
• Percentage males	79	81
Number of persons with secondary problem*	498	573

* Corrected for double-counting of persons. Source: LADIS 1999, IVV, Houten

The number of clients with a primary amphetamine problem is about three times higher than the number of primary ecstasy clients. However, compared with other drugs, the role of amphetamine is still limited.

- The steady increase in amphetamine clients is levelling off in the past years
- For those persons reporting amphetamine as secondary drug, the main substance was cocaine (27%), heroin (25%), alcohol (19%) or cannabis (18%).

Data on inpatient admissions based on the ICD-9 can not be distinguished for ecstasy separately but refers to the whole class of amphetamines, to which ecstasy belongs. In 1996, only 58 people were admitted to an in-patient institution because of amphetamines dependence or nondependent abuse of amphetamines. In 1999, 25 cases were counted but

this figure is not reliable given the incomplete coverage of the registration. Compared with other hard drugs, ecstasy has reduced abuse liability and dependence potential. However, ecstasy use may cause acute health problems, and there is proof of adverse effects following long-term use (see chapter 3.2 and 3.4).

3.2 Drug-related mortality

3.2.1 General Mortality Register

The main source providing the official Dutch statistics on drug-related deaths is the General Mortality Register (GMR) or Causes of Death Statistics held by Statistics Netherlands - CBS - (Bonte *et al.* 1985.) This register has national coverage, includes only residents of the Netherlands and provides data especially on acute mortality due to drug use. Cases refer mainly to 'overdose', although 'acute intoxication' may be a more appropriate term given the multiple factors beyond drug dose that determine a fatal outcome. The GMR data do not offer a distinction between experimental and habitual drug users, and are not suitable to trace deaths due to rare toxicological substances (e.g. various synthetic drugs) (Van Laar & Cruts, in press).

Table 26: ICD-codes used to report on the number of drug-related deaths*

ICD-9 codes	1979-1995
• 292	Drug psychosis
• 304	Drug dependence
• 305.2-9	Nondependent drug abuse
• E850.0	Accidental poisoning – opiates and related narcotics
• E854.1	Accidental poisoning – hallucinogens
• E854.2	Accidental poisoning – psychostimulants
ICD-10 codes	1996-present
• F11-F16, F18-F19	Mental and behavioural disorders – cannabis, sedatives and hypnotics, cocaine, other stimulants, hallucinogens, volatile solvents, multiple drugs, other psychoactive substances
• X42	Accidental poisoning – incl. cannabis, cocaine, heroin, LSD, mescaline, methadone, morphine, opium
• X41 with T43.6	Accidental poisoning – psychostimulants

* Underlying causes of death. *Source:* Statistics Netherlands (CBS).

Causes of death are classified according to the International Classification of Diseases, Injuries and Causes of Death (ICD). The 9th edition was used from 1979 through 1995, until the implementation of the 10th edition in 1996. Table 23 lists the ICD codes used by Statistics Netherlands to report on the number of drug-related deaths. From 1979 through 1995 ICD-9 codes were used, and from 1996 onwards ICD-10 codes were used. *The transition from ICD-9 to ICD-10 had consequences for the inclusion of cases. As shown in table 23, the ICD-10 codes cover a broader range of substances compared to the ICD-9 codes. These changes should be taken into account when interpreting the figures.*

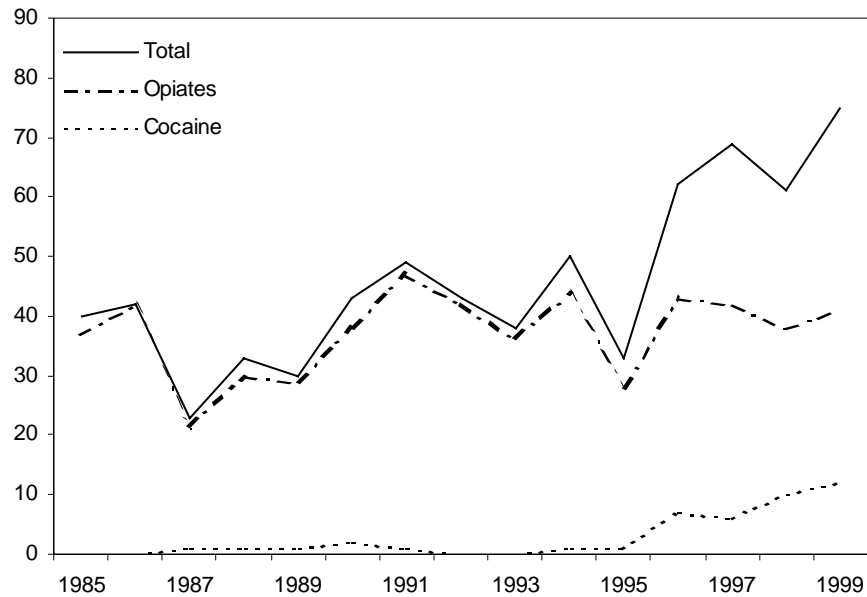


Figure 13: Number of acute drug-related deaths in the Netherlands according to a selection of ICD-9 codes (1985-1995) and ICD-10 codes (1996-1998). See also table A9.

Table A8 shows the number of cases recorded from 1985 through 1999 according to the selections listed in Table 26. Acute drug-related deaths appear to be infrequent among Dutch residents and the casualty rate has fluctuated slightly over the years. The large majority of the deceased were males aged between 25 and 44 years (75%). The relatively low frequency of intravenous drug use in the Netherlands may contribute to these low figures. There are, however, some indications that not all cases of drug-related deaths are recognised in the GMR (De Zwart and Wieman, 2001).

The increase in deaths in 1996 may be related to differences between coding systems as well as a broadening of the 'case definition' of drug-related deaths under the ICD-10 as explained above. Figure 13 shows that almost all cases counted between 1985 and 1995 were related to opiate use. Note that most of these drug users have probably consumed other drugs in addition to opiates. However, an internal coding rule of Statistics Netherlands gives priority to opiates.

- The number of opiate deaths remains stable at about 40 per year.
- *Part of the increase in 'other deaths' since 1996 was related to acute cocaine deaths: 8 from 1985 to 1995 against 35 from 1996 to 1999. Although no definite conclusions can be drawn from these still low number, the data suggest an upward trend which seems to parallel the increased use of cocaine. Whether this increase is (also) related to the introduction of the ICD-10 is not known.*
- The remainder of the increase was related to an increase in codes counted under the ICD-10 (largely unspecified cases). We have asked Statistics Netherlands to search for information on the original death certificates giving more details of such 'unspecified cases'. The results are not yet available.

3.2.2 Registration of drug-related deaths in Amsterdam

Each year the Municipal Health Service of 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 overdoses from Amsterdam coroners also concern foreigners not included in the Population Registry. This is in contrast to the GMR, which only includes Dutch residents. By the end of the eighties some 30-40 per cent of the suspected overdose cases in Amsterdam were confirmed by a post-mortem examination, generally including toxicological screening (Cobelens 1990). The autopsy rate today is not known but is assumed to be lower. In spite of this, most fatal overdoses among users known in the Central Methadone Register are likely due to a toxic combination of heroin, methadone, cocaine, benzodiazepines, and/or alcohol. The category HIV-infection should be interpreted with caution because drug users with HIV might have died from AIDS but also from other diseases.

Table 27: Mortality among drug users in Amsterdam

	1992	1993	1994	1995	1996	1997	1998	1999	2000
Overdose	52	37	39	26	26	22	25	27	31
Deaths among HIV+	43	57	46	43	37	28	21	26	19
Other	40	45	40	49	53	48	46	46	19
<i>Total</i>	<i>135</i>	<i>139</i>	<i>125</i>	<i>118</i>	<i>116</i>	<i>98</i>	<i>92</i>	<i>100</i>	<i>69</i>

Source: Municipal Health Service Amsterdam. Van Brussel & Buster, 1999. Personal communication M. Buster. <http://www.zorgstad.amsterdam.nl/gemeente/gggd>

In 2000, about half of the deceased were born in the Netherlands (n=38) and half were born abroad (31), in a variety of countries. Surinam (9) was counted most commonly. They were on average 41 (Dutch) and 44 years (other). Drug users dying from overdose were on average younger than the total group average (36,5 versus 42 years).

Deaths among drug users in Amsterdam

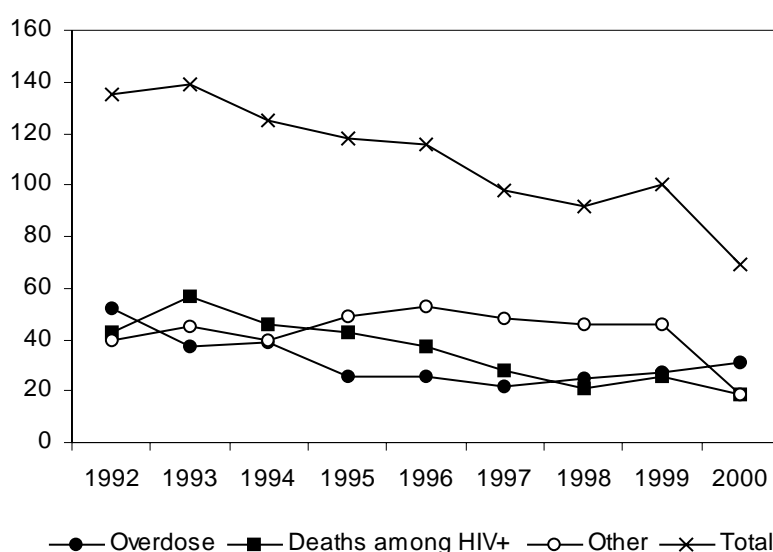


Figure 14: Number of deaths among drug users in Amsterdam

The decreasing trend until the late nineties can be explained in part by the strong decline of foreign drug users in Amsterdam (e.g. due to repatriations, restricted entrance in Dutch methadone programmes, and improved care in home country). As the proportion of drug injectors among these foreigners is high, and injecting is associated with an increased risk of overdose, such a decline has relatively great impact on mortality figures. Since 1997 the annual number of overdose deaths does not decline anymore. Another factor is the declining mortality among HIV positive users, among others due to the decreasing HIV incidence and improved treatment modalities. *The recent drop in 2000 in the total number of drug users is largely caused by the category 'other causes of death'. There is as yet no explanation for this trend.*

Although the total number of drug-related deaths in Amsterdam tend to decrease, the mortality rate remains high or even slightly increased (2 per 100 drug users per year). Probably this effect is explained by the fact that the 'shrinking' rest population of opiate addicts is (ageing) and suffers increasingly from medical and psychiatric complications (Van Brussel and Buster, 1999).

3.2.3 Amsterdam cohort study

Information about risk factors is available from the Amsterdam Cohort Study among (injecting) drug users, which recruits drug users from low-threshold methadone programmes and from clinics for sexually transmitted diseases among drug prostitutes. Table 25 below shows that the risk of dying increases dramatically for drug injecting (without HIV) compared to non drug injecting, and even more so with injecting drug use with HIV infection. Compared with the 'normal' Amsterdam population, the risk of dying is 50 times higher for a HIV-positive injecting drug user.

Table 28: Mortality in different populations of drug users in Amsterdam

	Mortality*
Amsterdam population**	1.3
Non-injecting drug users, HIV negative	7
Injecting drug users, HIV negative	18
Injecting drug users, HIV positive	64

*Deaths per 1000 person-years ** Mortality in age-matched population. *Source:* Amsterdam Cohort Study on HIV and Aids (Van Haastrecht et al., 1996).

Many HIV positive drug users die before being clinically diagnosed with AIDS (some 24%; Hendriks et al., 1998). Overdose/suicide and diseases (e.g. infections, liver cirrhosis) are common causes of deaths in these drug users (Prins *et al.* 1997). For about three-quarters of all cases of pre-AIDS death there was evidence of immunosuppression (CD4-count <500/ μ L) and there was a strong relationship with the progression of the disease. Concomitant infections with hepatitis B and C, resulting in impaired liver function, might also play a role. The life expectancy of HIV positive drug users is improving with the introduction of combination therapy, which may reduce pre-AIDS mortality. Poly-drug use, especially concomitant consumption of benzodiazepines, increases the risk of mortality among injecting drug users, while high doses of methadone have a protective effect (Van Ameijden *et al.* 1999).

3.2.4 Deaths related to the use of ecstasy or other (synthetic) drugs

The number of persons who have died after using ecstasy or related drugs is not known since there is no central registration of these cases and full toxicology is required to identify the precise cause of death³.

- Between 1994 and 1997 37 fatal cases of apparent overdose by amphetamine- or phenylpropanolamine-derivates were brought to the attention of the pathological and toxicological laboratories in the Netherlands (Lusthof *et al.* 1998). Autopsies did not demonstrate a clear anatomical cause of death. In 19 cases, amphetamine derivatives were considered to be the main cause of death. Amphetamine was detected in 13 blood samples, followed by MDMA (11), MDA (9) MDEA (4) and methamphetamine (2). The figures do not sum to 19, as most samples contained more than one substance. In the 18 remaining cases, amphetamine-derivatives were present but death was ascribed to other drugs, a combination of drugs and/or alcohol or unknown causes.
- No fatal accidents have been recorded yet exclusively due to the use of MBDB, GHB or ketamine.
- In 1998, one person died after the consumption of a mixture of 4-MTA (4-methylthio-amphetamine) and amphetamine.
- *In 2000, the Unit Synthetic Drugs reported about two deaths due the use of ecstasy pills (Tulip and Mercedes logo). They contained 113 mg of MDMA, which is slightly higher (although not extraordinary) than the average amount of MDMA in ecstasy pills consumed today. No other details about these deaths are available.*
- *In 2001, the media have reported on 4 young people dying after the use of 'ecstasy pills'. One case was presumed to be due to an overdose of MDMA in combination with a pre-existing cardiac problem and the other to the use of multiple substances (GHB, alcohol, speed, MDMA) in combination with overheating (i.e. the boy died in a closed car with tropical wheather conditions). However, no official source has verified these data. Another case (3rd week of October 2001) concerned a young boy in the South of the Netherlands dying after the use of several 'ecstasy' pills and alcohol. The police reported the seizure of PMA pills in the same region. Whether this drug was involved in the cause of death is not known. This has to be determined by the autopsy. Finally, the most recent case concerned a woman who died after using multiple ecstasy pills at a specific (fetisi) party. The precise cause of death is not known. Possibly, a combination of MDMA overdose and hyperthermia (rubber clothes) has played a role.*

3.3 Drug-related infectious diseases

Drug injectors may share needles and other equipment, increasing the risk of spreading blood-blood transmittable diseases, such as HIV and hepatitis B and C (HBV, HCV). Injecting drug users may also spread these diseases if they engage in unprotected sexual activities, since they may mix sexually with non-injecting drug users and exchange sex for money or drugs. However, this route of transmission is considered less important than drug injection as far as HIV is concerned. Information on infectious diseases and risk behaviour among drug users is obtained, among others, from cross-sectional surveys in different locations in the Netherlands, and a longitudinal cohort study in Amsterdam.

³ In case of the rapidly eliminated drug GHB, toxicological screening may not be sufficient.

3.3.1 Risk behaviour: large decline in injecting drug use

Injecting behaviour among drug users in the Netherlands is very low and declining (an estimated 15%-20% of drug users currently inject). As HIV, HBV and HCV are mainly parenterally transmitted, the incidences of these infections are also decreasing. However, there remain many former injectors with hepatitis and HIV infection who may develop symptomatic diseases and who still may transmit the viruses via unprotected sexual contact. From 1986 to 1998 the prevalence of injecting among drug users recruited in the Amsterdam cohort on HIV and AIDS declined from 66% to 36% (Van Ameijden & Coutinho, in press). This is largely due to increased injection cessation rates and reduced relapse into injection. These prevalence figures of injection should not be taken as representative of drug users in general because in the Amsterdam Cohort Study on HIV and AIDS injecting drug users are clearly over-represented. According to LADIS data some 13% of the opiate users in treatment is an injector.

Table 29 shows prevalence rates of injecting and smoking of heroin and cocaine among problematic hard drug users recruited at street, who may form a more representative sample than drug users in treatment. Drug injection rates are very low among ethnic, e.g. Surinamese, drug users, and relatively high among foreign drug users (e.g. from Germany, Italy).

Table 29: Route of administration of heroin and cocaine**

	Rotterdam		Utrecht	Parkstad Limburg	
	1995*	1998	1999	1996	1999
Heroin					
Always injecting	34	15	5	33	13
Smoking & injecting		16	9	33	28
Always smoking	62	65	86	34	58
Cocaine					
Always injecting	36	5	1	40	4
Smoking & injecting		14	10	30	17
Always smoking	63	79	86	30	78

* different question: "smoking" en "injecting". ** among almost daily users of heroin, cocaine and/or other drugs. Source: Local Monitor on Alcohol and Drugs (Van de Mheen, 2000; De Graaf et al., 2000; Coumans et al., 2000).

In explaining the declining trend in drug injection, various cultural and drug market factors may play a role (see also Witteveen et al., submitted; Van Brussel & Buster, 1999). For example, drug users may cease injecting because of major health problems, inability to inject (damaged veins), social networks and pressure of important others, severe dependence and cultural disapproval. Moreover, there was a strong increase in the use of non-injecting cocaine, which paralleled the increased availability of base-coke or crack on the market, while at the same time the availability of (injectable) cocaine and heroin decreased.

Unsafe drug use behaviour and unsafe sex

According to cross-sectional surveys in various Dutch cities, nowadays some 11 to 17% of the injecting drug users have recently borrowed used syringes from fellow drug users. However, a slightly higher percentage is found in the Hague and a substantially higher percentage in Twente (see table 27). The last figure should be interpreted with some caution since the number of drug users included in the study was low (n=79, against some 200 in

most other regions). It has been suggested that drug users with persistent high injecting risk behaviour are more apt to trivialize these risks and to be more likely to inject unsafely with a drug using partner (Haks et al., 2001).

- In cities where repeated surveys have been carried out, the prevalence of borrowing syringes has decreased: in Amsterdam, Rotterdam and Arnhem (see table 27). In Heerlen/Maastricht the decrease in borrowing (from 19% in 1994 to 14% in 1999) was not significant but the decreasing in lending syringes to others was (from 20% to 13%).
- Unsafe sexual behaviour, i.e. not using condoms especially with stable partners, remains high in most cities. If HIV prevalence is rather high and sexual partners are no drug users, there is a theoretical risk of transmission of HIV to the general population.
- A large proportion of current injectors (about 40%) shares paraphernalia, such as spoons, rinse water to clean syringes, colanders or 'cooking attributes'. The risk of HIV transmission is limited by this behaviour but it could contribute to a spread of HCV and HBV.

The Amsterdam Cohort study revealed a large initial reduction in *risk behaviour* from 1986 to 1991 (Van Ameijden & Coutinho, 1998). That means, there were decreases in borrowing and lending used needles, multiple needle use and frequent injecting among HIV positive as well as HIV negative drug users. Sexual risk behaviour also reduced (Van Ameijden et al., 1994, 1996). However, with the exception of frequent injecting, there was no further risk reduction from 1991-1993 onwards. This trend warrants careful monitoring especially given the availability of potent antiretroviral combination treatments, which might reduce motivation for safe injection behaviour.

A subsequent study into risk behaviour among 168 drug users in the cohort (48 seroconverters, 96 HIV negative) further revealed that of the HIV-negative participants, 23% deliberately borrowed a used syringe, 18% reported possible "accidental" borrowing, 9% front/backloading, 4% simultaneous injection, and 32% possible sharing of ancillary equipment (Van Ameijden et al., 1999). Among the HIV seroconverters, the most likely transmission route was borrowing in 29% of cases, front/backloading in 8%, borrowing or front/backloading in 21%, unprotected sexual contact in 23% (mainly with regular partner) and either injecting or sexual risk in 13%. Further, borrowing was admitted by 43% before, and 64% after awareness of HIV-seroconversion. Since injection risk occurred often deliberately and in the absence of withdrawal symptoms, further preventive activities might be difficult.

In a retrospective study, Van Haastrecht et al. (1997) assessed self-reported HIV risk behaviour among injecting drug users during and immediately following their last *prison* term which had been served in the three years preceding the interview. Use of drugs was found to be quite common: some use of cannabis, heroin or cocaine was reported by 55%, 37% and 20%, respectively. However, self-reported HIV risk behaviour was very low: injecting drug use while in prison was reported by 3%, there was no sharing of needles or syringes and unsafe sex was reported by just 1%. Yet relapse to injecting drug use within the week after release from prison was common (42%). One-third did so on the day of release. These findings suggest that there is an apparent latent need to inject but that there is no urgent reason for making clean needles and syringes available in Dutch prisons.

3.3.2 HIV prevalence

Amsterdam cohort study on HIV and AIDS

Between 1985 and 1987 the *prevalence of HIV infection* among drug injectors recruited in the Amsterdam cohort study on HIV and AIDS was as high as 34%. Nowadays, HIV prevalence at entry is found to be 12% (Prins, 2000). Note that a higher HIV prevalence has been found in the framework of the HIV surveillance (see table 30). The annual incidence of HIV infection dropped from about 10% seroconversions per 100 person years in 1986 to some 3-4% in 1992 (Fennema, 1997). Lower rates have been reported recently (1-2%; Prins, 2000). Factors contributing seroprevalence rates may include stopping with injecting, higher pre-Aids deaths compared to conversions, migrations and effective treatment. However, the low HIV prevalence (and incidence) in the cohort can also be attributed to some extent to a selection bias: the new recent intakes are different than in earlier days (e.g. today less Germans with a high HIV prevalence, less prostitutes). Moreover there is a higher influx of younger drug users who have not (or less frequently) injected (pers comm. E. van Ameijden).

The number of new HIV infections among drug users detected at the Municipal Health Service of Amsterdam has also declined from 79 cases in 1993 to 23 cases in 1999 and 10 cases in 2000.

The Dutch HIV Surveillance

Table 30 summarises findings from the Dutch HIV surveillance of the National Institute of Public Health and the Environment (RIVM), using repeated serosurveys among drug users in six cities.

Table 30: HIV-prevalence and risk behaviour among injecting drug users*

	Year	HIV prevalence (%)	Borrowing used syringes (%)**
Amsterdam	1993	30	18
	1996	26	18
	1998	26	12
Arnhem	1991/1992	2	42
	1995/1996	2	39
	1997	1	16
Brabant***	1999	5	17
Deventer	1991/1992	0	3
Goningen	1997/1998	1	11
Rotterdam	1994	12	18
	1997	9	11
<i>The Hague</i>	2000	2	20
<i>Twente</i> #	2000	3	30
Utrecht	1996	5	17
Zuid-Limburg&	1994	10	19
	1996	12	17
	1999	14	14

* Injecting 1time or more in lifetime.

** 1 time or more in past month by recent injectors (=injecting in past 6 months).

*** Eindhoven, Helmond, Den Bosch. Source: National Institute of Public Health and the Environment.

Almelo, Hengelo, Enschede.

& *Heerlen: 11% (1994), 16% (1999), 22% (1999) and Maastricht: 8% (1994) 3% (1996), 5% (1999).*

In these surveys, frequent hard drug users (heroin, cocaine, methadone, amphetamines) were recruited in methadone centres and on the street. Apart from collecting saliva (and blood) samples to test for HIV antibodies, self-reported risk behaviour was assessed in face-to-face interviews (Wiessing et al., 1996). The results show that the pattern of HIV prevalence and injecting risk behaviour among drug injectors across the Netherlands is quite heterogeneous.

- HIV prevalence is highest among drug injectors in Amsterdam, followed by Heerlen (Maastricht) and Rotterdam. Of the big cities, the Hague scores lowest, followed by Utrecht.
- In most cities where repeated surveys have been held, HIV prevalence is fairly stable.
- *However, in Heerlen, a town in the South of the Netherlands, HIV prevalence was high in 1999 (approaching the level of Amsterdam) and had doubled since 1994 (from 11 to 22%). A straightforward explanation is lacking. In this period, the percentage of drug users who borrowed used syringes or displayed sexual risk behaviour remained stable. A secondary analysis revealed that 19 out of 25 HIV-positive drug users in Heerlen shared some characteristics: they all centered around the same syringe exchange location, and, when compared to other injecting drug users, they were more likely to have a permanent home, and more likely to have a history of frequent imprisonment, inject at street, be frequent injectors of heroin, cocaine and 'speedball, and frequent consumers of crack and alcohol (Beuker et al., 2001). They did not differ with regard to injecting or sexual risk behaviour.*

Taken together, the results suggest that HIV prevalence has remained quite stable in most cities where repeated assessments have been carried out, with the exception of Heerlen. The start of the Dutch harm reduction approach (including needle and syringe exchange) was apparently too late to prevent a high seroprevalence in Amsterdam. As yet, HIV has not really spread from drug users in Amsterdam to users in less urbanised areas. However, they may remain at risk as long as drug taking and sexual behaviour does not change for the better.

Because of the generally stable HIV levels and low rate of injection, the future of the sentinel surveillance in its present form is a topic of discussion. The national Health Research Council (Raad Gezondheids Onderzoek, RGO) has recommended the Ministry of health to reduce the frequency of surveys in this risk group. *That means, a survey once per five years instead of two years in four the main regions: Amsterdam, Rotterdam, Arnhem and Heerlen/Maastricht). In other regions a survey should be held only if needed. A final decision of the Ministry of Health is to be awaited.*⁴

On the other hand, HIV surveillance is of growing importance in monitoring of the AIDS epidemic, which can not be reliably determined on the basis of new AIDS cases (see 3.34). In this regard, the RGO has recommended to develop a HIV registration system (HIV notification). However, this is only meant for HIV positive persons who have been in contact with a specialised aids treatment centre (22 in total). Drug users may be underdiagnosed and treated because of a relatively low rate of care consumption. Notification data will therefore not reliably reflect HIV prevalence/incidence in this population.

⁴ We just (19 November 2001) received the letter of the Minister of Health (Dr. Borst) regarding the HIV surveillance stating that the data collection on HIV and hepatitis among drug users must be guaranteed given the requirements of the EMCDDA.

3.3.3 Hepatitis B and C

In contrast to HIV and hepatitis B, the main route of hepatitis C transmission is through blood - blood contact, not through sexual activities. It is therefore seen as a more reliable indicator of unsafe injecting than HIV or hepatitis B. Information on hepatitis B and C among drug users is relatively limited. Information on the incidence of these diseases is only available from the Amsterdam cohort study and prevalence data are (also) available from two cross-sectional studies carried out within the context of the HIV surveillance. In these studies, serum samples were tested for antibodies to HBV as a marker for a previous or current infection (anti-HBc). A positive test for HbsAg without anti-HBc points to an acute infection. Samples testing positive for both anti-HBs and HbsAg indicate a chronic active disease and a chronic carrier state. These cases are at risk of developing serious complications and infecting other people. Chronic hepatitis develops in about 80% of all cases of infection with HCV. For 20-30% the outcome may be lethal due to liver cirrhosis or liver cancer.

Seroprevalences of both HIV and anti-HBV and -HCV among 305 drug users recruited from the Amsterdam cohort (December 1985-September 1989) were quite high: 31%, 68% and 65%, respectively. For drug users who had ever injected (88% of sample), the figures increased to 35%, 74% and 73%, respectively whereas considerably lower rates were obtained among never injectors (0%, 19% and 11%, respectively⁵). Despite a reduction in risk-taking behaviour, only HIV incidence tended to increase initially. After 1986, the incidences of HIV, HBV and HBC remained still quite high at 4, 9 and 10 per 100 person years, respectively (Van Ameijden et al., 1993).

The HIV sentinel surveillance of the RIVM now and then includes hepatitis B and/or C data, but systematic data collection is lacking. Table 28 shows seroprevalences of HCV and HBV in the cities of Rotterdam, Heerlen/Maastricht and the Hague. Prevalences of anti-HBV and -HCV were high at both locations. In Heerlen/Maastricht, 6% of the samples (n=17) also tested positive for HBeAg; two HBeAg positive samples tested negative for anti-HBc. As in the Amsterdam study (Van Ameijden et al., 1993), there was a strong relationship between the three infective diseases: Some 56% of the drug users were positive for both HBV and HCV, and nearly all HIV positive drug users were also positive for HCV and HBV. *This relationship was also found in The Hague, where HCB and HBV infections were, however, much lower than in the other cities. This regional difference is difficult to explain. As shown in table 31, injection risk behaviour was even higher in the Hague than in the other cities.*

Table 31: Seroprevalence of HBV and HCV (%) among drug users*

	Year	HBV-positive ^a	HCV-positive
Rotterdam	1994	56% IDU 27% non-IDU	79% IDU 13% non-IDU
Heerlen/Maastricht	1996 1998/1999 ^b	63% IDU 67% IDU	74% IDU
Den Haag	2000 ^c	35% IDU	47% IDU

IDU = ever injector. a. positive for anti-HBc. b. 7 per cent tested positive for HbsAg, indicating current infection with hepatitis B. c. In the Hague, 3 per cent tested positive for HbsAg.

⁵ Blood samples were analysed with a less reliable first generation test for HCV. The prevalence of HCV among never-injectors is probably overestimated.

3.3.4 AIDS

Ever since the first drug injector in the Netherlands was diagnosed with AIDS in 1985, the disease has joined overdose as a major cause of death in this group of users. AIDS cases meeting WHO criteria were until 1999 registered in the national Information System on AIDS Statistics, maintained by the Health Care Inspectorate (IGZ). Since 2000 the National Institute of Public Health and the Environment (Infectious Diseases Surveillance Information System, ISIS) has taken over this task.

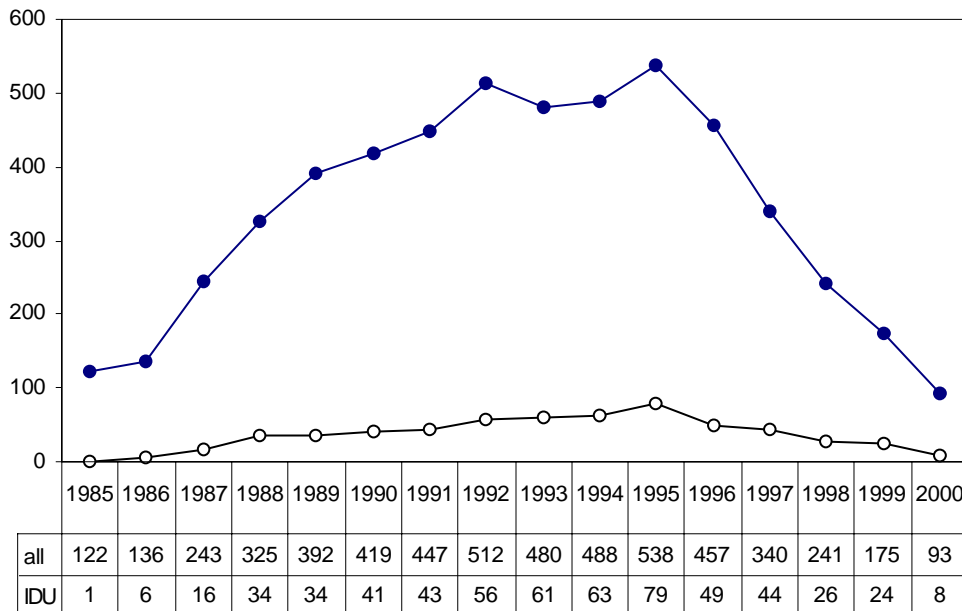


Figure 15: Number of reported AIDS cases by year of diagnosis for the total group and for injecting drug users (IDUs) separately.

Since 1985 a total of 5,408 reports of AIDS have been recorded, including 585 injecting drug users (11%). Homosexual and bisexual men are the largest risk group. The percentage of cases related to drug injecting increased over the years to some 14% in 1995 and has declined since then. AIDS incidence assumedly decreased because of the decreasing HIV incidence and the availability of improved pre-AIDS treatment, which was introduced in 1996 and leads to a longer incubation period. Because of these developments monitoring the HIV/AIDS epidemic in the Netherlands will depend more and more on HIV status surveillance instead of on registration of new AIDS cases (Termorshuizen and Houweling, 1997). Therefore, the AIDS surveillance in its current form will be replaced by a HIV/AIDS registration (see also 3.3.2).

3.3.5. Respiratory diseases

Long duration of smoking heroin and base coke may cause severe lung diseases. Inhaling the hot smoke damages lung tissue, which has suffered already due to long term tobacco use. In Parkstad-Limburg respiratory problems were reported by 74% of the hard drug users who consumed cocaine against 40% who used other drugs (Coumans et al., 2000). The number of drug users at the Amsterdam municipal health service presenting with a Chronic

Obstructive Pulmonary Disease is rising (Van Brussel & Buster, 1999). This condition may finally result in lung emphysema and, in the absence of adequate treatment, in death.

3.3.6 *Clostridium novyi type A*

Since the outbreak of a serious disease caused by *Clostridium novyi type A* among injecting drug users in the United Kingdom, a temporary surveillance has been established in the Netherlands among 10 Municipal Health Services. They traced cases by contacting first aid departments in general hospitals, addiction physicians, microbiologists, pathologists and police. The National Institute of Public Health and the Environment co-ordinated this surveillance. Up to now no cases have been reported.

3.3.7 *TBC and anaemia*

People with a lowered immune function are at increased risk of being infected with TBC. There are no national statistics on the number of infected drug users. In Amsterdam some 25 drug users present with TBC each year (Van Brussel & Buster, 1999). The risk of active TBC infection is 6 times higher in HIV negative drug users compared with the overall Amsterdam population and 13 times higher among HIV positive drug users (Keizer et al., 2000). Drug users in the Amsterdam cohort also have a high prevalence of anaemia (21%). Risk factors included a high frequency of injecting, HIV progression (indicated by low CD4 count) and an AIDS diagnosis (Van der Werf et al., 2000).

3.3.8 *Syphilis*

Since 1995, the number of cases of syphilis increased dramatically in Rotterdam. Highest prevalence rate were found among street prostitutes (16%), mainly in relationship with drug use. Following prophylactic treatment for syphilis in 1997 to most street prostitutes in a cruising zone, prevalence of early syphilis dropped to 1.3% in 1998 (Bosman et al., 1999).

3.4 **Other drug-related morbidity**

3.4.1 *Non-fatal drug emergencies*

There is no national registration system for recording drug-related non-fatal emergencies. At the local level the Amsterdam municipal health service keeps a record of nonfatal emergencies brought to their attention, some of which require transportation to the hospital by ambulance.

Number of emergencies related to drug overdose in Amsterdam

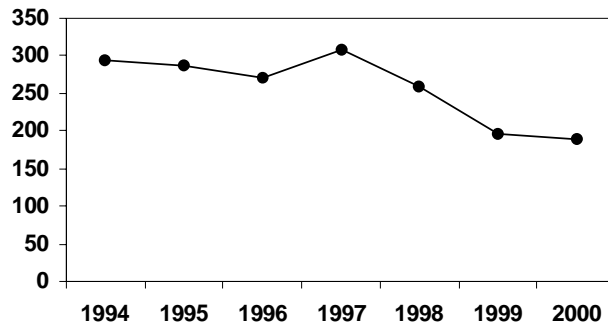


Figure 16: Number of non-fatal emergencies due to drug overdose recorded at the Municipal Health Service of Amsterdam.

Between 1994-2000 a total of 1802 non-fatal drug overdoses were recorded, or 257 per year on average. These cases probably involved opiates and/or cocaine, in combination with other substances, but details about toxicology are not available. In 66% of the cases transportation to a hospital was required. There is decreasing trend in overdose emergencies (see figure 16).

In 2000, 288 incidents were reported for 'recreational drugs' (excluding opiates and/or cocaine). About half were due to the consumption of cannabis, which may sometimes lead to panic attacks and other untoward reactions, particularly in inexperienced users (figure 17).

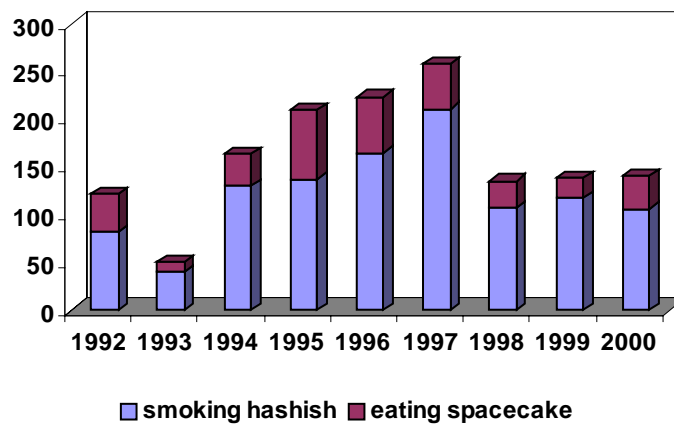


Figure 17: Number of nonfatal emergencies in Amsterdam related to the use of cannabis

The number of cannabis emergencies increased from 1993 to 1997 (258) and decreased since then. In 2000, 141 cannabis incidents were recorded. About two-thirds of these cases concerned tourists from abroad. In only one-quarter of the emergencies, transportation to a hospital was required. Emergencies for other drugs were less common. GHB emergencies were, however, fairly common (25) given the assumed limited prevalence of use. In more than half of the cases (14) transportation to the hospital was required.

Table 32: Number of non-fatal emergencies recorded by the Muncial Health Service of Amsterdam

	<i>Amphet.</i>	<i>Cannabis</i>	<i>Mushr.</i>	<i>Ecstasy</i>	<i>LSD</i>	<i>GHB</i>	<i>Other</i>
<i>Total</i>	30	141	34	36	2	25	20
<i>%</i>	10	12	12	13	1	9	7

Characteristics of 'ecstasy' emergencies

In 1997 the National Institute of Public Health and the Environment registered for one year the extent, severity and circumstances of acute 'ecstasy' intoxications for which admission was considered necessary in a hospital in the Netherlands (Spaans et al., 1999). Clinical symptoms as well as blood and urine samples were analysed from 50 patients with a suspected ecstasy intoxication.

- Only 5 patients had used 'ecstasy' at a mega-dance party, 30 patients had used 'ecstasy' at home, in a bar or disco whereas the remaining 15 patients took the tablets accidentally or in a suicidal attempt.
- For 20 patients the use of MDMA could be confirmed and 21 patients had used amphetamines.
- Only one patient had used only MDMA. The large majority had consumed a combination of substances, such as MDMA, alcohol, cocaine, amphetamine, cannabis and GHB.
- A total of 17 different substances were detected.
- Nevertheless, the clinical condition of most patients (40) was relatively mild.
- For ten patients quite severe symptoms were recorded. Three patients were comatose, assumedly caused by GHB. One patient died following the use of MDMA and amphetamine. For 7 patients an underlying disease (e.g. CARA, cardiac disease) probably contributed to death.
- It was not clear whether drugs like amphetamine and GHB were consumed intentionally or whether the victims had used pills with a mixture of unknown substances sold under the name of 'ecstasy'.

Ecstasy-related neurotoxicity

Recent studies at the Amsterdam Academic Medical Centre among (ex)MDMA users using brain imaging and other techniques have shown that:

- *MDMA use is associated with changes in 5-HT neurotransmission (5-HT₂ receptors, 5-HT transporter density), some of which may be revertible.*
- *MDMA use is associated with long lasting impairment of verbal memory.*
- *MDMA use may dysregulate brain microvasculature and predispose to cerebrovascular accidents (Reneman, 2001).*

3.4.2. Psychiatric co-morbidity

The prevalence of psychiatric disorders among problematic drug users is quite high.

- In a Rotterdam study, 52% of a sample of regular opiate or poly drug users in treatment had severe psychiatric problems; 35% fulfilled criteria for a double-diagnosis (having severe addiction and (other) psychiatric problems) and 29% had multiple problems (ditto, plus having severe problems in at least one of the following areas: health, work/education/income, police/justice or social relationships) (Schrijvers et al., 1997).

- In a study among opiate users in the Hague, quite high prevalence rates of psychiatric disorders were found as well, particularly alcohol abuse and dependence (58%), social phobias (30%) and major depression (23%). One-third of all users had an antisocial-personality disorder (Eland, 1997).

Surveys among problematic hard drug users shows that psychological problems are very common, especially among the 'elderly' (De Graaf et al., 2000; Coumans et al., 2000).

- Depressive complaints, panic attacks, concentration problems, hallucinations and aggression were quite frequently reported. Some 40% percent had ever had suicidal thoughts, 50% of whom actually tried to commit suicide. It appeared to be difficult to determine whether these psychiatric or psychological problems were directly drug-induced or occurred independent of drug use. For cocaine, a direct relationship was observed between use and the incidence of anxiety and aggression (Coumans et al., 2000).

3.4.3 *Drug-related traffic accidents*

A pilot study in the Netherlands suggests that drug use in traffic is by no means uncommon: about 8 percent of drivers in nine selected research areas on Friday and Saturday nights tested positive for drugs, with five out of six cases involving illegal drugs. For male drivers between 18 and 25 years, the proportion was 17.5%, the vast majority testing positive for cannabis (Matthijssen, 1998). *Further, between 1995 and 1998 the Netherlands Forensic Institute analysed 1665 blood samples of impaired drivers for drugs. Drugs were detected in 80% of the samples. In 40% poly-drug use was established, with cocaine being present in most combinations (Smink et al., 2001).*

However, the presence of drugs detected in bodily fluids or clothes of drivers involved in accidents does not necessarily mean that there is a causal relationship with the substance used. There are many confounding variables in establishing such a relationship, even in controlled epidemiological studies. In spite of this, a national working group consisting of representatives of the Ministry of Justice, Transport and Public Works, Internal Affairs and Health, the police and various experts are working on a proposal to prohibit driving under the influence of drugs by Dutch law. In fact, this will imply be a zero-tolerance policy whereby drivers who test positive for drugs are punishable by law, regardless of the concentration of the substance in the blood. The working group is also working on a proposal with regard to medicinal drugs.

4. Social and legal correlates and consequences

4.1 Social problems

4.1.1 Social exclusion

That drug users may be at a social disadvantage can be tentatively inferred from treatment statistics, such as those of LADIS. Over two-thirds of the drug clients has primary or low vocational education only; on average 30 % has a paid job (depending on main drug) and the

majority received some form of social benefit (table 33). These percentages deviate from those of society at large but that in itself is not proof of excessive social problems.

Table 33: Social characteristics of unique* drug clients in 2000

	<i>Cannabis</i>	<i>Opiates</i>	<i>Cocaine, incl. crack</i>	<i>Ampheta-mines</i>	<i>All drugs</i>
<i>Allochtonous</i>	19%	29%	28%	5%	27%
<i>Secondary or higher education</i>	65%	62%	55%	58%	71%
<i>Employed</i>	42%	22%	39%	42%	29%
<i>Cohabitation</i>	63%	51%	55%	63%	55%
<i>Total number</i>	3,443	15,544	6,103	623	26,605

*unique = corrected for double counting

Surveys of the Local Monitor on Alcohol and Drugs among field samples of hard drug users indicate that:

- Few users have income from a legal job. Income from social security is mentioned most often, followed by property crime (especially males) and prostitution (especially females). Other sources of income are dealing (e.g. methadone, pills) selling newspapers or begging.
- Their average monthly income in *Euros* is 1,616 (Utrecht); 1,179 (Rotterdam); 1,068 (P-Limburg).
- Some 35-45% are homeless, living on the street, with friends or in centres for homeless (sleep-inn).
- Living conditions of drug users with a home are often poor.
- Have run up a debt, most often due to fines (public transportation, police) and excessive loans. (Van de Mheen, 2000; De Graaf et al., 2000; Coumans et al., 2000).

Ethnic minorities

People from ethnic minorities are apparently overrepresented among (problematic) drug users. The precise number is not known. Very crude estimates suggest that there are some 12,500 problematic hard drug users from ethnic minorities. This is almost half of all problematic hard drug users in the Netherlands (Braam et al., 1998). Ethnic groups are known to have disproportionately many social problems, such as unemployment and generation conflicts, and a high rate of low education. At the same time, they seem to be less well reached by the addiction care and treatment services than autochthonous drug clients do and have a relative high treatment dropout rate. That is to say, when comparing the proportion of allochthonous clients in ambulatory treatment with the proportion of allochthonous people in the general population of the Netherlands (some 12%), one would conclude that the former group is overrepresented in treatment statistics (table 34). This would indicate that they would be reached more by the addiction care and treatment system than autochthonous clients. However, taking the high proportion of allochthonous people among the population of problematic drug users into account (an estimated 50%), these data indicate that this group is less likely to be in contact with the treatment system. Note that there are varying definitions of 'allochthonous'⁶.

⁶ LADIS records a client's nationality as well as a client's cultural origin. More precisely, "cultural origin" is operationalised in the LADIS as an "indication of the culture in which the client has grown up, according to his own perception". Surinam was one of its West-Indian colonies. The Netherlands Antilles still belong to the Kingdom of the Netherlands. The Moluccas, a group of Indonesian islands, have been a Dutch East-Indian

Table 34: Number of client registrations in LADIS 2000 by cultural origin & substance

Cultural origin	Alcohol		Drugs		Gambling		Other		Total	
	Number	%	Number	%	Number	%	Number	%	Number	%
Autochthonous	21,694	43	25,140	50	2,884	6	416	1	50,134	100
Allochtonous	2,267	19	9,010	73	840	7	105	1	12,222	100
Unknown	1,549		2,508		217		632			
Total	25,510		36,658		3,941		1,153			

Data are not corrected for double-counting of persons. Source: Key Figures, LADIS 2000, IVV. * East-European, South-European, Other European, Turkish, Moluccan, Other Asian, Surinamese, Antillean, Other Latin-American, Moroccan, Other African, Other cultures.

According to 1999 LADIS figures (table 34), allochtonous clients score highest with regard to drug-related registrations, while registrations for alcohol and gambling are appreciably less common (especially heroin and cocaine). About one out of each drug client (registration) concerns an allochtonous client.

In the past years, the Minister of Health has promoted research into substance use problems and treatment needs of ethnic minorities. A recent study investigated the rate of treatment dropout among autochthonous and allochtonous clients in the ambulatory addiction treatment and care system (Vrieling et al., 2000). For this purpose a cohort study was carried out on the basis of LADIS data from 1984-1998. Over this five-year period allochtonous clients were followed (Antillian, Moroccan, Moluccan, Surinamese and Turkish origin). The results showed that 53% of all clients 'dropped out' of treatment. The term 'drop-out' is applied if treatment is finished one-sidedly by the client or one-sidedly by the centre itself, or if the client has stayed away for some time without further notice.

Table 35: Drop-out (%) among clients of ambulatory drug treatment services

Cultural origin	% drop-out
Dutch	51
Turkish	72
Moluccan	49
Surinamese	67
Antillian	65
Moroccan	70
Total	53

Source: IVV/IVO (Vrieling et al., 2000)

Dropout rate is higher among allochtonous clients (60%) than autochthonous clients (51%). However, there are wide differences depending on the cultural origin of the client (table 31). Allochtonous clients also finish treatment earlier than autochthonous clients. Dutch clients leave after 11 visits on average, Moroccan and Moluccan clients after 5 and 7 visits, respectively. Turkish, Surinamese and Antillian clients stay in treatment for 6 visits on average.

colony. The other allochtonous inhabitants are, for the greater part, migrant workers and their descendants. **Statistics Netherlands** identifies allochtonous inhabitants according to their native country, their parents' native country, their nationality and combinations of nationality and native country. Source: LADIS, IVV (Cruts, 1996)

4.1.2 Drug-related nuisance

A key of the Dutch drugs policy is to reduce drug-related nuisance, such as disturbances of public order, property crime, aggression and violence, deviant behaviour, pollution and neglect of drug-premises, feelings of a lack of safety and threats to health, fear and irritation related to violence. A small proportion of hard drug addicts is responsible for the majority of the nuisance problems, particularly in the cities. However, other (socially marginalised) groups may also contribute, such as alcohol addicts, homeless people and psychiatric patients.

Since 1994, the Steering Committee for the Reduction of Nuisance (SVO) has financed the implementation of various projects aimed to reduce drug-related nuisance in 26 municipalities in the Netherlands. Two studies have evaluated different aspects of the implementation of these projects (Broer & Noyon, 1999; Snippe & Bieleman, 1999). The main information sources (on which indicators were based) involved treatment data, police data and data from repeated population surveys to evaluate drug-related nuisance as experienced by people living in selected neighbourhoods in various municipalities.

- The results showed that some 40 per cent of the 20,000 to 25,000 *registered* hard drug users in the 26 municipalities are seen at least once per year by the police or judicial authorities.
- About 10 to 15 per cent are highly criminal. Of all criminality in the Netherlands, some 10 to 13 per cent can be attributed to hard drug users.
- The most common offences were property crime (especially from shops), followed by theft from cars or houses and theft of bicycles.
- In the past years the criminality among hard drugs users has slightly decreased, with the exception of the hard core group of criminals.
- Several possible factors have been put forward to explain this trend, including an increase of the number of criminal addicts who are imprisoned (paralleling the increase in cell capacity), behavioural change towards risk reduction among drug addicts associated with ageing or diseases, decreasing price of opiates and cocaine or changing priorities of the police.

In 1996 the Ministry of the Interior has established a system to monitor developments in drug-related nuisance experienced by residents, carried out by research institute Intraval (Snippe et al., 2000). The monitor is part of the Comprehensive Safety Reports (Integrale Veiligheidsrapportage). A number of neighbourhoods were selected, mainly in disadvantaged areas, in 16 municipalities scattered across the country. Overall, residents in 30 neighbourhoods were surveyed four times in five years as part of this process (in 1996, 1997, 1998 and 2000). All the municipalities in question were experiencing considerable drug-related nuisance. Not only were larger municipalities involved, so were smaller ones which had to contend with an influx of drug tourists.

- *In general, drug-related nuisance has slightly decreased since 1996, with some fluctuations depending on the specific type of nuisance.*
- *A decrease has been observed especially for perceived nuisance related to coffeeshops (since 1997) annexation and pollution of public spaces by drug addicts (since 1998).*

- However, there has been no substantial change in the lack of safety experienced by residents and their assessment of the liveability of their neighbourhood in the period, 1996-2000.
- The same applies to the number of victims and crimes involving property or violence.

Coffeeshops

From 1995 onwards, Dutch policy has focused on controlling the problems associated with coffee shops (nuisance policy; chapter 1.2.) As a result of strict enforcement and various administrative and judicial measures, the number of coffee shops has diminished in the past years (table 36). However, other illegal sales outlets do exist in a number of these municipalities, such as private homes, courier services and so forth. *Research Institute Intraval* carried out several studies to count the number of coffeeshops in the Netherlands (Bieleman et al., 2001).

- In the most recent survey in 2000, about half of all coffee shops was located in the four big cities (table 32).
- The large majority (81%) of all Dutch municipalities (n=538) did not have any coffee shop at all.
- Between 1997 and 1999, the number of coffeeshops decreased with 28%; from 1999 to 2000 another reduction of 4% was found.

Table 36: Number of coffee shops in the Netherlands

Number of inhabitants	1997 ^a	1999	2000
< 20.000	±50	14	13
20-50.000	±170	84	81
50-100.000	±120	±115	109
100-200.000	211	190	184
>200.000:			
- Amsterdam	340	288	283
- Rotterdam	180	64	63
- Den Haag	87	70	62
- Utrecht	21	20	18
Totaal	1179	913	813

a. estimated number of coffeeshops. Source: Bureau Intraval (Bieleman and Goeree, 2001)

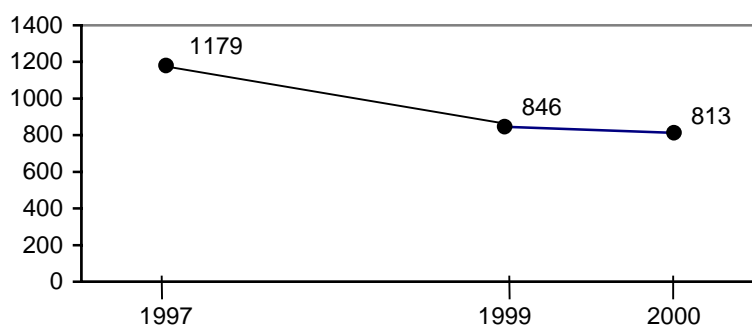


Figure 18: Number of coffeeshops in the Netherlands since 1997.

Dutch coffeeshops must adhere to a set of conditions known as the AHOJ-G criteria (see also part I). Today these are: no advertising, no sales of hard drugs, no nuisance, no sales to people under the age of 18 years, no sales of large quantities per transaction. In 1996, the age criterion was increased from 16 to 18 years and the quantity of cannabis per transaction was reduced from 30 to 5 gram. The first amendment aimed to reduce cannabis use among young people (see also chapter 2.2.3) and the last one aimed to reduce drug tourism.

A recent evaluation study among coffeeshops in 20 municipalities has shown that highest priority was given to compliance with the first of the 5 AHOJ-G criteria (no sale of hard drugs) and lowest priority to the ban on advertisement (Korf et al., 2001). The 5-grams norm occupied a fourth place in importance. The objective of reducing drug tourism does not seem to have much effect.

- In about half of the coffeeshops in the (6) border municipalities, customers were informed about the existence of the 5-grams norm. To some extent this was related to the fact that most clients did not order more than 5 gram cannabis and/or because the police did not check compliance with this norm.*
- Half of coffee shop customers (51%) generally abide by the 5-gram norm; 14% is able (if they want) to buy more than 5 gram in a coffee shop and 36% circumvent the norm buy buying elsewhere. However, this last group does not buy cannabis in illegal outlets, which could endanger the separation of the hard and soft drugs markets.*
- Compared with a virtually identical study conducted in 1993, it has been established that there was a fourfold increase in turnover generated by sales to tourists in selected border municipalities, albeit threefold after adjustments to account for price increases.*
- Coffee shop proprietors report a more limited increase in or a stable turnover since 1996. The study also revealed that nowadays soft drug tourists come here more frequently and from closer by (commuters).*
- The reasons cited by soft drug tourists to come and make their purchases here, is not so much on account of price differences because there are none really, but more because of the coffee shops themselves and the quality on offer.*

4.2 Drug offences and drug-related crime

4.2.1 Drug-related arrests

Information on the number offences against the Opium Act is collected and published by Statistics Netherlands (see table A10). Only offences considered in need of prosecution are taken into account, i.e. no possession for personal use, but production/trafficking. The number of registered offences against the Opium Act has declined over the years but increased sharply from 1995 to 1997. Similar to developments in the number of drug seizures, it is quite difficult to explain the trend in number of offences. They may reflect many factors, such as variations in criminal offences, investigational efforts of the police, changes in policies or registration artefacts.

- Between 1985 and 1991, the percentage of hard drug offences varied from 78 to 86%, then dropped to 53% in 1993 and slowly increased to 83% in 1997.*
- Since 1998 the distinction between hard and soft drug offences is abandoned (at the level of data input by police forces).*

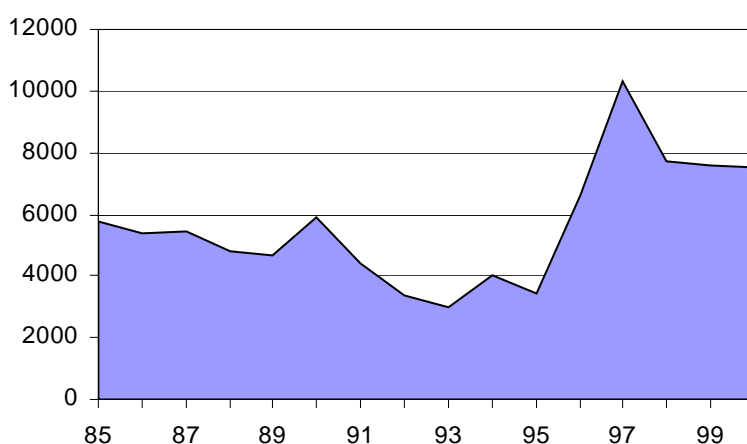


Figure 19: Number of reported offences against the Opium Act.

- In 1998, 1999 and 2000 the total number of reported offences against the Opium Act decreased again to 7,700, 7,600 and 7,500, respectively.
- In 1999 the number of cleared up cases was 6,500. A total of 11,500 defendants were heard (Huls et al., 2001).

Arrested drug addicts

The HKS (*herkennings systeem/ defendant recognition system of the police, see 2.3.3*) of the police registers data on defendants for whom a report of the (alleged) offences is made. The system included a classification 'drug addict'. This notification is made when the defendant voluntarily mentions his drug dependence (self-report) or when the police assumes so (subjective assessments by police). Note also that the HKS is likely to underreport drug users, especially those using non-opiates, such as cocaine users.

- According to the HKS figures for 1998, there were some 171,000 unique defendants in the Netherlands, including 10,300 persons registered as a drug addict (Van Panhuis and Meijer, 2001).
- This last group made up about 53% of the top-5% ($n=9,500$) of the most criminal defendants with a history of more than 20 official reports of offences (*proces-verbal*).

4.2.2 Convictions and court sentences for drug offences

Statistics Netherlands collects data from canton courts, district courts, courts of justice and the Supreme Court regarding cases, convictions and penalties. Some figures:

- There were a total of 234,679 cases recorded at the Public Prosecution service in 1999, including 10,573 offences against the Opium Act (4.5%).
- 70% of all Opium Act cases were related to hard drugs.
- 2,960 cases were handled by the Public Prosecutor; 7,338 cases were taken to court.
- There were 6,914 verdicts of guilty for Opium Act offences (6.5% of the total number)
- There were a total of 27,408 unconditional sentences to imprisonment, including 12% related to offences against the Opium Act.

- *The mean duration of the imprisonment was 133 days; for offences against the Opium Act the mean duration of imprisonment was 277 days, close to that for violent crimes (Huls et al., 2001).*

4.2.3 Drug-related crime

Meijer et al. (1995) estimated that hard drug users committed 700,000 odd acts per year, mainly crimes against property. This is 10% of all crimes, costing society some 650 million guilders annually. Other studies have shown that just a hard core of drug addicts (13-25%) are highly criminal and that most fund their habit from normal income, social welfare and prostitution (Ten Den et al., 1995; Grapendaal et al., 1995; see also 4.1.1). Criminal drug users tend to become recidivists, however, and they place a heavy burden on the law enforcement and criminal justice system. Addicts in an Amsterdam penitentiary institution stayed on average 2.5 to 3 years of their life in prison (Koeter & Lührman, 1998).

4.2.4 Prison data

Data on the population of penitentiary institutions are stored in TULP, the automated registration system of the prison service, and processed by Statistics Netherlands. Information on drug dependence is not recorded in this system. TULP gives information on the number of drug law offenders (trafficking and production). *The total capacity of the Dutch prison system has nearly doubled from 1990 to 1999. In 1999, 17% of all detainees were drug law offenders. This percentage remained relatively stable over these years (see table A12).* The precise number of imprisoned drug addicts is not known. Some 30-40% of all detainees has drug addiction problems (see chapter 2.2). See Van Alem et al. (1999) for an overview of drug use and treatment facilities in Dutch prisons on behalf of the Pompidou Group.

The questionnaire used in the HIV surveillance (see) among ever injecting drug users includes questions on the frequency of imprisonment. These data show that most drug users have been sentenced to prison at least once in their life. For example, in the Hague 12% of the drug users had never been in prison since using drugs, 48% had been imprisoned between 1 and 5 times and 40% had been imprisoned more than 5 times (Beuker et al., 2001)

4.3 Social and economic costs of drug consumption

There are no recent estimates of the social and economic costs of drug use. In 1995, the total annual social costs of drug addiction have been estimated at some 3 billion guilders (1.4 billion €), covering judicial costs, property crimes, specialised and general health costs, productivity loss, traffic accidents, social welfare expenditures, debts and devaluation of immovable property (Ernste & Bouwmeester, 1996). For comparison, the total costs for alcoholism were estimated at some 6 billion guilder (€2.7 billion). A more recent estimate has been made for costs related to alcohol use but not to drug use.

The costs of the addiction care and treatment system (related to alcohol, drugs and gambling) are presented in chapter 1.4 and 9.3.1. For 2000, the total addiction care costs were almost € 200 million.

5 Drug markets

5.1 Availability

In the Netherlands, cannabis and hallucinogenic mushrooms are available through a system of ‘tolerated distribution’ (Abraham, 1999). That is, cannabis can be bought in coffee shops (see 4.1.2) while mushrooms and other eco- and smart drugs can be obtained in some 200 smart shops (see chapter 1.2). In 1997 the National Drug Use survey included questions on the places of purchase cannabis, mushrooms and hard drugs (table 34). A distinction is made between drug users between 12 and 17 years and drug users older than 18 years. The former group is not allowed to buy cannabis in coffee shops (see 1.2 ‘guidelines and by-laws’) and smart shops usually also do not allow entrance of people below 18 years (Abraham, 1999). Because the number of young users (12-17 years) of hard drugs was very low (23 – 39), only places of purchase of cannabis and mushrooms will be included.

Table 37: Places where last-year users (12-17 years, ≥18 years) purchased their drugs

	Relatives, Friends %	coffee- shops %	café, pub %	Stranger Other %	home dealer, delivery %	smart- shops %	Total answers (n)	Last year users (n)
12-17 years								
Cannabis	46	40	3	2	7	2	524	405
Mushrooms	23	10	4	8	5	50	77	73
≥ 18 years								
Cannabis	39	48	4	4	5	1	1468	1237
Cocaine	55	2	14	5	24	0	210	193
Amphetamine	66	2	5	9	17	1	89	93
Ecstasy	64	2	15	3	13	3	248	232
Mushrooms	27	6	6	5	2	55	181	160

Source: National Drug Use Survey (Abraham et al., 1999)

These results show that relatives and friends play a major role in obtaining drugs (Table 37). Coffee shops are an important place of purchasing cannabis but not the most frequently mentioned one. However, coffee shops were the most common source for experienced users (54%), i.e. last-year users who had consumed cannabis 25 times or more in their life. These findings suggest that the separation of the hard and soft drugs markets, which is achieved for by tolerating the sale of cannabis in coffee shops while strictly forbidding the sale of hard drugs at these locations, is partially successful. For 945 people drug transactions took place in coffee shops; 96% of the transactions were related to cannabis, while only 4% concerned other drugs. Yet cannabis is also distributed to a large extent through unregulated channels besides coffee shops (Abraham, 1999).

5.2 Sources of supply and drug seizures

The Netherlands takes up an important position in the international distribution of cocaine and heroin. This may be in part related to the great volume and concentration of maritime and land trade in the Netherlands, which are the most trafficking modus operandi for traffickers (Farrell, 1998). The Netherlands is also an important production country of synthetic drugs, like ecstasy (Van der Heijden, 1999). One way to gain insight into the size of the supply is from drug seizures. It is widely believed that about 10% of illegal goods are traced by the authorities, but this assumption and thus the figures based on it are highly questionable.

Table A.11 shows that the quantities of seized drugs fluctuated strongly over the years. Caution is warranted in interpreting such trends since the data are not neither complete nor comparable from year to year. With the exception of data on synthetic drugs provided by the Unit Synthetic Drugs (USD) since 1998, there is no central registration of drug seizures. Information about seized drugs are collected from different sources: the regional police departments, including the National Police Agency (KLPD), Customs, the Royal Marechaussee (Dutch police corps with military status) and the Synthetic Drugs Unit (Table 2.13). *Moreover, at the regional level procedures are not uniform and not all police regions appear to deliver adequate data, although the response rate to the 2000 questionnaire was fairly good (97%).* Yet, the figures in table A.11 are almost certainly lower bound estimates of the total amount of drugs seized. On the other hand, since different sources may report on the same seizures there is a risk of double-counting (especially with drugs seized at Schiphol). Further, trends may be due to changes in efforts of investigation services, variations in the drugs markets as well as registration artefacts and new investigation methods.

5.2.1 Heroin

Eighty to 90% of the heroin entering the Netherlands originates in South-West Asia (especially Afghanistan) and a small amount comes from South-East Asia (Birma). Until the end of the 1970s, most heroin trafficking was in the hands of Chinese organisations. Nowadays the wholesale trade in heroin is dominated by professional Turkish criminal organisations. One factor facilitating this change may have been the large number of Turks settling in the Netherlands over the past 40 years. The so-called Balkan routes are the main supply channels for the Western European markets. The amount of heroin seized in the past years has increased, especially in the Rotterdam harbour (Bijkerk & Grapendaal, 1999). Given the small population size of the Netherlands and the relatively low number of heroin users, it is assumed that the excess is further distributed by criminal Turkish organisation to neighbouring countries, such as Scandinavia, Italy, Spain and Portugal (Van der Heijden, 1999).

It has been questioned (abroad and the Dutch media) as to whether the recent war in Afghanistan will affect heroin supply in the Netherlands, and whether scarcity might boost prices and lower quality. Such developments might lead to a shift from smoking towards injecting behaviour. According to field workers, however, the preference of smoking heroin among drug users in the Netherlands is quite resistant against such market factors. Moreover, as mentioned above, heroin supply appeared to be in excess of the amounts needed for the domestic market. Anyhow, any change in price and route of drug administration is likely to

bel be detected in the context of the Drug Monitoring System (DMS) among problematic hard drug users.

Cocaine

Most of the cocaine seized in the Netherlands comes directly from Columbia. Dutch cocaine wholesale-traders appear to have direct access to suppliers in Columbia. A percentage comes via the Dutch Antilles, Suriname, Venezuela and Panama. The island of Curaçao is an important station in the trade from Columbia and Venezuela to the Netherlands.

Suriname, a former Dutch colony, is also a transit site for the trafficking of cocaine from South America to the Netherlands and other countries in Europe. The quantities of cocaine seized by police and customs vary over the years. *However, between 1996 and 1999 there was a sharp increase in seizures compared to the previous years. But in 2000 the quantities seized have decreased again (table A11)*

- *The vast majority of the cocaine enters the country in freight ship containers (Rotterdam harbour) and by air. In 2000 almost 70 percent of all the intercepted cocaine was discovered at Schiphol Airport. A significant proportion is destined for onward transport to other European countries. On average two drug couriers (including body packers) are arrested per day (Van der Heijden, 1999). The recent use of x-rays at Schiphol airport to screen containers has contributed to the increase in the detection of cocaine.*
- *The Netherlands, after Spain, clearly tops the list as regards cocaine seizures in the EU; most strikingly between 1996 and 1999.*
- *In spite of the increase in seizures the price of cocaine in the Netherlands remains low. This may suggest ample supply and availability (Van der Heijden, 2001).*

Cannabis

Morocco is the main source of cannabis imported into the Netherlands, with criminal organisations in Morocco and the Netherlands transporting the drug. The remainder comes largely from Pakistan and Lebanon. The supply from North Africa arrives both by sea (especially through Rotterdam harbour) and road via Spain, France and Belgium. In terms of market size, Dutch-grown cannabis (Nederwiet) has been on the increase over the last decade. Most of the cultivation for commercial purposes takes place in storehouses, barns and glasshouses. Occasionally, the police discover cases of outdoor cultivation on a larger scale.

- *The quantity of seized cannabis in kg was lower in 2000 than in 1998 and 1999 (see table A11).*
- *The quantity of seized 'Nederwiet' (Dutch marijuana) plants fluctuated strongly over the years.*
- *The number of dismantled 'Nederwiet' plantations is increasing (497 in 1997, 616 in 1998, 1,091 in 1999, and 1,372 in 2000), but the price of cannabis remains stable.*

Synthetic drugs

The Netherlands is a major site for the production of ecstasy, amphetamine and related drugs. In the past years the number of 'Dutch' ecstasy pills seized in the Netherlands and abroad (table 38) has strongly increased. Underlying factors include an increase in production, reinforcement of investigation activities or improved registration abroad. Efforts to combat trafficking and production of synthetic drugs in the Netherlands is accomplished by a special multidisciplinary investigation department, the Synthetic Drugs Unit (including customs authorities, the Royal Netherlands Military Constabulary, the Fiscal Intelligence and

Investigation Department, the Central Criminal Investigation Information Department, the Economic Surveillance Department, the Central Import and Export Office, the National Transport Inspectorate, the Public Prosecutions Service and the police).

- In 2000, the number of seizures (more than 500 pills) in the Netherlands was 125, which is slightly less than in the previous year (154) (Witteveen and Reijnders, 2001). However, the amount of seized synthetic drugs was higher.
- The quantity of amphetamine powder seized in the Netherlands has declined between 1998 and 2000. There also was a decline in the number of discovered amphetamine labs.
- In 2000 a total of 37 illegal labs were discovered, 34 of which were related to the production of MDMA.
- In 1999, four illegal labs for the production of synthetic drugs were discovered in residential areas. In 2000, this number had risen to eight. Explosions occurred in two locations.

Table 38: Amount of confiscated ecstasy tablets, attributed to the Netherlands

	1998	1999	2000
Amphetamines			
Seized abroad ^a	1,569 kg	990 kg	1,251 kg
Seized in the Netherlands	1,450 kg	853 kg	293 kg
	242,000 tablets	450,000 tablets	
Ecstasy			
Seized abroad ^a	2.4 million tablets	9.7 million tablets	16.2 million tablets
Seized in the Netherlands	1.1 million tablets	3.6 million tablets	5.5 million tablets
	54 kg	405 kg	632 kg

Number of tablets and kilograms of powder. Only registered if seizure exceeded 500 tablets and/or 500 kg of powder. ^a The number of seizures in 2000 was highest in the United States (128), followed by Germany (75), France (52) and the United Kingdom (44). Source: USD.

PMA

In 2000, three seizures of PMA pills amounting to a total of 5,156 pills, have been reported. In July 2001, the police of South-Limburg arrested a man who possessed 212 'ecstasy-like' pills. Further inquiry indicated the presence of PMA.

5.3 Price/purity

The Drugs Information Monitoring System (DIMS) provides detailed information on the quality of 'ecstasy' pills on the Dutch market and since 1999 also on the THC content and prices of cannabis samples sold in coffee shops. Information on prices of some other drugs are also obtained by the Local Monitor on Alcohol and Drugs (MAD) or in occasional research reports. Note that methods to collect such data may be different.

Content of 'ecstasy' pills

Table 39 shows that the proportion of 'ecstasy' pills containing MDMA as main component strongly increased over the years, while pills containing amphetamine, the most common 'contaminator' decreased. Currently 9 in 10 tested ecstasy tablets mainly contain MDMA.

- The percentage of tablets in the category 'other active substances' has decreased.
- The MDMA content per tablet is usually 70mg, but some exceptions with MDMA contents between 150 and 235 mg per tablet do also occur (Planeije et al., 2001).
- The appearance of tablets containing DOB has led to a health warning campaign in 1999. In 2000 a health warning campaign was launched due to tablets containing a harmful level of strychnine.

Table 39: Percentage of pills tested by DIMS by main component, since 1997

	1997	1998	1999	2000
MDMA	34	72	86	89
MDEA	7	1	1	1
MDA	<1	1	2	2
Combination ¹	4	1	1	3
Amphetamines ²	32	11	6	2
Other psychoactive substances ³	9	6	2	1
Other/unknown ⁴	11	7	2	3
Total number tested	7009	6268	4751	3,961

Percentage of tested tablets. ^{a)} In 2000 another 952 ecstasy-like pills were registered, which were not analysed by the lab. Source: DIMS.

¹ Combination of MDA, MDEA and/or MDMA. ² Amphetamine and/or methamphetamine, either or not in combination with other substances. ³ Type and number of tablets in 1997, 1998, 1999 and 2000: 2C-B (317, 12, 25, 12), DOB (1, 15, 26, 5), atropine (128, 52, 0, 1), MBDB (113, 12, 0, 0), ketamine (0, 16, 1, 2) of 4-MTA (9, 16, 8, 6); strychnine (in 2000: 1), PMA/PMMA (in 2000: 1). ⁴ Caffeine, yohimbine, ephedrine, medicines (paracetamol, quinine, etc).

Moreover, in 2001 DIMS detected various pills with different logo's, which contained PMA. However, the concentration was low and not likely to produce any psychoactive effects. Early October, however, DIMS detected a pill containing a higher concentration of PMA (some 30 mg), which is potentially harmful. Shortly thereafter, seizures of similar pills were detected by the police of South-Limburg.

Apparently, producers change the active ingredients of ecstasy pills but the reasons underlying their preference for certain substances is not known. Possible explanatory factors are the availability of precursors and profit seeking.

Cannabis: THC content and price

In 1999/2000 and 2000/2001 samples of different cannabis products (about 1 gram each) were procured from coffee shops and chemically analysed (Niesink, 2001).

- Dutch marijuana and hashish contains more THC on average than foreign varieties.
- Of the analysed cannabis products the THC content was found to be highest in Dutch hashish. However, this concerns a small number of samples of a type of hashish not often sold.
- The THC content in Dutch marijuana samples in 2000 averaged higher than in 1999. As regards Dutch hashish the opposite applied: the concentrations in 2000 were lower than in 1999 (Table 40).
- The average THC concentration of Dutch marijuana is comparable to that of certain American cannabis products (Sinsemilla).
- The price of a gram of Dutch marijuana is lower in 2000/2001, than it was in the year before (Table 41).

- It remains to be seen whether the increase in THC content in Dutch marijuana points at a stable trend or can be ascribed to random fluctuations.

Table 40: Average THC percentage in cannabis products

	1999/2000		2000/2001	
	THC content	No. of samples	THC content	No. of samples
Dutch marijuana	9%	126	11%	131
Foreign marijuana	5%	56	5%	49
Dutch hashish	21%	18	16%	19
Foreign hashish	11%	90	12%	96

Source: Niesink (2001)

Table 41: Price per gram of cannabis products (in €)

	1999/2000	2000/2001
Dutch marijuana	5.83	5.86
Foreign marijuana	3.87	3.80
Dutch hashish	8.85	7.11
Foreign hashish	6.29	6.36

Source: Niesink (2001).

Growers of (Dutch) marijuana sometimes use pesticides in order to protect the plants against diseases. In 1999 the Trimbos Institute and the Jellinek Prevention Centre collected 35 samples of the cheapest 'Nederwiet' in Amsterdam coffees shops. Chemical analyses carried out by the RIKILT showed pesticide residues in half of the samples. Furalaxyl, a substance used in ornamental plant cultivation was most prevalent. However, according to a toxicological evaluation the concentrations were so low that they did not present a health threat, even for very frequent cannabis users (Traag et al., 2001).

Prices of other drugs

- According to the MAD the price of heroin on the street varies between 32 to 36 € per gram. Heroin procured from a dealer working with mobile telephones, or from a deal house, is slightly cheaper.
- Between 1998 and 2000 a drug user paid between 32 and 49 € for one gram of cocaine. In the early 1990s this price was still as high as 60 to 68 € per gram (Van der Heijden, 2001). Of all EU-Member States, cocaine (with the exception of Portugal) is cheapest in the Netherlands.

6 Main facts and trends per drug

This paragraph summarises the main facts and trends related to the consumption of cannabis, ecstasy/amphetamine, cocaine, opiates and other drugs. Possible explanations and factors underlying trends have been mentioned in the corresponding paragraphs.

Cannabis

- Estimated number of recent users is 323 000.
- *The estimated number of problematic cannabis users is low (not higher than 0.5% of the general population).*
- The increasing use among pupils has levelled off between 1996-1999.
- *Treatment demand related to problems with cannabis use is rare but has increased in the past decade until 1997, and levelled off since then.*
- *The number of coffee shops has decreased.*
- *THC content of Dutch cannabis is higher than of foreign marihuana.*
- *The concentration of pesticides in 'Nederwiet' does not constitute a health threat.*
- *A greater number of marijuana plantations are dismantled.*

Ecstasy, amphetamines and other synthetic drugs

- Use of ecstasy and amphetamine in general population is low.
- Ever use of these drugs among pupils has decreased and current use stabilised .
- Ecstasy and amphetamine are still popular among visitors of (dance)party's, discotheques and clubs.
- *The use of GHB seems to be increasing in special networks of users and is associated with occasional (mostly nonfatal) emergencies.*
- *Treatment demand for ecstasy is low and decreasing; treatment demand for amphetamine is slightly higher but also decreasing.*
- *The share of MDMA in 'ecstasy pills' increased, while the share of amphetamine decreased.*
- There is increasing evidence of damage to serotonergic neurons in heavy ecstasy users; clinical implications point at cognitive deficits.
- *The number of seized ecstasy pills increased dramatically in the past years.*

Opiates

- *Number of problematic users of opiates is estimated at around 29,000*
- Proportion of cocaine users among opiate addicts is high
- Average age of opiate user is increasing
- Number of opiate overdoses at national level is stable
- Number of drug-related deaths in Amsterdam decreases
- Number of addicts injecting the drug intravenously has gone down
- Sexual risk behaviour remains worrisome.
- *The percentage of drug users infected with HIV is stable in most towns, but recently an increase in recent use was noted in Heerlen.*
- *The percentage of even injectors infected with hepatitis B and C is high but shows regional variation.*

Cocaine

- Use of cocaine among pupils remained stable between 1996-1999.
- *Cocaine sniffing is fairly popular among visitors of (house)parties, discotheques and clubs in Amsterdam, and less so among coffee-shop visitors; no information available for the Netherlands in general.*
- Cocaine is very popular among hard drug addicts, especially as crack, the smokeable form of cocaine.
- Use of crack as a primary drug increases, especially among (young) marginalised hard drug users.
- There are increasing health problems related to cocaine smoking.
- Treatment demand is growing and is relatively high from a EU perspective.
- *The number of acute cocaine related death is low but tends to rise.*
- *The street price of cocaine has fallen in the past decade.*
- *Amount of seized cocaine is high compared to most other EU countries.*

Multiple use

Users of the licit and illicit drugs often have experience with multiple substances (e.g. almost all consumers of cannabis also smoke tobacco and the large majority also uses alcohol). Combined use of various substances is also a common phenomenon, especially common among (young) people with an outgoing lifestyle (visiting bars, discotheques and parties) and among regular hard drug users. LADIS data also showed that people often have problems with more than one substance. In 1999 two reports in the topic of multiple substance use or 'combi-use' have been published. The first concerned a qualitative study into patterns of combined use and the motives of young people to 'mix' (Nabben and Korf, 2000). Cocaine and alcohol appeared to be a favourite combination. The pharmacological effects and health risks associated with the use of illicit drugs and alcohol have been reviewed by Lecesse et al. (2000). These risks are illustrated by the fact that most emergencies among users of synthetic drugs involve the consumption of more than one substance at a time.

7 Discussion

7.1 Consistency between indicators

- The increase in the use of cannabis (and other drugs) until 1996 and the subsequent stabilisation among pupils is difficult to explain. Treatment demand increased for cannabis also showed a steep increase until 1997 and levelled off since then. Moreover, the number of coffee shops reduced in the past years. However, it would be too simple to draw conclusions on the basis of these seemingly consistent trends. The margin between overall use and problematic use is very wide and the lag of time for individuals for switching from 'normal' use to problematic use may be so long, that cross-sectional comparisons are deceptive. Moreover, a reduction in the number of coffee shops (or minimum age) is not likely to have significant effects on availability or use levels.
- There are signs of an increase in cocaine sniffing among young party- or clubgoers (in Amsterdam) and an established increase in crack use among hard drug addicts. *This*

trend is consistent with the increase in number of cocaine users seeking assistance. Moreover, the number of cocaine related deaths tends to increase in the past years. Further, cocaine seizures increased in the past decade, while prices tended to decrease.

- *Intravenous administration of drugs has decreased and so have incidence rates in HIV and hepatitis. However, in Heerlen HIV infections increased without a clear change in risk behaviour.*

7.2 Implications for policy and interventions

The 1995 policy paper *Continuity and Change* was based on a thorough analysis of the drug situation in the Netherlands. Two follow-up papers evaluating the progress of the proposed actions were published in 1996 and 1997. The National Drug Monitor, established in 1999, has the task to monitor and report on trends in the use of drugs and other substances. Main target groups are policy makers and other relevant actors in the field of drugs. *The last report ("Annual report National Drug Monitor 2001") was published on Queen's day (Prinsjesdag) together with the Progress Report on the Drug Policy of the Netherlands 1999-2001. The latter strongly referred to information given in the 2001 NDM annual report, and for some of the signalled trends specific policy plans were delineated.*

THC content

The relatively high THC content in Dutch marihuana and uncertainty about an increasing trend constituted the basis for the following policy proposals:

- *The frequency with which THC content is tested, will be increased (twice a year) in order to obtain clarity promptly as to whether the high level recorded was incidental or representative of an ongoing rise, and also to establish whether the season in which cannabis is cultivated, has an impact on its THC content.*
- *Within the framework of the National Drug Monitor it will be examined whether the number of incidents involving cannabis which are reported, exhibit any correlation with the level of its THC content.*
- *The Ministry of Health, Welfare and Sport will have further scientific research performed into the effect of varying doses in relation to THC.*
- *Consumer information will need to devote explicit attention to the strength of Dutch cannabis and the risks of a higher THC content. In particular, inexperienced users run the risk that a higher THC content will produce an unexpectedly severe effect, which can lead to attacks of anxiety and panic. In addition, the product information for consumers provided by the coffee shop operators must be improved.*

Cocaine

The increase in the number of cocaine treatment demands may be partly attributable to a change in the classification of multiple drug addiction. Nevertheless, these signs are reason enough for the Ministry of Health, Welfare and Sport to monitor developments closely in this area and, where necessary, to promote extra initiatives in the fields of research, care and prevention. At present there are no specific treatment programmes for cocaine addiction. Most patients are multiple drug users and in addition their treatment focuses on the underlying patterns of substance dependence and social, psychological and other problems. Preventive measures are usually more specific to the substance in question. The

recommendations of the Health Board (Gezondheidsraad) on the use of medication to treat addicts, which are due for release at the end of this year, will be used in developing any initiatives.

Ecstasy

Policy plans have been developed to intensify the battle against the production and trafficking of synthetic drugs. Target is to achieve a pronounced reduction of these illegal acts within a 5-years period. These plans have been delineated in the white paper, 'Uniting against XTC' ('Samenspannen tegen XTC'), which was sent to the Lower House in May 2001. Attention is simultaneously being devoted to the health aspects. The Public Prosecutions Department has already begun to intensify its investigations into XTC.

Information about drug seizures

Given the decentralised registration of data on drug seizures and the quality of the data, initiatives have been taken to improve this situation with all parties involved.

7.3 Methodological limitations and data quality

The National Epidemiology Working Group evaluates all output generated by the bureau of the National Drug Monitor. The NDM integrates the function of the Dutch operational focal point. As such, the implementation of the five EMCDDA Key Indicators had high priority. Different expert groups have been established to support this work. Briefly, the state-of implementation of the key indicators is as follows:

- *General population surveys.* We have a fairly good picture on the *prevalence of drug use* in the general population owing to the National Drug Use survey in 1997. The response rate was relatively low (about 50%) although common for such surveys. The 2000 survey includes different methods of questioning, among others, to enhance response rates. Results of the 2000 survey are due by the end of 2001. The questionnaire is largely compatible with the EMCDDA model questionnaire and most core variables are available.
- *Prevalence estimates.* The number of hard drug users has been estimated in various Dutch cities and at the national level. The 3-sample capture recapture method has been applied in Amsterdam and in Parkstad-Limburg. *Concerning national prevalence estimates, proposals for future activities include to 1) carry out a national capture-recapture method (for example by using LADIS and HKS data), 2) improve the multiplier method by determining alternative in-treatment rates and possibly in-arrest rates 3) to improve and update the (social) multiple indicator method by including additional community-level statistics 4) estimate the size of the population of problematic cocaine users and 5) calculate quarterly estimates in addition to annual estimates.*
- *Treatment demand.* LADIS meets the demands of TDI protocol to a great extent (with the exception of the age of first use). *Current activities focus on improving the quality of the registration (data input, output). For example, the nature of the multiple single administrative registrations (not followed by a face-to-face contact) needs to be examined. Ideally, the TDI definition and original LADIS definition of a treatment demand should converge.* Further, because LADIS covers only outpatient centres initiatives are

taken to increase its scope (e.g. inpatient addiction treatment centres). *There are currently also problems in relation to the development of a client monitoring system (cliëntvolgsysteem – CVS) by the Netherlands Probation Foundation (Stichting Reclassering Nederland). This system is not compatible with the National Alcohol and Drugs Information System, and might result in data loss on clients formerly recorded in LADIS. It is vitally important that arrangements are made to ensure that the two systems are fully compatible with each other (Voortgangsrapportage Drugsbeleid, 2001).*

- *Drug-related deaths.* Data from the General Mortality Register (supplied by Statistics Netherlands) meet the requirements of the EMCDDA protocol for collecting data on drug-related deaths. *The Trimbos Institute has evaluated national registration practices and made recommendations for improving the quality of data on drug-related deaths (De Zwart et al., 2001).*
- *Infectious diseases.* HIV prevalence data are available from repeated serosurveys among street samples of drug users at different locations in the Netherlands. The method seems to be largely compatible with the (proposed) EMCDDA standard for collecting data on infectious diseases. However, the continuation of the current HIV surveillance in the Netherlands is under discussion. Moreover, there is no systematic data collection on the prevalence of hepatitis C among drug users, which is the main focus of the EMCDDA infectious diseases indicator. *The RGO has recommended to decrease the frequency of local surveys among drug users. Other data than HIV are not taken into account. However, the Minister of Health recently (19-11-2001) decided that data collection on HIV as well as hepatitis among drug users must be guaranteed given the requirements of the EMCDDA. Moreover, the Dutch focal point is now in the process of discussing the feasibility to implement assessments of infectious diseases in the Drug Monitoring System of the Local Monitor on Alcohol and Drugs. Further, the Municipal Health Service of Amsterdam has developed a proposal to perform routine screening (TBC, HIV, hepatitis) of drug users at intake and annually (pers. communication, Van Santen, 2001). This screening will be linked to medical treatment.*

Finally, the EMCDDA is strengthening data collection in the field of criminal justice and law enforcement. Further to this the Dutch Ministry of Justice is in the process of developing the 'Justice' related part of the National Drug Monitor. In 1999/2000 a project was launched to evaluate information needs in this field and to examine the availability and quality of the corresponding data. *The research and documentation centre of the Ministry of Justice (WODC) has just finished the follow-up phase of this project. Various short-term, intermediate and long-term plans have been developed to improve data collection in this field and to pay special attention to drug-related offences and drug users in research and registration activities in the field of law enforcement and criminal justice. The Ministry of the Interior is also involved in this project.*

PART III

Demand Reduction Interventions

8 Strategies in demand reduction at national level

Our national framework of demand reduction remained stable over the past decades. The outline of organisations, strategies, activities and objectives have not change substantively excepted the recent merging organisations resulting in a smaller number of bigger regional organisation offering a wider range of cure, care and prevention activities.

Organisations and institutions at the national level

Responsible Ministries

The Minister of Health, Welfare and Sport and the Minister of Justice are jointly responsible for drug policy including supply reduction, demand reduction, harm reduction. The Ministry of Justice stands for the enforcement of criminal law and partly for probation and after-care services. Sixteen institutions for outpatient addiction treatment and care, hereafter referred to as 'outpatients centres', co-operate with the prisons and provide probation officers when the judge decides to sent prisoners to these centres for treatment.

Local administration, the police and customs are the formal responsibility of the Minister of the Interior. There are 25 regional police forces and 25 chief commissioners. The police forces play an important role in combating drug offences. The customs remain a special service of the police organisation but their tasks remarkably changed since the ratification of the Schengen Treaty. Nowadays customs operate at airports and in harbours bringing and tranfering people from many other countries outside the EU. Furthermore the service is in charge with special projects for instance illegal transport of drugs. Harbour police and customs have hit-and-run squads for the discovery of drug transports. Recently cargo-scans are used for detecting drugs at Schiphol International Airport and for container transports in the main harbours.

The addiction care system

The addiction care system is located at regional and local level. Outpatient centres and inpatient facilities are regionally structured but many of these have local branches or sub-locations. General health services are functioning exclusively at the local level. An exhaustive description of these organisations is beyond the scope of this report. Instead, we present the most prominent functions and facilities to illustrate the extensive, comprehensive character of the Dutch care system *as well as the results of mergers that took place during the past five years.*

Facilities within the health care system

The addiction care sector changes almost daily due to mergers and an increasing tendency towards inter-agency collaboration. The current state of the addiction care sector is as follows:

- *There are 33 organisations of addiction care. Eighteen of them offer in-patient treatments and care; thirteen of these include outpatient treatment.*
- *Of the eighteen institutions with in-patient care, ten also offer outpatient care and other types of assistance. Two of these residential institutions are independent. The other six are part of a general psychiatric hospital.*

For specific statistics on treatment demand see part II, chapter 2.

Functions and activities of the addiction care system

The functions of the 33 Dutch institutions for addiction care are:

- prevention
- outreaching
- providing shelter and daily activities
- crisis interventions
- guidance (e.g., case management, probation assistance)
- preparing patients for clinical treatment
- treatment
- aftercare
- social reintegration.

Besides this there are some 60 clinics with a specified focus, for instance therapeutic communities, specific intramural care for Moluccan addicts, and support and crisis intervention facilities for specific subgroups. The offered treatments are short-term (crisis intervention or detoxification, usually combined with one to three months follow-up treatments) as well as long-term (mostly offering more than three months follow-up treatments for instance community reinforcement or maintenance treatment).

Outpatient centres offer a wide range of pharmacological and psychological treatments (separate or combined). One of the services offered by in-patient centres is after care of discharged prisoners that were drug users. The police, public prosecutors or judges may refer drug users to these centres for after care. In these cases social workers are probation officers working closely together with the regionally organised operational units of the Probation Foundation (Reclassering Nederland). Main objective is to guide this subgroup of criminal suspects through the judicial system, trying to prevent conviction and/or recidivism and optimising after care.

In a continuing process of mergers most agencies for 'social addiction care', including outreaching help and street corner work, have been integrated into larger addiction care centres. There are nine of such agencies left.

Registration systems

A number of information systems register data on clients in the addiction care sector. Some are operating nation-wide, other systems only regionally or locally. Some include all patients others are restricted to specific groups. *Up to now these differences restrain a reliable nation wide monitoring of data on drugs and drug related matters. In the coming years the Ministry of Health, Welfare and Sport plans to reduce these inefficiencies, thus enabling better opportunities for annual policy reports such as the National Drug Monitor (see 8.2) and the recently started Branch Report on Mental Health (including addiction care) and Social Service (maatschappelijke opvang). The National Drug Monitor reports annual data of the use and demand of care per drug, legal and illegal. The Branch Report reviews data on demand and supply of care and care, funding and quality care systems per circuit (children and youth, adults, elderly, forensic care). The future (longer term) objective of the new registration system is to have a client centred system enabling to follow clients through the addiction care system, thus avoiding double countings.*

None of these systems offer sufficient data for evaluating the quality of prevention and care (problems, treatment choice, specification of treatments, results, improving practice

and so forth). The National Support Centre for Drug Prevention (LSP) nowadays gathers data on drug prevention projects in the Netherlands but a recent review of these projects shows that still only a minority are evaluated (Bolier & Cuijpers, 2001). A proposal has been written and a meeting was held to discuss a nation wide electronic registration of prevention projects that fulfill minimal quality criteria for evaluation (Martin, 1999).

For fifteen years the National Alcohol and Drugs Information System (*Landelijk Drugs Informatie Systeem* or *LADIS*) collects information on clients of outpatient addiction centres. LADIS includes data on personal characteristics, substance use and treatment, but not on the results of treatment. It is administered and published by the Foundation of Information on Addiction Care (*Stichting Informatievoorziening Verslavingszorg* or *IVV*).

A separate system (PIGGz, see below) is responsible for national information on patients who have been admitted to inpatient treatment settings for mental health care, including addiction care clinics. The information registered includes personal characteristics, diagnosis, type of admission and discharge details but no details of treatments and results.

For other national data on demand reduction, professionals and institutions can consult the information systems of the National Support Centre for Drug prevention (LSP) or data from the National Institute for Health Promotion and Illness Prevention (NIGZ). *The same shortcoming applies to these organisations: no information on treatments and results.*

On the local level two other information systems need to be mentioned: the Rotterdam Drugs Information System (RODIS) and the Central Methadone Register (CMR). RODIS contains personal, social and medical data on drug use and care for all clients of the addiction care sector in the Rotterdam region. CMR holds central information on methadone distribution to clients in Amsterdam and its suburbs. Information is provided by the municipal health service, the Jellinek Addiction Centre, GPs, police stations, prisons and other outpatient centres in the Amsterdam region.

In the past few years, in-patient data registration in the addiction care sector has been incomplete due to mergers and non compliance of institutions. As outpatient and in-patient institutions are so diverse and financed by different sources, it is difficult to obtain a reliable picture of, for example, the number of clients who enter and leave treatment or care.

An added complication is the absence of linked data between outpatient (LADIS) treatment and in-patient treatment (PiGGz). Sometimes, even the career of a single client in one and the same facility providing both, integrated in-patient and outpatient care, can not always be established, as it is not uncommon that the data files for the different services the agency provides are not linked.

The registration system PiGGz (Patient Registration Intramural Mental Health Care) changed in 1997 and has come under pressure due to the wave of mergers. Since then information is missing from sixteen institutions reducing the generalisability of these data on demand of in-patient care. GGZ Nederland (Mental Health Care Netherlands) - the umbrella organisation for mental health and addiction care - expects that the newly set up registration system of in-patient data (ZORG-IS) will gradually become a better alternative for PiGGz from 2001 onwards.

Another recent instrument for improving the registration data in the field of addiction care is AIKIS (Analyse Instrument Kwaliteit in Samenhang). The objective of this instrument is to create more unity of language in drug prevention and to improve the description of prevention projects or programmes by standardisation of the most important concepts

(objectives, target groups, activities etcetera). The first draft was on CD-ROM. Training sessions were organised, and a help desk was started. Working with this instrument is not obliged but many institutions have participated and suggested points of improvement. One of these suggestions was to construct an internet version of AIKIS. This would substantially enlarge possibilities distribution of the instrument and facilitate text corrections. In spring 2002 it will be operative.

Facilities within the criminal justice system

- There are 23 VIS-projects (early intervention). In these projects drug users with a record of criminal recidivism are offered entry into a care programme to avoid the continuation of legal trial procedures. The intake of drug users into VIS is carried out by outpatient care professionals and funded by the National Probation Foundation. VIS is an example of applying coercion (see also ...).
- In 1998 a Forensic Addiction Clinic (*Forensische VerslavingsKliniek*) opened its doors to enable enforced treatment of addicted detainees. *It will probably be evaluated in 2002.*
- Medical staff for treating addicts is available in Remand Houses and in prisons, *but the relationship between this staff and the addicts is formal and distant.*
- The Netherlands has twenty drug-free Addiction Guidance Departments (VBA's). They offer voluntary daily programmes of medical and social care (including urine control), work, discussion and sports, with a total of 446 lots. Two-thirds of these departments are in Remand Houses, the rest in prisons.
- Drug couriers who have swallowed drugs that have been wrapped up in small balls need special medical attention, including possibly the provision of an intensive care bed. The prison in Scheveningen has seven cells suitable for holding such couriers and an easy system for collecting these balls from faeces.

Municipal Health Services

Some of the 53 municipal health services run methadone maintenance programmes and other projects for targeted prevention and for providing shelter to drug users. They are all involved in health education efforts concerning drugs, including the implementation - together with addiction care centres - of the Healthy School and Drugs project co-ordinated by the Trimbos Institute. The Healthy School and Drugs project reaches some seventy percent of the high schools and a number of elementary schools in the Netherlands.

Primary practice

General practitioners hardly have a role in addiction care, except in Amsterdam. The Amsterdam municipal health service organises the local methadone maintenance programme in which half (about 200) of the local GP's participate (see further the consensus conference on the role of GP's in 9.3.1).

Intermediary organisations at a national level

Dutch society is replete with intermediary organisations supporting governmental decision making processes and political lobbying for interest groups. In the field of drug demand reduction the situation is not different. We briefly describe several important intermediary organisations positioned between the national government and the addiction care system.

We counted up to some 35 intermediary organisations that are of direct importance for drug policy, drug research, prevention and addiction care. For this report we briefly describe a sample of the most important ones.

- National Institute for SocioCultural Studies (*Sociaal Cultureel Planbureau or SCP*)

The National Institute for SocioCultural Studies is one of three interdepartmental scientific offices. Main subjects of the other two, Statistics Netherlands and the Central Economic Planning Bureau, are mainly national statistics and national economy respectively. Getting its assignments from the national government the SCP collects data on subjects related to changes in everyday life: attitudes and activities. The bi-annual reports (the Social Cultural Report) of this institute are generally considered important for debates of new policies in the field of social life. SCP also evaluates current policy of the national government. The latest bi-annual report (2000) compares the situation in the Netherlands with that in other European countries. One of the conclusions in this report is that though our country has a relatively more liberal softdrug policy, the difference with other countries in Western Europe is decreasing because drug policies in several other countries are moving in the same direction, i.e. more tolerance for drug users.

- National Council for Public Health and Care (*Raad voor de Volksgezondheid en Zorg or RVZ*)

The RVZ is the permanent advisory body for the national government on issues related to Public Health and Care. This Council consists of 9 members appointed by her Majesty the Queen. They are independent and have the task to advise on request and are allowed to advise without a request. It often commissions back ground studies for its advice. Recently the RVZ published an advisory paper and a background paper on future drug policy (RVZ, 1999a; 1999b).

- National Health Council (*Nationale Gezondheidsraad*)

The National Health Council is another advisory body for the national government on issues related to public health and care with a more medical focus. This council reviews (or commissions other organisations to review) available research, data and expertise to formulate sound policy advice. Recently it published for instance a recommendation on the medical use of cannabis¹ and an advice on the necessity to develop a vaccination program for Hepatitis C among drug users.

- National Institute for Public Health and the Environment (*Rijks Instituut voor Volksgezondheid en Milieuhygiëne or RIVM*)

Funded by the national government, the RIVM is conducting and funding research in the field of health, the physical environment (pollution) and health care in general. One of the major projects are health scenario studies on possible future developments. These studies are meant to facilitate the debate about the pros and cons of choices of future policy options. The RIVM recently initiated a national Public Health Monitor available on internet. For this site several institutes are co-operating with the RIVM. Data about mental health and addiction will be periodically supplied by the Trimbos Institute.

¹ The evidence for efficacy is scattered because it is based on different cannabis products (marihuana, laboratory-made THC, and variants), and on different administering (smoking, eating) among different patient groups. Evidence exists for reducing pain (cancer), nausea or vomiting (chemotherapy), and for extreme weight reduction (AIDS) (Cuijpers, 2000).

- National Institute for Health Promotion and Disease Control (*Nationaal Instituut voor Gezondheidsbevordering en Ziektebestrijding or NIGZ*)

The main topic of this National Institute is health education and promotion. One of the major activities is the Alcohol Education Programme (*Alcohol VoorlichtingsPlan*). In recent years this institute developed a comprehensive approach for influencing drinking behaviour and organises periodically public campaigns. Other activities at regional and local level are based on this campaign.

- Dutch Health Research and Development Council (*ZorgOnderzoekNederland/Medische Wetenschappen or ZON MW*)

The former Dutch Health Research and Development Council (ZON) merged in 2001 with the branch of Medical Sciences of the Netherlands Organisation of Science (NWO). It is now called ZON MW and covers the entire spectrum from basic science to practice in the medical field, (mental) health care and addiction.

The council deals with research and development in the field of health, prevention and care. This institute stimulates innovation in intervention and implementation of knowledge and innovative methods. ZON operates as an intermediary between the Ministry of Health and all institutions conducting research in the health sector (including mental health and addiction). Development and implementation of most demand reduction activities are not evidence based. To support a more evidence based practice, ZON stimulated high quality evaluation and innovative research projects. Recently their focus also includes implementation research. In general, there is a lack of systematic evaluation research. To offer a scientific fundament for improving the effectiveness and efficiency, the Minister of Health asked ZON to develop and implement a coherent research programme for the next five years. Scientists and practitioners can submit research proposals ideas on a number of themes. In this programme, priority is given to monitoring the addiction process and quality assurance. This includes the development of effective interventions in the field of demand reduction with special attention being given to the possibilities to implementing the results. The Council aims primarily but not exclusively at initiating large-scale, longitudinal research programs of high quality, conducted by multidisciplinary project groups. Additionally, quantitative research and the use of valid research designs, such as the RCT and the Community Intervention Trial (CIT), is promoted.

- Netherlands Mental Health Organisation (*GGZ Nederland*)

GGZ Nederland is a merger of several branch organisations that existed in the field of mental health and addiction. This new organisation deals with the national co-ordination of the regional and local facilities for the mentally ill and addicts and stimulates the implementation of new methods for prevention and treatment based on scientific evidence ('evidence-based mental health and addiction care'). For the addiction field three Development Centres started to support the implementation of 'good practice' or evidence-based addiction care, cure and drug prevention (see 8.2).

- Netherlands Institute of Mental Health and Addiction (*Trimbos-instituut*)

The Trimbos Institute is a merger of the National Institute on Alcohol and Drugs (NIAD) and the Netherlands Centre for Mental Health (NcGv). This institute (also called the Netherlands Institute of Mental Health and Addiction) aims at promoting mental health in the broadest sense, including addiction problems. The Trimbos Institute provides research-based services

for prevention, cure and care in the broad field of mental health including addiction. Due to its threefold role, being a centre of expertise, a think tank, and a provider of services, it has an extensive clientele. The activities also involve generating, synthesising and disseminating evidence-based information about mental health and addiction.

With regard to demand reduction the institute produces and implements a programme for secondary schools preventing pupils from experiments with or abuse of drugs. Another important activity is doing research and systematic research reviews. It is also the housing of the National Drug Monitor (NDM), the Dutch executive focal point (see hereafter) and the Drug Information and Monitoring System (DIMS). The task of DIMS is testing components and intensities in random samples of (new) drugs that circulate in bars, clubs, rave parties, etcetera.

Recently, the Trimbos Institute compiles annual data on key components of drugs and drug use for the government (the annual NDM-report and Branch Report). It also produces data on mental health and addiction to the National Health Monitor of the RIVM (see above).

- National Support Centre for Drug Prevention (*Landelijke Steunfunctie Preventie Verslaving en Middelengebruik or LSP*)

Drug prevention activities are carried out by local, regional and national agencies.

Reinforcing co-operation among these agencies is one of the tasks of the National Support Centre for Drug Prevention (LSP), installed in 1998 and funded by the Ministry of Health, Welfare and Sports. The LSP informs and supports prevention practitioners, provides information by a telephone help desk and organises annual workshops. It offers an overview of the prevention field and its main activities, promotes expertise and innovation and tries to gain support for a better mutual tuning and co-operation between partners or colleagues in this field. The ultimate goal is improving the quality of prevention by being an independent 'broker' in prevention and by gaining field support for a more evidence based prevention practice (LSP, 1999).

Before this initiative there was no clear cut responsibility for co-ordinating activities in the field of drug prevention. Thus, formerly the overlap in activities of many local institutions was considerable (e.g. brochures for drug prevention have been developed at several places and sometimes even at the same time). In the first year the LSP organised meetings to get acquainted with the many participants and stakeholders in this field.

The helpdesk is meant to meet the information needs of prevention professionals and others who are interested. Help desk workers answer questions concerning drug prevention, specifically prevention in the Netherlands. In the period August 2000 to February 2001 94 questions have been asked by different parties in the prevention field. Many addiction care centres and several public health and mental health agencies outside the addiction care network as well as the media, the municipalities and the police have used this help desk.

Finally the LSP co-operates with the National Focal Point in annual training sessions targeting evaluation skills of drug prevention professionals.

During the coming years agreements on sharing guidelines for design, description and evaluation of drug prevention projects will be prerequisites for success. The idea is to collect scientific evidence and merge this with available expertise (evidence appeared rarely sufficiently available) for the construction of models of 'good practice'. Partners in this endeavour are the three Development Centres that have recently been started for executing the objectives of the policy programme 'Getting Results' (see 8.2).

- Drugs Information Bureau (*VoorlichtingsBureau Drugs or VBD*)

The Drugs Information Bureau was founded in May 1995. Its mission is to improve the quality and availability of information on drugs for the general public. It gathers information, reports on the utilisation of this information and organises dissemination activities in this field. All information is spread among the public free of charge.

Important services are:

- The Drugs Information Telephone Line (see 9.1.5);
- Information brochures available on request (leaflets with information on different substances: hashish and marijuana, XTC, cocaine, speed, heroin, hallucinogenic substances, sleeping pills and tranquillisers, mushrooms and smart drugs, smart products and ecodrugs);
- Mass media interventions/public campaigns on drugs.

Academic drug research

Drug research is done by several university institutes both in the departments of social sciences and the medical departments. These institutions often operate as public consultants too.

Examples are:

- Amsterdam Institute for Addiction Research (AIAR), a joint initiative of the Jellinek Centre and the University of Amsterdam;
- Centre for Drug Research (CEDRO) also of the University of Amsterdam;
- Institute for Addiction Research (IVO) of the Erasmus University in Rotterdam;
- Centre for Addiction Research (CVO) of the University of Utrecht;
- University of Nijmegen Research Group on Addictive Behaviours (UNRAB); and
- Institute for Psycho-Social and Social-Ecological Research (IPSER) of the University of Limburg.

Their main goal is to gain and translate scientific knowledge for different users (policy, research and practice).

Non-academic drug research

Research is also done by several *regional or local organisations for addiction care and Municipal Health Services* with their special research units. Sometimes these research projects are partly done in co-operation with the university institutes. Examples of regional organisations (with local branches) are:

- the Jellinek (Amsterdam and its surroundings);
- Triton (the North West);
- Kentron (Western Brabant in the Southern part);
- Novadic (Eastern Brabant in the Southern part);
- Tactus (the 'Far East' of our country);
- de Grift (the 'Near East');
- Parnassia (The Hague and its surroundings).

Finally several *private institutes* are frequently commissioned to do research in the addiction field. Examples are:

- Bureau Driessen (specifically directed toward methadone maintenance);

- Regioplan Stad en Land (evaluations of drug policy);
- Intraval (in general evaluation projects on demand and harm reduction).

8.1 Major strategies and activities

Demand reduction and harm reduction have been the most important points of departure for our national drug policy during the past 25 years. However, these pillars do not imply some grand design or major national strategy.

The underlying assumption is that drug dealing should be punished, but drug use should rather be contained and curbed, by prevention, treatments and care instead of stigmatising and isolating drug users and addicts socially by prosecution and incarceration. It is assumed – and this assumption is supported by empirical data - that the execution of merely harsh actions will not decrease drug demand because there are many more determinants involved. Besides this, drug use is increasingly perceived as a less serious problem compared with alcohol abuse but both are perceived as an illness. Experimental drug use is considered as a normal phase in youth life. Finally, drug addicts are considered clients or patients, not criminals.

Therefore, the emphasis is rather on informing both the general public (potential users) and drug users. The objective is to convince them of the hazards of drug use rather than offering them moralistic preventive messages or to impose some repressive action. Activities in drug prevention, treatments in addiction care and community-based action have to protect society against drug-related feelings of danger, social nuisance, infectious diseases and criminality. Interventions by the judicial system (prosecution and imprisonment) are mainly active for possession, trade and trafficking of hard drugs. It is assumed, and nowadays also supported by empirical evidence, that too much emphasis on harsh actions aimed at curbing the demand and supply of drugs will not reduce drug demand. Supply-reduction-only policies are seen as unbalanced, ineffective and inefficient, unless supplemented by strong investments in demand reduction and harm reduction. This does not imply that the supply of drugs receives little attention in the Netherlands. In fact, supply-reducing policies are strengthened and intensified. Legal measures against the use of soft and hard drugs are still separated. Nowadays chronic addicts with a long history of judicial sentences can be forced by the judge to follow a two-year programme of detoxification, follow-up treatment and social rehabilitation. Furthermore, preventive activities are not aimed solely at preventing or moderating use but also at preventing problems prior to use.

The government is steering and stimulating most of the development, implementation and evaluation of demand and harm reduction activities. The actual work is mainly done by intermediate organisations and by the addiction care system itself. The institutions of the addiction care system (organisations of addiction care) initiate, develop and guide drug treatments, after care and reintegration at local and regional level. Drug prevention is also done by these organisations and by the Municipal Health Services, but also by intermediaries such as the National Institute for Health Promotion and Disease Control (NIGZ) and the Netherlands Institute of Mental Health and Addiction (the Trimbos-institute).

8.2 Approaches and new developments

a) New and innovative approaches

Enhancing the quality of drug prevention and addiction care

Recently initiatives are explicitly intended to increase quality of addiction care (see also 10). This preassumes knowledge of what is done in this field, how it is done and in which parts of the drug prevention and addiction care system for what problems. This knowledge is necessary for determining the amount of evidence based practice in the field and to formulate guidelines for good practice for the next years. In short, scientific publications can be used to raise conciousness about the state of the art in this field and to stimulate improvement.

Specification of preventive interventions

Though we already mentioned several organisations that are active in registration in the addiction care system, the data of these organisations do not inform us about specific intervention characteristics and their effects. Experts in this field may roughly know what activities, treatments or programmes are used in the addiction care system, but specific data remained unpublished yet (see 9).

The government paper 'Getting Results'

In 1998 a Government Paper was published by the Netherlands Mental Health Organisation (GGZ Nederland) to improve daily practice in addiction care and drug prevention (*Resultaten Scoren* or 'Getting Results'). This resulted in a five-year programme (1998-2003) in addiction care to improve quality of addiction care and drug prevention and stimulate new developments, and if necessary paving unorthodox pathways.

Important subprojects of Getting Results are:

- *Initiation of facilities for education of professionals in addiction care to enlarge or to bring update their competence or expertise*
- *Improving and integrating information systems in addiction*
- *Monitoring*
- *Co-ordination of funding and planning of outpatient addiction care.*

Core competencies of addiction care should be bettered. Examples of these competencies are specified knowledge (of substances, substance use, gambling, addiction behaviours, the relation with health problems or mental disorders and of relevant organisations), motivation skills, prevention and treatment skills, and experience in dealing with users. Development Centres in three areas have been established to stimulate this development. These areas are *prevention*; quality and innovation of *care* (treatment and after care) and social addiction policy (e.g. nuisance projects, user rooms, supported living, or harm reduction).

For the Development Centre Prevention three addiction care institutions volunteered to initiate this quality enhancement process in drug prevention. Several others are willing to join the activities. During the first period, this centre concentrated on promising strategies: school-based prevention, parent education and parent support, community-based (i.e. neighbourhood) prevention. The primary choice is based on empirical data (Van Gageldonk & Cuijpers, 1998; Bolier & Cuijpers, 2000). Prevention approaches in these areas are intertwined. Examples of important subjects in school-based prevention of substance use are: early detection of substance use, facilitation of referral to addiction care of student users,

prevention strategies amongst ethnic minorities, peer-prevention, and co-operation with mental health facilities in case of dual diagnosis (see end of this paragraph). The Development Centre Quality and Innovation of Care initiated an exploratory meeting to determine the state-of-the-art in standardisation of addiction care. At this moment guidelines or protocols to standardise care activities are not commonly applied and existing monitoring practices are rarely tested and improved (see 10.1). A second meeting was focussed on efficient operating models to tackle the current problems within and between addiction care institutions with change, product development and quality improvement (Brinkman, 2000).

The Development Centre Quality and Innovation of Care will develop fourteen treatment protocols and initiates and tests a benchmarking structure to improve possibilities for quality control.

The Development Centre Social Addiction Policy is active to initiate innovations in policy and practice. The programme includes:

- *Creation of client profiles to improve insight in client differences*
- *Development of an instrument for assessment and choice of care (indicatiestelling) for use in the streets and monitoring as a control mechanism*
- *Evaluation and improvement of care (casemanagement, stepped care, etcetera) for highly problematic users*
- *Innovation of methadone maintenance treatment*

The implementation of evidence based treatment methods in Dutch addiction care centres is evaluated by the Amsterdam Institute of Addiction Research (AIAR). Results will be published in 2004.

Enhancing the quality of addiction research

The combined research program on Addiction of The Dutch Health Research and Development Council (ZON) and the Netherlands Organisation of Science (NWO) initially prioritised and funded initially 24 high quality studies (ZON, 1999). Some of these projects deal with prevention or treatment of drug (ab)use or harm reduction.

Examples are:

- a randomised controlled trial (RCT) aiming at the effects of a low-threshold treatment program for cocaine users in hidden scenes in Rotterdam;
- an exploratory study of lifestyles, harm and tertiary prevention (information or education) among crack-smokers;
- a mapping of substance use by employees and a subsequent development of preventive interventions;
- education for making Moroccan parents susceptible to talking about problems of adolescent substance use and to stimulate their support for prevention and treatment;
- a multicentre study of the effects of anaesthetised detoxification ('breaking the vicious circle').

In 2000 the number of approved proposals increased to more than 40. Examples of new subjects are:

- peer prevention among adolescents from ethnic minorities;
- prevention and treatment of high risk behaviours in outpatient and inpatient youth care;
- relapse prevention in inpatient addiction care;
- parent support for prevention of addiction problems of their children;

- the needs of drug users from ethnic minorities outside regular addiction;
- implementation of care for dual diagnosis patients;
- diagnostics and inpatient care for addicts with attention-deficit and hyperactivity disorder;
- low threshold integrated care for chronic addicts.

A National Drug Monitor

A new actor in the field has been established in 1999 by the Ministry of Health, Welfare and Sport: the Office of the National Drug Monitor (NDM). The task of the office is to collect and summarise all qualitative and quantitative information relevant for monitoring the use of all substances (tobacco, alcohol and drugs). The office will produce annual reports (*Jaarberichten*) to inform politicians, professionals, policy makers and the public about the national situation with regard to substance use. English translations are available on the internet site of the Trimbos institute (www.trimbos.nl) for international use. Two annual reports have been published (NDM, 1999; 2000). NDM also produces three-monthly NDM Notes (*NDM Signalementen*) with evidence-based data on drug prevention and addiction care. The first issues have been published yet. Issues that deal with drug prevention and will be published in co-operation with the Development Centre Prevention (see above). These publications are also free of charge available on the internet.

Monitoring and available statistics

Various (collaborating) agencies in the Netherlands (cf. paragraph 8) collect data on addiction and substance use. Some conduct surveys (periodic monitoring) others have information systems (continuous registration of data). There are several large-scale projects concerned with monitoring addiction and substance use from a public health perspective that partly overlap (NDM, 2000). Some well known examples are:

- *The National Prevalence Survey (Nationaal Prevalentie Onderzoek) of 1997 and 2000, conducted collaborately by the CEDRO institute, the University of Amsterdam and Statistics Netherlands (CBS) among the Dutch population of twelve years and older*
- *The Monitor Alcohol and Drugs (MAD) from 1999 (other replications will follow the next years), conducted collaborately by the Trimbos-institute, the IVO institute, the Universities of Maastricht and Rotterdam and the Municipal Health services, among 16 to 70 year old people from several cities and regions*
- *The up to date seven Sounding Station Studies (Peilstationsonderzoek) conducted from 1984 on, conducted collaborately by the Trimbos-institute and Municipal Health Services among students of the highest grades of primary school and secondary school*
- *The Netherlands Mental Health Survey and Incidence Study (Nemesis) done by the Trimbos-institute in 1996, and replicated in 1998 and 2000 among a representative sample of the Dutch population of 16-65 years (psychiatric and addiction problems)*

The NDM also has to take into account the data generated by various branches of the state, such as the Ministry of Justice, the Ministry of the Interior and Kingdom Relations, and the Ministry of Finance. This includes information about:

- *Drug-related crime and nuisance such as violations of the Opium Act, property offences and violence offences, driving under the influence, drug use by arrestees and drug tourism.*
- *The number of addicts in the criminal justice system and the functioning of institutions for the care and treatment of these people.*

- *Production, distribution and trafficking, with information about issues such as drug sales, confiscations, supply lines and clandestine laboratories, etc.*

For this purpose, the Ministry of Justice has ordered an inventory of information sources and an assessment of the quality of the available information, as far as relevant to this particular department. The report was published recently. It offers a critical picture of the quality of judicial and police-related data, which is suitable for inclusion in the NDM report. Three types of data are considered as adequate: (1) the number of coffee shops, (2) the number of dismantled production laboratories for synthetic drugs, and (3) the number of Dutch citizens imprisoned for drug offences abroad.

The judicial authorities want to invest in the improvement of data collection. Sources of information that are still of inadequate quality but lend themselves to adoption include:

- *Number of drug addicts in touch with probation and after-care services*
- *Cannabis sales outlets other than coffee shops*
- *Number of dismantled cannabis plantations per region*
- *Scope of the availability of precursors for the production of illicit drugs (with reference to the country of origin)*
- *The amount of drugs confiscated in the Netherlands (by type of drug, quantity, region, etc.)*
- *Number of people suspected of drug trafficking*
- *Number of booked drug addicts, categorised by offence*
- *Number of recidivist drug addicts*
- *Number of reports about nuisance caused by drug users*
- *Number of convicted drug dealers*
- *Lengths of prison sentences imposed under the framework of the Opium Act*
- *Number of drug addicts in custody*

The NDM also has to present data on alcohol partly due to the discrepancy between the numbers of drug users and heavy drinkers and problems and costs related to these two habits. This has been done since the first publication in 1999. The government's policy document on alcohol (Alcohol Nota, 2000) contains suggestions for further expansion. We complied with this suggestion in the 2001 Annual Report in consultation with the Ministry of VWS.

Dissemination

Organisations, which receive reports from the NDM include the national government, local governmental authorities, the WHO (World Health Organisation), the United Nations, and the EMCDDA (European Monitoring Centre for Drugs and Drug Addiction).

Each year, we publish a statistical overview of addiction and substance use: the Annual Report. The second Annual Report of the NDM is now available, addressing cannabis, cocaine, opiates, ecstasy, amphetamines and amphetamine-related drugs, and alcohol and tobacco. It is not necessary that we repeat every subject each year.

Next year we shall also focus our attention on psychedelic mushrooms and possibly other 'smart drug' products, available in so-called 'smart shops'.

Aside from the Annual Report the NDM also publishes 'Fact Sheets' and short descriptions of evidence-based developments in the fields of prevention and care. This is done in co-operation with the development centres of 'Resultaten Scoren' (Getting Results), an initiative

by the addiction care sector. These descriptions are intended as educational material for workers in the health care field, but also for a broader public. The latest edition is dedicated to methadone maintenance treatment.

Background studies are also on the list of activities. Supplementary to the 2000 Annual Report, a background study on addiction and substance use by immigrants residing in the Netherlands has been published, with the title "Immigrants and Addiction Care".

Support for improvement of drug prevention

In 1998 the National Support Centre for Drug Prevention (LSP) has been installed (see 8). The main task of this Centre is to support organisations and professionals in the field of drug demand reduction and to co-ordinate the implementation of improving the quality of drug prevention. The National Focal Point and the LSP closely co-operate and share responsibilities in overlapping activities such as data collection and training of professionals.

Support for improvement of addiction care

The appointment of an extraordinary professorship at the University of Amsterdam ('addiction behaviour and evaluation of care') is an indication of the perceived interest in stimulating good practice in the addiction field (Psy, 1999). This scientist observes insufficient use of results of scientific research in large parts of Dutch addiction care. His plans partly aim at stimulating 'good practice' in demand reduction. An important research subject funded by the research programme of ZON MW is the implementation of practice guidelines for effective addiction care (NWO/ZON, 1999). Main questions are: 'What is of primary importance to increase the acceptability of guidelines in the addiction field?' and 'What are effective ways of presenting these guidelines to this field?'

Grass roots prevention

The programme '*Going out and drugs*' will be continued. An updated report (Wetser and De Jong 1999) compiles and describes twenty existing standardised prevention activities that are considered examples of 'good practice'. The next step is to stimulate the implementation of these activities in the appropriate settings and places.

This community-based programme deals with prevalent drug use by youngsters in the Netherlands. Drug use is characterised as mainly 'recreative use' during weekends (most frequently cannabis). It aims at implementing a coherent approach of activities in and outside school and at home. Activities will be organised in different places where young people spend their time: coffee shops, discotheques, major musical events and other frequently visited manifestations. Local organisations should formulate a strategy (choosing the target group, the setting, the events or spots) and to select a rational intervention.

A wider scope on addiction

Though governmental actions to prevent smoking and alcohol abuse were manifest during the past decades, the recent explicitly stated government policy is new. The Minister of Health, Welfare and Sport has noticed that drug policy should include demand and harm reduction of alcohol and tobacco. Substantial evidence shows that individual and societal damage caused by these substances is much higher than drug-related damage.

The problem of comorbidity

Comorbidity (also called *dual diagnosis*) points at combinations of drug use and mental diseases.² Though this phenomenon is already well-known for a long time, there is little knowledge of concurrent problems, insufficient expertise on these dual diagnosis patients, and evidently a lack of knowledge of specific treatments that are effective. Research has pointed at the close relationship between addiction and mental illness, and that these problems may have equal or related determinants (see 9.2.1). *A current research project aims at psychometric evaluation of checklists and clinical judgement for psychiatric disorder in addiction care and to evaluate a stepped assessment procedure in daily practice of addiction treatment (de Jong, 2001). Another study is determining the effects of pharmacotherapy (methylphenidate) for patients with Attention-Deficit/Hyperactivity Disorder (ADHD) and addiction (De Jong & Carpentier, 201).*

b) Socio-cultural developments relevant to demand reduction

Historically, perceived dangers of drug use for public health and the call for severe legal restrictions are relatively recent phenomena. These phenomena became manifest due to the growing popularity and use of hard and soft drugs in the late sixties and seventies. In Europe, the Netherlands was probably the first country confronted with an excelleration of drug use and drug problems that have not occurred before.

Historical experiments are impossible, thus from a scientific point of view explanations of developments in the past remain problematic and are often based on analogous reasoning. It is certainly not easy to explain even partially the initial tolerance for the use of drugs in Dutch society during those years. We describe very briefly some important changes that took place in the sixties on several societal domains because these are often thought to be important for explaining this tolerance. Because some of these changes cannot were also present in other European countries – though somewhat later - specific situations and developments in the Netherlands should also be considered.

After World War II, when Europe had to be built up again, political priorities in the Netherlands were focussed on keeping wages and salaries at a low level. After the roaring liberation months, former religious ties that were diverse but strict in our country, were still dominant afterwards. Holland should be built up again. The organisation of Dutch politics mirrored this diversity. Political parties were called religious 'pillars' and in politicology the concept of 'pillarisation' was used (Lijphart, 1968; Downes, 1988). Dutch family and social life remained largely predetermined and the twains of different social strata never met in those years. During the 60s post war poverty was broken up gradually, economic resources spread among the population and Dutch society became somewhat more affluent. This somehow ignited other changes as well. At the end of the 60s and the early 70s changes also spread to non-economic domains. These years were marked by a socio-cultural revolution on several frontiers, resulting in an accelerating decrease of the influence of former religious networks during the 70s and 80s. Secondly, social interaction became more informal. Social barriers between different societal strata were lowered. Third, possibilities for higher education became more equally spread and accessible for those who were able and willing. Fourth, entirely new political parties were set up, stirring up the former political spectrum.

² This type of comorbidity is specifically relevant here. This concept is also used for combinations of more than one mental disorder. Though 'multiproblem' is also used this refers in general to combinations of mental disorders and other problems (such as poor parenting, violence, poverty, physical disease). The concepts 'multidrug use' or 'multiple drug use' refer to use of combinations of drugs (inclusive alcohol) (see also Nabben and Korf, 2000).

Perhaps the most striking changes were a sudden cultural and socioeconomic optimism, accompanied by experimental behavior on the individual level and of changes in different aspects (educational, political) on higher societal levels. A well known and often cited sociologist (De Swaan, 1986)) summarised this developments by saying that Dutch society had grown from an authoritative to a negociative system. Attitudes toward sexuality, religion, and the use of (soft) drugs became much more permissive compared to the 50s and before. Though many idealistic tendencies of the 60s and 70s are perceived as too extreme nowadays, restrictions by law of religious, sexual or drug issues are still not done (SCP, 2000).

c) Developments in public opinion

In former years it was highly uncommon for patients to evaluate received health care. Nowadays, satisfaction questionnaires can be found easily in most waiting rooms of policlinical departments. Evaluation of (mental) health care became a central theme in Holland. In 1998 the National Consumer Organisation (Consumentenbond) published the results of a survey among a sample of 1,500 members and concluded that the opinion of the Dutch population on health care was negative, and that mental health care was most obviously distrusted (Consumentenbond, 1998). A recent public survey among a representative sample of the Dutch population (N=2,000) compared public opinion on mental health care and addiction care (Nabitz et al., 2001). This was done in reaction to the results of the National Consumer Organisation and as part of the programme Scoring Results (see 8.2a). The response rate was 90% (1,800). Participants reported their opinion with a report mark (one to ten). Organisation of mental health scored a mean of 5,8 and addiction care 5,7, thus the evaluation showed a slightly sufficient result. The answers for mental health care were independent of demographic variables. For addiction care people with higher socio-economic status or higher education level were more positive. Besides this, those who were treated once for psychiatric or addiction problems thought more positively about these care sectors but the difference was not significant.

Public opinion toward hard drugs and hard drug use seems to have evolved fairly negative now. In 1995 more than 90% of the Dutch population rejected drug use, more than 60% wanted it to be prosecuted and compulsory treatment was favored by 55%. Public opinion polls reveal some support for a repressive drug policy partly due to publications of drug-related criminality, but these options are not endorsed by most political parties and intellectual circles. During the past decade public opinion has not resulted in prosecution and isolation.

Public opinion polls also show that a vast majority (95%) of Dutch people had no lasting experiences with drug-related problems. Still several cities nowadays have neighbourhoods with relatively high concentrations of dealers and users. Inhabitants have taken action against these developments by establishing watch dog services. This stimulated the municipal authorities to react. In several cities, facilities have been set up where people can report abuses and related nuisance (*Meld- en Regelpunten*). The aim is to diminish drug-related nuisance in co-operation with the police, street workers, and drug users themselves. An evaluation of four facilities is presented hereafter (see 9.2.2). *Recent data show however that public opinion in Amsterdam is more negative about drug related nuisance than*

elsewhere. During the past two years a growing number of residents of our capital think that young people are mainly responsible for general and drug related nuisance. Twenty percent of them want the police to take action against this nuisance of young people (Het Parool, March 29th 2001). It is generally assumed that drug related nuisance does not relate to cannabis use but to alcohol and for a smaller part to hard drugs.

Issues in political debate have to be separated from public perceptions although the two are not independent. Debates often refer to fact finding and discussion and when mass media messages offer a priori moral views on the drug issue, other voices are heard too. It is most commonly thought that repressive drug policy would be counterproductive. Discussions about pros and cons of our drug policy have recently been stimulated in a background document (Van der Stel, 1999).

d) New research findings

Cannabis

Gradually, research evidence is mounting, which suggests that cannabis or cannabis-related substances may serve as medicines.

- *There are indications that cannabis helps to combat pain, nausea and vomiting (for example in chemotherapy), and stimulates eating behaviour.[43] For more certainty in this regard, the results of the current study will have to be awaited.*
- *In Germany THC tablets are permitted by law since 1998 for the above-mentioned indications. Several American states have meanwhile also given the green light for the medical use of cannabis. At the Ministry of VWS, the Agency for Medicinal Cannabis (Bureau voor Medicinale Cannabis) was established on 1 January 2001.*
- *Little is known as yet about the possible uses of cannabis for multiple sclerosis, Parkinson's Disease, and other neurological disorders.[44]*
- *In the Netherlands a study is currently underway, investigating the use of cannabis for AIDS and cancer (Utrecht), and multiple sclerosis (Amsterdam).*

Benzodiazepines

Two studies are conducted on reduction of chronic use of benzodiazepine. Both are funded by the Health Insurance Board (Ziekenfondsraad). Publications will follow at the end of 2001 or in 2002.

In the first one, three strategies (a letter from the general practitioner, and dose reduction programmes, one by the GP and the other by the GP with group therapy) are evaluated to reduce chronic benzodiazepine use in primary care (Zitman et al., 2001). This prospective, controlled intervention study with repeated measurements will also publish a protocol for general practitioners for an individual approach of chronic users. Measured are substance use (clinical outcome and cost-effectiveness), withdrawal symptoms, delayed recall, quality of life, craving and psychopathology.

The second is a controlled cohort study among 1,343 patients of 16 general practitioners in a big town in the North (Niessen et al., 2001). Its objective is to compare the effectiveness of sending a letter by the GP with and without a reminder letter six months later. Initial measurement is repeated three times afterwards. This study further examines relationships between outcomes and dosage, demographic variables, co-medication.

Other new research findings are described on prevention and treatment in chapter 9.

e) Specific events during the reporting year

During the past five years an evaluation instrument (called the PRevention EFFectiveness Instrument or briefly the 'PREFFI') was introduced to guide, structure and improve the quality of preventive interventions (see 9.1). This instrument is a checklist for prevention workers in the health education field and it enables professionals to evaluate the effectiveness of preventive activities. In January the state-of-the-art of this instrument was discussed during a conference, organised by the National Institute for Health Promotion and Disease Control (NIGZ). During this conference awards were given to three 'best' health prevention projects. *An improved version of this instrument will be published with more attention given to issues of effectiveness.* The intensity of a preventive intervention will be elaborated in the guidelines and criteria will be formulated for prevention targets in order to be specific and measurable. In due time an internet version will be present.

The National Support Centre for Drug Prevention (LSP) and the Netherlands Mental Health Care Association (GGZ Nederland) have started prevention in coffeeshops. Future targets are supplying a training course for coffeeshop owners/workers and prevention activities targeting clients in these shops. A handbook is underway for prevention workers to facilitate prevention work in this field.

The past years the National Support Centre for Drug Prevention (LSP) coordinated drug prevention activities during the annual Youth Exhibition (*Megafestatie*). This exhibition covers very diverse aspects of youth life and attract some 100,000 to 200,000 youngsters. Participants in peer projects contacted young visitors of the exhibition. Prevention workers both from regular organisations and 'street workers' inform interested visitors on subjects such as violence and drug abuse. Computer games and electronic knowledge tests on subjects such as XTC or alcohol are used. In 2000 more than 10,000 young people visited the information stand, gathered information materials and played educational games. Additionally, an internet site related to the exhibition was visited by more than 1,000 youngsters.

A public campaign aimed at parents and their children to lower their thresholds to talk about drug related subjects in the family. The campaign used radio, TV, and youth journals. The name of this ongoing campaign is 'Don't fool yourself with drugs' (*Drugs. Laat je niks wijsmaken*). Targets are to stimulate information seeking on drugs and drug use among parents and youngsters and discussing about this subject within the family.

At the end of March 2001 a National Debate on Addiction (Nationaal Verslavingsdebat) was organised where two debaters were confronted with each other on the following subjects:

- *Addicted brains*
- *Tolerance in drug policy*
- *Gambling*
- *Antisocial personality*

- *Searching for help*
- *Drug use and its consequences*

The core of the debate was the opposition between biological viewpoints and psychosocial ones. The biological viewpoint was a taboo during the seventies and after but has in recent years returned from oblivion. It was a national gathering of almost all active people in Dutch addiction research and care and the formula guaranteed the possibility of an individual weighting of arguments in different issues concerning drugs and drug use.

In April 2001 the Netherlands Psychiatric Association (Nederlandse Vereniging voor Psychiatrie) organised a congress on addiction and psychiatry. A short summary of this congress states that the amount of contributions on addiction care fortunately compensate somewhat the current impopularity of addiction care in psychiatry. Several American scientists gave presentations on the etiology and risk factors of addiction. Some issues were: special treatment modalities for dual diagnosis patients, relationships between adult addiction and bipolar disorders and social phobia, and the interrelatedness of the 'junkie syndrome' and the antisocial personality.

f) Dissemination of information on demand reduction among professionals

Our description in chapter 8 shows that many organisations and institutions provide information to the general public or to anyone who is interested in drug policy, results of drug research or the state-of-the-art in drug prevention and addiction care. Only some of them are directed to specific groups. The Drug Information Bureau manages a drugs information telephone line, where people can talk in confidence about their problems and possible solutions. Furthermore the bureau is responsible for mass media campaigns directed to specific target groups. In the field of public health at least a hundred telephone help lines exist and in the field of addiction there are seven of them, varying from a help line for drinking problems (*de Alcohol Informatie Lijn*) to a special help line for parents of whom their children use drugs.

A nation-wide or regional strategy for dissemination of information on drugs and demand reduction does not exist. The start of the National Drug Monitor can be seen as a strategy to centralise (dissemination of) information on these subjects (see 8.2a). *There exist however a national register of current alcohol, drugs, and tobacco research. The hard cover publication is updated every two years (Schippers & Broekman) and recently an internet version of this register is available (www.beta.nl). It offers titles, authors, abstracts and addresses of Dutch and Belgian drug research divided in several categories:*

- *(policy and economical research*
- *medical, pharmacological, and nutritional research*
- *psychological and sociological research*
- *epidemiological research*
- *registration and evaluation of treatment*
- *registration and evaluation of prevention*
- *developments of research instruments.*

9 Intervention areas

In the Netherlands we have no current and reliable overviews of *specific* activities in prevention and treatment in addiction care, though some insight in *types* of activities is available (see also 8.2).

For drug prevention overviews are published presenting categories of targets, target groups of drug prevention programmes per organisation (Wychgel, 1998; Warmenhoven, 1998). Both surveys were restricted to two organisations that were assumed most important: regular organisations of addiction care (*Instellingen voor Verslavingszorg*) and Municipal Health Services (GGDs).

About 400 preventive activities were mentioned. Analyses showed that more than 50% of the preventive activities within GGDs were school-based. Other drug-related activities are infrequently done by GGDs (for instance 8% mentioned 'stop-smoking' programmes). Regular organisations of addiction care mentioned school-based prevention less frequent (16% of their activities). On the other hand several other activities were done: 16% expert training, 10% general health education, 8% activities aimed at drug prevention outside school, and another 8% on immigrants. On the other hand, prevention of smoking, drug use and alcohol use is done by 90% of the GGDs and 70% of the IVZs, which indicates that school-based prevention is the core of prevention in the Dutch addiction care system.

However the activities are diversely defined. Mostly these descriptions point at (parts of) prevention programmes and rarely to more specific activities. Thus it still remains largely unclear what specific preventive activities are used in these two organisations. Today a computerised registration system is built up by the Netherlands Mental Health Organisation (GGZ Nederland) that should give more insight in demand reduction. Until then, the problem of non specific descriptions of interventions remains. One of the targets of recent strategies to enhance an evaluation culture in drug prevention and addiction care (see 9.1) is to stimulate specific descriptions of interventions, thus enabling proper evaluation.

Experts usually know about many treatments that are in use but this knowledge is mostly incomplete, implicate and not empirically checked. In 1996 the NeVIV (nowadays GGZ Nederland) funded research that offered general insight in 'products' of addiction care in the Netherlands (Bless and Freeman 1996). An overview informs about available categories of interventions in drug prevention and addiction care in terms of available 'product groups' and 'products', the respective target groups (addicts, intermediary groups, risk groups, the general population or the government) and finally the targets set by each productgroup (see overview below). Not every group or product will be carried out entirely in every organisation. The diversity of available products in outpatient addiction care is greater than in inpatient care.

<i>Product group</i>	<i>Products</i>	<i>Target group</i>	<i>Target</i>
Outreach work	field work, early intervention	addicts	to stay in touch with socially isolated addicts, to bring in contact with addiction care
Daily care	home care, day care, night	addicts	easily accessible

	care, low threshold services		care
Crisis intervention	emergency support, crisis intervention	addicts	neutralise crisis situations
Support	outpatient support and programmes, rehabilitation support, probation services	addicts	support for social skills or life skills
Preparative care	pre-clinical treatment programmes (intramural motivation centres), Drugfree Departments, correctional working projects	addicts	preparation for (clinical) treatment
Treatment	inpatient care, parttime care, maintenance treatment, poli-clinical care, outpatient care	addicts	stopping addiction
After care	after care contacts	(former) addicts	relapse prevention
Rehabilitation	training and courses, supported housing, supported employment, employment assistance, educational working projects	(former) addicts	societal participation
Consultation	advice and consult	intermediaries	advice on proper addiction care
Coördination and tuning	case-management continuity of care management	intermediaries	tuning addiction care to other services
Training	training and courses	intermediaries	increasing knowledge, skills, expertise
Prevention	drug prevention, harm reduction, health prevention	risk groups, general public	preventing drug-related problems
information, education, advice	consulting hours, information offices, projects, campaigns, leaflets, brochures, etc.	general public	increasing, knowledge, recommendations
policy-directed information	policy research, consultation and advice	government	knowledge dissemination, diffusion, recommendations

(Source: Bless en Freeman, 1996)

Within the described categories differentiation and specification is possible. Examples of specifications for rehabilitation are: supported employment, supported housing, educational-workprojects. Prevention of infectious diseases can be syringe exchange, condom supply; and specific products are developed for addicted immigrants and women. *Treatment modalities including those concerning relapse prevention strategies are diverse and have recently been*

expanded with two additive possibilities: using naltrexone for relapse prevention and immediate detoxification under anaesthetics among opiate addicts. Finally, the experiment with medical heroin prescription for treatment-refractory chronic opiate addicts might be considered as an additional form of maintenance treatment or maybe 'palliative addiction care' is a better description.

The specific activities differ regionally and locally. A nation wide registration of supplied products of drug prevention and addiction care, with specified intensities (frequency, duration and training of practitioners) and quality (existing evidence, guidelines, 'good practice') does not exist, nor in outpatient nor in inpatient care. *During a congress organised on June 7th 2001 by the independent Foundation Evidence Based Addiction Research the importance of solving this problem (amongst many others) was stressed, especially the lack of exchange of experience among professionals in medical addiction care in Dutch addiction care. Medical addiction care has always been a low status activity, practitioners suffered from a lack of professional identity, and professional education should be improved. Until very recently addiction has not been recognised as a chronic disease. Dissemination of new results of neurobiological research is necessary but these results will have to be accepted before they might be adopted. This dissemination and implementation problem is even manifest in the United States where the bulk of this research has been conducted. The Netherlands will also have to deal with it somehow (Schoemaker, 2000).*

9.1 Primary prevention

In short, some general insight exists in intervention areas (typologies of interventions or product groups) but other inquiries will be necessary to determine more specified preventive and curative interventions that are used in our country, and for whom. *It is generally considered necessary in the next future to specify what is done, how, for who in order to enable measurement of effectiveness, 'quality' or 'good practice' (see 8.2a).*

Enhancing an evaluation culture

Contacts with drug prevention professionals give the impression that evaluation of preventive activities is not often done. We assumed that evaluation is still not sufficiently conceived as a necessary condition for improvement. This impression has recently been supported by a Bolier and Cuijpers (2000) in their report on effective drug prevention (school-based, family-based and community-based). The appendix gives an overview of drug prevention projects in the Netherlands and also presents whether these projects have been evaluated or not. A total of 134 projects (100 school-based, 22 family-based and 12 neighbourhood-based) could be analysed. Most evaluations are process evaluations. The products of ten evaluations (determining the effects of drug prevention) were reported, seven product evaluations were planned and nine were implemented. For many projects data on evaluation lacked. When asked for this deficit, professionals mostly refer to a lack of time and money for evaluation research. The main reason might be however, that prevention professionals often accept too much projects mostly out of respectable idealistic motives. The effect is a bulk of ill defined projects and/or unsystematically described project plans and progress reports. This situation results in an insufficient empirical basis for evaluation. Therefore, one of the points of attention of discussions during our training sessions has always been a defence for restriction of projects so that these might be more thoroughly developed and described. Another discussion point has been the necessity of less ambitious, thus attainable objectives.

During the last five years, professionals in the health education field have increasingly been using an instrument that enables professionals to structure their activities and to evaluate the effectiveness of preventive activities in health care in general. This instrument is called the PRevention EFFectiveness Instrument or briefly the 'PREFFI' (Molleman et al., 1995; 1999; Hommels and Molleman 2000; Peters et al., 2000). This instrument is a guideline to structure and improve the quality of preventive interventions. It is derived from scientific insights and adjusted to daily practice in health care. Reading the documents, the PREFFI looks rather laborious and maybe for this reason professionals in the drug prevention field utilise this guideline less frequently than was expected. *At this moment the initiating organisation (the National Institute for Health Promotion and Disease Control) is working on improvements of this instrument.*

In our country there are approximately 150 professionals working in the field of prevention of substance (ab)use as well as some fifteen coordinating individuals. Sixty prevention professionals (40%) including several program leaders or prevention managers participated in six training sessions in 1999. The answers on our introductory question (existing experience in evaluation practice) confirmed our initial hypothesis. In general, professionals in drug demand reduction seldomly evaluate the results of their projects or programs in a systematic way. Second, process evaluation is conducted far more often but rarely described in a systematic way. Even after the introduction of the PREFFI in 1995, summative evaluation is not yet part of Dutch drug prevention culture though some betterment is underway. Annual prizes for best evaluated projects are meant to stimulate the implementation of systematic evaluation.

This situation lead to the construction and use of a very brief 'minimal evaluation kit' (MEK) instead of more laborious instruments. During the closing discussions of training sessions with the MEK, participants (about forty percent of the practitioners in the Netherlands) showed enthusiasm about using it. Although the negative image of evaluation may have been corrected somehow during participation, resistance against evaluation has not been removed in this field. The telephone help desk of the National Support Centre for Drug Prevention (LSP) serves as a monitoring tool for evaluation. First, practitioners were

asked to contact the help desk in case of problems with evaluation of projects. Furthermore, we contact professionals about projects that are insufficiently or inconsistently described. *In practice these contacts remain rare. At the beginning of 2001 a second round of training sessions was organised but less than ten participants could be registered.*

9.1.1 Infancy and family

Prevention in the family:

An increasing number of the organisations of outpatient addiction care offer free of charge courses on drugs and drug use to parents. These courses (mostly two meetings) are either part of a community approach or simply a separate family intervention for interested parents. Parents who think that their children (might be prone to) experiment with cannabis, are invited to attend. During the sessions information is given on parenting techniques and on the risks of drug use. A considerable amount of time is spent on emotional debriefing of experiences with drug use of their children.

Interviews with experts showed that in general effectiveness might increase when family-based programmes are part of larger community-based programmes. Other advantageous factors for effectiveness are: specific adaptations for (sub)cultural groups (ethnic minorities or refugees) and developmental level of parent and child, try outs for adaptation of treatment intensity, booster sessions adapted to the needs of the target group, interactive techniques (role play and modeling), training of the programme workers, evaluation and adjustment (Dusenbury, 2000). This does not mean that the effects of family-based drug prevention are clear-cut. Up to now the evidence for effectiveness of family interventions is still insufficient to justify broad-scale implementation (Cuijpers and Bolier, 2000).

9.1.2 School programmes

A recent Antenna report of the Jellinek, presenting changes in preferred drug use in and outside school among young people in Amsterdam (see hereafter), shows that although students who already used cannabis estimated their own knowledge slightly higher on average than non users. Many of them however, acknowledged that the information rate on drug related affairs could be improvement (Korf et al., 2000).

School programmes offer prevention activities that might increase knowledge of drugs and drug use. Knowledge about these subjects are assumed to influence drug related behaviour but research shows that the evidence for this conclusion is insufficient. In some cases it might also lead to an increase in drug use (Van Gageldonk & Cuijpers, 1998).

Programmes presented by the police force

In some bigger cities school-based prevention projects have been set up under auspicien of the local police. *It should be noted that the Dutch 'police programmes' are quite different from the DARE-programmes in the United states that have been proven ineffective by several studies.*

Some programmes are directed exclusively at children in the highest grades of primary schools in different cities (e.g. the project '*Doe effe normaal*' in Rotterdam), others at pupils of primary and secondary schools in Amsterdam. These educational interventions have not been systematically evaluated. Yet, the content of the message of the first prevention program has been adapted recently because it aroused too much fear in children.

The Healthy School and Drugs

In the Netherlands, schools are required by law to provide students with information on health issues. One of the topics often included in the curriculum is substance use. In the nineties, regional and municipal health services co-operated with the Trimbos Institute programme *The Healthy School and Drugs*. This programme already exists ten years and it aims at assisting primary and secondary schools that are willing to devote structural attention to drugs and gambling. *The components of this programme are:*

- *a series of lessons combined with individual, classroom- and group exercises*
- *a guideline for school policy on drugs*
- *spotting problematic drug use of students and organising support actions against it (tutors, trusted intermediaries, etcetera)*
- *parent participation and support*
- *a co-ordinating steering group (information, co-ordination, priority setting, evaluation)*

In 1998, more than 50% of all secondary schools in the Netherlands participated in the programme and implemented at least some elements of the programme in their curriculum. In 1999 the participation rate has increased to more than 70 of the schools. In 1998 the programme also introduced new teaching material (a booklet 'What to expect from XTC', brochures, instruction cards and a teacher's manual) for secondary schools for retarded and disabled pupils aged 12-18 and new material for schools with a considerable number of immigrant pupils.

Programme activities are the responsibility of school personnel and support is given by professionals from Municipal Health Services and organisations of addiction care. The Trimbos-institute takes care of advice, consultation, training, education, and publishes and disseminates printed and audiovisual materials.

The programme has been evaluated with a control group design. The evaluation report shows that the combination of an informative and an individual approach has generally been effective though the effects were small.

There is a significantly higher level of knowledge about alcohol and cannabis among students in participating schools. The awareness about the risks of alcohol and drug abuse has also increased significantly. It also appeared that the frequency of use was reduced among various groups of pupils, and the intention to use these substances was lowered at participating schools. The frequency of smoking decreased for girls after three years, but for boys the effect was negative (the experimental group smoked more often than the control group). The effect on tobacco use was significant only during the first year, whereas for alcohol and cannabis this effect persisted during the entire three year period. It should be noted that in all groups the use of tobacco, alcohol and cannabis had increased through the years. The effects represent a significant smaller increase of the use (compared with the control group). Continuity and clarity of preventive information are most probably the most effective elements (ResCon, 1999).

The evaluation of this programme also focussed on the implementation phase. Examples of obstructing factors for the implementation were: little support from school personnel or incomplete or inadequate performance of the activities (lack of motivation to use the manual or follow a training session) or the lack of visible effects for the teachers. These factors will be reduced for a further increase of the effectiveness.

Existing publications are: a handbook (in English), a leaflet and a fact sheet (in Dutch, the fact sheet is to be published in English), and a book for students (in Dutch and English)

(cf. Loof and Rensink, 1998; 2000). *Several booklets, for instance those for pupils, were renewed in 2001. Furthermore, the programme's website (www.drugsinfo.nl) has been renewed too.* The programme is to be extended to 2002.

School policy: a focus on student health issues

In 2000 an Action Programme for School Health started that was funded by ZON and aimed at exploring the conditions for implementation of a (broader) school health programme in primary and secondary schools in the Netherlands. Targets are based on present school practice, and priorities of students and parents, especially those of immigrants. Priorities of methods and preventive strategies will be settled on available scientific evidence of effectiveness. Interviews and a survey among school management, student mentors and teachers is meant to specify needs for support to implement health policy. In December 2000 a conference is held to evaluate the results with representatives of educational and health organisations.

Guidelines for dealing with drug use among students

During meetings of the project Healthy School and Drugs some teachers declared that they regularly suspected that some pupils had used drugs while attending school. Teachers may not always notice this or may be reluctant to correct this behaviour. These situations can easily create acceptability and initiate new norms at school. Co-operation between the Municipal Health Service (GGD) and the local police of a coastal town has resulted in two published series of rules or guidelines for dealing with drugs. One for secondary schools and a second for social workers and youth care (Platform Verslavingszorg Katwijk, 1999a; 1999b). The idea is that such guidelines can alter this situations. When teachers use it uniformity in their reactions to these behaviour of students would be easier. These guidelines deal with laws, judiciary rules, proposals for rules in school, time schedule and places where the rules are to be obeyed, proposals for support or sanctions when students break these rules. Although this method is apt to cause serious discussions, this is – in the conception of the authors a necessary condition for change. *Up to date the use of these guidelines was not evaluated.*

Interviews with experts in the field by Dusenbury and Falco (1995) showed eleven factors that might enhance effectiveness. School-based programmes can best be combined with family-based programmes, and mass media campaigns. This implies a type of community-based programme. Other advantageous factors for effectiveness are: specific adaptations for (sub)cultural factors and developmental level of the adolescents, training in personal and social skills, social resistance training, try outs for adaptation of intensity and booster sessions (more than 10 sessions during the first year and more than 5 in the following year), an active role for the students in the programme (Tobler and Stratton, 1997), training of the programme workers, evaluation and adjustment (Bolier & Cuijpers, 2000).

9.1.3 Youth programmes outside schools

'Going out and drugs'

The bulk of current drug use by youngsters in the Netherlands can be characterised as recreative drug use, mainly during weekends. A number of on-the-spot activities were organised at places where youngsters spend their free time, have been established. In 1998, the Trimbos Institute developed a comprehensive approach and launched a working plan called 'Going out and drugs' (*Uitgaan en drugs*). In co-operation with the Ministry of Health,

Welfare and Sport and a number of regional organisations, a plan was developed to structure demand reduction activities by developing effective activities for different settings outside school where youngsters use drugs, such as coffee shops, discotheques and places where major annual musical events are organised. Activities are to be adjusted to the local situation and ought to keep pace with the dynamics of youth culture and current hypes in drug use. *Three life spheres are assumed to be highly influential in youth: school, outside school (peers and leisure) and at home (the family). Twenty activities are part of this comprehensive programme. Those meant for outside school are: a covenant with coffeeshops that is meant to commit the owners to drug prevention activities, prevention educational course for personnel of coffeeshops, preventive activities in coffeeshops, prevention policy for youth work, development of preventive methods for children of immigrants, regional public campaign. Meant for use in school are: supporting coherence between the activities, drug prevention lessons, spotting drug users and guiding them, making agreements, parent participation, the use of trusted students, resistance training, and premature school-leavers. Furthermore there are parent courses 'talking about drugs', support for immigrant parents, educational materials and finally preventive activities for inpatient youth care.*

Annual youth exhibition

The National Support Centre for Drug Prevention (LSP) has coordinated drug prevention activities during two recent annual Youth Exhibitions (*Megafestatie*). This exhibition covers very diverse aspects of youth life and attract some 150,000 to 200,000 youngsters. Participants in peer projects contacted young visitors of the exhibition. Prevention workers both from regular organisations and 'street workers' were informing interested visitors. Computer games on subjects such as XTC or alcohol and electronic tests of knowledge on drug-related subjects were used. In 1998, around 18,000 young people visited the information stand, talked to consultants, gathered information materials and played educational games. More than 2,500 completed a questionnaire. In 1999, an Internet site related to the exhibition was visited by 1,800 youngsters.

9.1.4 Community programmes

The international literature shows several examples of carefully designed and implemented effect studies of community-based health prevention programmes. A recent and well known example is the six-year Midwestern Prevention Project in the Kansas City Area and in Indianapolis (Johnson et al., 1990; Pentz et al., 1989). Although the interest in full-fledged community programmes is growing, a scientifically sound determination of the effects of these programmes remains a difficult and expensive adventure (Cuijpers, Vollenbergh et al., 2000). Therefore, programme evaluation of community prevention is still rare in the Netherlands. In our country, such programmes predominantly cover neighbourhoods instead of entire regions or large urban areas. *Experience of professionals of the Jellinek with drug prevention in neighbourhoods in Amsterdam are compiled in a brochure with guidelines (Jellinek, 2000).*

Amsterdam neighbourhoods

Some of preliminary community programmes were organised by the Jellinek Centre in Amsterdam. The first, in the Westerpark district, focused on alcohol. Other programmes set up in other neighbourhoods also included drug use. In Eastern Amsterdam a 'multi-

participant' approach was followed, involving coffee shop owners, police, and neighbourhood organisations of ethnic minorities. A special group worked on co-operating with key figures from the community. Schools are given information materials and social workers are assisted to set up courses in self-regulation for youngsters. Young people with many problems are contacted by youth care workers at an early stage. In case of problems of social inconvenience or nuisance related to drug use, the role of the police becomes more important. Demographic data of this district help to make choices for a package of neighbourhood specific interventions. Ideas about choices were first discussed with key figures in the community and modified according to their experience.

In another neighbourhood the European Commission funded a community project mainly directed at youngsters. Local research has shown that experimental drug use is considerably higher among students of a pre-vocational school than among their peers in general education. Teachers are trained in methods to spot these students and to talk with them. At the same time, attention is given to problems related to alcohol and drug use in various other locations (coffee shops, pubs, community centres) in the district. For this purpose, different materials are used. GP's working in the district are invited to attend the training courses that enable them to better spot problematic use of drugs and alcohol at an early stage.

A youth-directed community programme

A three-step experimental community-based (i.e. neighbourhood-based) programme has been evaluated (Brommet, 2000a; 2000b). Target groups (and interventions) in this project are: 1) youngsters (16-20 years) who regularly visit a youth joint in the neighbourhood (peer produced video show on the risks of alcohol and drug abuse); 2) intermediaries, i.e. youth workers, volunteers, the municipal police, the neighbourhood council, and other stakeholders (training course on attitudes to alcohol and drugs and skills in observing abuse); 3) local residents (a special information day co-organised and performed by youngsters). Side effects of this project should be, gaining support for co-operation between organisations that have interests in youth problems. Unfortunately the quality of this programme was insufficient to determine effects. Afterwards it was concluded that targets were insufficiently specified and only a small part of the neighbourhood youth was reached (visited the video-construction sessions). Training courses were followed by all youth workers who unanimously affirmed the importance of the methods and content. Effects on the young residents on, knowledge and attitudes of alcohol and drug abuse, could not validly be determined due to a considerable drop out rate. The effects on expertise of the intermediaries also remained unknown.

Local facilities for nuisance reporting and public care

Complaints of residents (private and business) living in the vicinity of spots where drugs are used or sold resulted in nationally funded, local facilities for nuisance reporting and public care (*Meld- en regelpunten*). Four of these low-threshold facilities in four different cities have been evaluated. Targets were the registration and monitoring of public nuisance and drug-related nuisance (complaints of local residents), and an evaluation of the effects on drug-related nuisance.

Neighbourhood surveys in these cities showed that 50-65% of the 709 participating residents were victims of petty crime last year (theft, violence or vandalism), and 30% to 70% experienced drug-related nuisance (due to drug use and dealing).

The facilities were known by 70% of all local residents (mean). In one neighbourhood only a quarter of the residents knew about these facilities. The willingness to report nuisance

varies over the 4 neighbourhoods: 19%, 65%, 32%, and 24%. It is concluded that thresholds should be lower and facilities be made more widely known. The number of reports over six months for the three facilities that could afterwards be evaluated was 31, 29, and 20 (anonymity made interviews within the fourth facility impossible). The number of complaints were respectively: 60, 110, and 57. Reported nuisances were not trivial but dealt with serious matters. Fear of victimisation makes anonymity of reporting nuisance of primal importance for residents. Reported nuisance was exclusively drug-related at three facilities and referred to other types of nuisance as well in the fourth. In general residents were satisfied on their personal treatment and the choice of solutions. Most reporters kept in contact with the facility during three months after reporting. However, the answers of this group revealed that feedback have to be improved in future years. One third to fifty percent of this group was dissatisfied with the information about progress. Nuisance is reduced after three months in the three evaluated groups (a reduction of 71%, 83%, and 50%). In one neighbourhood half of the registered drug-related nuisance has disappeared (Koeter et al., 1999).

Drug specific communities: cocaine

An exploratory study in crack using communities in the city of Arnhem aimed at patterns of use by this target group, regulating mechanisms for crack use and factors (user and setting) that influence crack use. Five community workers who participate in the crack scene were able to give insiders-views on several aspects: 1) characteristics of users; 2) characteristics of two settings; 3) crack use in a shelter for homeless and drug users, including a user room (Blanken et al., 1997). These community workers co-operated in discussions on the feasibility of the project, the measurement of user characteristics (participant observation of the workers and self rating with the craving checklist), and on gathering information on craving among crack users. Both these workers and the participating users were paid for their co-operation. Observations were mostly done in the afternoon and lasted 2 to 72 minutes. In total 84 users were interviewed a few hours after observation. Homeless users were evidently dominant in the shelter. These were older (mean age 37,4 years) than users in the street and short episodes of use were more frequent. Smoking crack was prominently observed in the shelter for homeless and users. On other spots a combined use of crack (pipe) and heroin (aluminum foil) was most frequently observed. Craving, interpreted by users as the intention to continue cocaine use, was most prominent among users in the shelter. The majority already smoked cocaine from the late eighties on and all of them had experienced periods of serious complaints (physical, psychological, social), and had financial or judicial problems caused by their drug use. In the shelter, crack use was most frequent (daily) and related health problems most severe. The impression was that this group of crack users was the least structured in their life style and predominantly occupied with crack use. The shelter does not limit opportunities to use crack and might increase recidive for this group. The necessity of regulation of crack use was most apparent in the street. On the other hand, users in the street reported more drug-related criminality than shelter users. It was recommended to limit the opportunities for use in the shelter somehow, to stimulate crack users to regulate their use and to inform users about ceiling effects in the pleasure of crack use ('the first base is the best').

In a second study with an analogous design, 183 crack smokers in another city (Rotterdam) were observed and 172 interviewed afterwards. Their history of drug use was equal to those in Arnhem and this study showed largely similar factors that regulate craving and crack use (Barendregt et al., 2000). A majority used crack combined with heroin, methadone or cannabis during the month before the interview. The authors suggest that

differences in regulation capacity in different settings are a result of self selection. They conclude that harm reduction measures for this target group are most appropriate. Examples are restrictive house rules for shelters, health measures, and housing.

The report of an expert meeting on peer support for adolescents in multicultural neighbourhoods, specified concepts that are often used, described the peer method for preventing drugs and alcohol use among immigrant adolescents, presented some results from experimental projects and some guidelines (FORUM, 2000).

9.1.5 Telephone help lines

The Drug Information Line

- *A special national telephone service, the Drugs Information Line, started in 1995 and the take-off for its adjacent website was in 1996. Anyone who needs information about drugs and drug-related issues can call the Line or visit the site. Leaflets are sent by postal service on request.*
- *The table below presents a short overview of frequencies of use over the years presented in the annual report of 2000.*

	1996	1997	1998	1999	2000
frequency of telephone calls ¹⁾	26.150	32.500	28.600	35.300	35.800
frequency of website visits ¹⁾	---	26.500	46.500	80.600	115.600

¹⁾ Rounded off to the nearest hundred. Source: Kok (2001).

Most striking is the tremendous growth in visits to the website of the Drug Information Line (www.trimbos.nl), from 1997 till 2000 visit frequencies increased from 26,500 to 115.600 (equal to an increase in the mean daily visits from 74 to 335). Meanwhile, another drug information website is in its pilot phase (www.druginfo.nl). In the same period visits increased on all subjects. The subjects below are ordered from most to less frequently visited

- *general information page (19.696)*
- *what everybody should know about drugs (15.054)*
- *XTC (11.775)*
- *Hash and weed (11.126)*
- *characteristics of specific drugs (9.324)*
- *cocaine (7.607)*
- *heroin (6.683)*
- *mushrooms (6.577)*
- *ecodrugs, smartproducts and smartdrugs (5.871)*
- *speed (5.434)*
- *your child and drugs (4.843)*
- *sleeping pills and sedativa (4.243)*
- *questions about drugs (4.032)*
- *LSD and comparable substances (3.298)*

A Voice Response System (VRS) enables telephone callers to choose between four options:

- *ordering leaflets on specific drugs, including packets with several leaflets*

- *listening to an automatic information program on drugs*
- *requesting specific information on drugs (this implies an automatic connection with the nearest organisation of addiction care)*
- *a personal talk with a worker of the Line (approachable from Monday till Friday from 13.00 p.m to 21.00 p.m.)*

Table 1 shows an increase of the frequency of telephone calls during the first year. It lowered in 1997 after the start of the website and increased again to a somewhat higher level compared with 1997 (35.800, a mean number of 100 calls a day).

From this calls, 9816 (27%) were personal talks, 5964 were registered and 175 of these were invalid (early ring-offs, technical trouble or callers remaining silent. In short, nearly 5800 personal telephone calls (16%) were systematically registered with a short questionnaire. These are analysed in the 2000 annual report.

In addition the registration system of the telephone company offers numbers and some characteristics of the VRS-menu choices made. Option 2 of the menu was chosen more often than in former years, especially automatic information service on hash and weed. Second comes XTC followed by cocaine. The interest in information about speed is waning.

In general women are using the Drug Information Line more often than men, and asked more questions about drug use of others. Drug users and students are the categories that were most frequently calling. Most telephone calls take less than five minutes (66%), only 5% of the calls last longer than 20 minutes. In 1999 this situation was the same.

Most questions were about drugs in general. Second are questions about hash and weed then XTC and cocaine. Risks of drug use are most asked for.

More than 41,500 leaflets were asked for in 1997. After a decrease in 1998 (34,000) this number has gone up again to something less than 38,000 in 1999. Most frequently the callers in 2000 ordered packets with several leaflets. Besides these packets, leaflets about two subjects were most frequently ordered: 'What everyone should know about drugs', 'Hash and Weed'.

In 2000 the Trimbos-institute organised a mass media campaign (*Drugs, don't fool yourself*) targeting adolescents and their parents. This resulted in a new leaflet for youngsters to be ordered via the Drug Information Line (mentioned in all media messages) and an increase of 50% of the calls in the two months of this campaign (February and November).

Questions about problems with *doping* became more frequent. In 1999 co-operation has started between the Netherlands Centre for Doping Issues and the Trimbos-institute. An experimental Doping Information Line has been started.

9.1.6 Mass media campaigns

Besides specially organised public campaigns on radio and TV, several addiction care institutions continuously spread leaflets, flyers, brochures, or handouts among those who are interested, in coffee shops and other localities, or these take care of regular advertisements in specific youth journals. The Jellinek is also working with these materials for foreign visitors (drug tourists) in five languages. All these materials inform about the do's and don't's of alcohol

and drug use, give the numbers of telephone help lines and the general alarm number for drug incidents.

Public campaigns

In 1996 and 1997 two mass media campaigns were organised in the Netherlands. First a cannabis campaign using various media to inform parents ('Get Informed!'). The campaign attracted more attention from parents who were already rather well informed than those who did not know much about cannabis. The second cannabis campaign was directed towards young users. This campaign was linked to existing demand reduction activities at both regional and local levels. The coverage of this campaign was considerably higher than the first campaign but the results remained unclear (De Weerd et al., 1997). Another recent example is an evaluation report on the use of leaflets that has been disseminated via organisations for drug prevention and care, youth care, the police and other judiciary organisations, psychiatry and social work (Visser, 1999). These leaflets were produced by the Jellinek Clinic in Amsterdam and dealt with several substances. The evaluation presents the opinions of intermediary organisations about clarity and length of the message, target groups that are reached most frequent (secondary school and higher level students, drug or alcohol users) and paths that lead to better information. It did not target at the effectiveness of this preventive action but merely served as a tool for efficient tuning these aspects of leaflet dissemination to relevant target groups.

We finally mention two more recent campaigns. In February 2000 the Minister of Health initiated the start of a nation wide new mass media campaign (*Slik!?*) to prevent substance abuse among youngsters and adolescents. This campaign was advertised by radiocommercials (popular youth channels), several journals and newspapers. Leaflets were spread over all schools and several other organisations. At the same time a video, undertitled in English and accompanied by an implementation letter for teachers became available. The first publicity peak was accompanied by interviews and comments on radio and TV and in the printed press that lasted a few weeks. These activities have succeeded in a renewed agenda setting of the item substance abuse among young people. However, additional local and regional activities in- and outside school, and in the family are necessary to stimulate behaviour change.

The second campaign on radio, TV, and in journals focussed on the subject of drug use in the interaction between parents and their children. Targets are to stimulate information seeking on drugs and drug use among parents and youngsters and discussing about this subject within the family. The name of this ongoing campaign (October 30th to November 12th) is 'Drugs. Don't fool yourselves' (*Drugs. Laat je niks wijsmaken*).

Two systematic reviews of Dutch and international research have been written targeting the effective elements of mass media interventions aiming at preventing or decreasing the use of alcohol, tobacco and drugs by adolescents (Spruijt-Metz and Van Gageldonk, 2000a; 2000b). Unfortunately, most effect studies show major shortcomings that preclude conclusions about effectiveness. Important but often difficult to overcome in studying mass media is the lack of control groups. Besides this, in most reports information about dose, intensity and duration is missing. Few studies have follow-up measures, which obscures insight in longer lasting effects of public campaigns. Most mass media campaigns are not theory-based, while serious tests of hypothesised mediators (such as perception of friends' tolerance of drug use) and moderators (such as grades, ethnicity, and gender) of programme

effects need to be undertaken. Furthermore, a special obstacle in mass media research is convincing the 'creatives' (designers) of media messages and gatekeepers of the importance of a scientific approach. Often the tasks of development and broadcasting of messages is separated from inquiry. Building viable bridges between the creatives, the media gatekeepers, the scientists, and the practitioners seems necessary.

TV serial

A serial on TV specifically for youngsters was dedicated to drugs ('Out of your mind'). One objective of this serial was to correct prejudice against drug use among young people. There still is considerable attention for extreme users while the majority of young people only use drugs now and then during weekends. Mass media messages often cause prejudiced views of drugs and drug use among TV watchers, especially parents. The serial did not aim at propagating drug use nor did it want to be paternalistic in its approach. Rather, the target was giving honest information about the pros and cons of drug use, thus trying to break the sheer negative myth on drug use and to stimulate young people and parents to talk about this subject. At the end of each programme session the telephone number of the Drugs Information Line is presented.

9.1.7 Internet

Today there are many sites to be visited on drugs. We restrict this paragraph to some examples.

At this moment the site of the Trimbos-institute gives access to the Drug Information Line (see 9.1.5), eight English fact sheets about drugs, to drug notes (the first note on 2C-B), and information about the Healthy School and Drugs (see 9.1.2). The site of the Drug Information Line contains general information on drugs and answers to frequently asked questions. Fact sheets give quick information about addiction care and assistance, and about Dutch drug policy in general and specifically aimed at cannabis, hard drugs, public drug-related nuisance, and education. This site also gives access to other organisations in the Netherlands and abroad that focus on drugs.

An internet site of the National Drug Monitor (see 8.2) is being developed to enable everyone to gain access to a nationally integrated database on drugs, on demand and harm reduction and on effectiveness of prevention and treatments.

Most regional organisations of addiction care (see 8) have their own sites to inform the public about their work, and some also deal with drug research. The site of the Jellinek also answers commonly asked questions about drugs.

An ambitious internet project is a national monitoring project on Public Health and Care in the broadest sense (Nationaal Kompas Volksgezondheid) developed by the National Institute for Public Health and the Environment (see 8). This site is meant to inform about health issues in general including mental health and drugs (Van Oers, 1999). The National Health Compass also includes addiction and addiction care. The client directed summary for addiction care 'Briefly and to the point' has already been inserted. Other more elaborate parts of addiction and addiction care in the Netherlands will be inserted during the coming years.

9.2 Reduction of drug-related harm

9.2.1 Outreach work

Most outreach work is carried out by low threshold services in outpatient care facilities (see 9.2.2). These services are active in street corner work offering daytime shelter in drop-in centres for street junkies and living room projects for drug-using prostitutes. Other target groups of these services are injecting drug users, extremely problematic drug users, and drug users from foreign countries (these are evidently not permanent residents). Outreach activities also feature in programmes for reducing drug-related public nuisance, which are often a joint venture between treatment and care facilities, police and civic groups. A new type of outreach work today is education 'on the spot' (i.e. where youngsters meet) applying peer-support techniques. Another one is developed at this moment and aims at drug using people who have been sentenced to stay a few months in prison (Mainline, 2000; see hereafter).

Pill testing

Since 1992, information on the composition (dose, ingredients) of synthetic drug preparations such as XTC pills has been produced by the Drugs Information Monitoring System (see 8). *Important questions that DIMS tries to answer are: What substances are appearing on the drug market?, What are the health risk of these substances?, and What are the trends in substance use? The ultimate objective of DIMS is to prevent health damage from overdose or toxicity. DIMS conducts toxico-epidemiological research and also studies the effects of substances reported by users. Drug samples are sent in or collected from fieldwork organisations and drug users or DIMS-participants. At this moment 16 participants are active in 26 cities. The pills are tested at affiliated offices or in a specialised hospital laboratory. Pills containing particularly dangerous ingredients, for example, XTC pills with high dosages of MDMA, have led to successful warning campaigns aimed at potential users. 'Danger' is determined by several predetermined factors such as characteristics, toxicity, dosages found, noticeable effects or dissemination of the samples. In case of dangerous substances other parties are also warned, for instance the Ministry of Health, Welfare and Sport, the Health Inspection, the National Centre for Information on Poisoning, First Aid Services, etcetera. In the near future Flying Brigades are probably started that will test pills on the spot, during festivals, dance parties, etcetera (Planije et al., 2001).*

Street work in general

An old but still existent example of outreach work is Mainline Amsterdam, a grass roots organisation of streetworkers. Mainline streetworkers actively seek and try to maintain contact with individual drug users. In informal contacts they avoid being (too) demanding to drug users. Contacts are primarily meant to get acquainted, giving support by loosely giving information about drugs, watching for trends in drug use, and trying to enhance abilities for self-help. Mainline is independent from regular organisations of addiction care. There is a magazine free of charge on the streets and leaflets about subjects as AIDS, 'The ABC of hepatitis', 'Self defense for women', 'Detox in a clinic' (with a list of addresses of clinics). Since 1994 a Mainline Magazine is distributed in Amsterdam, and nowadays also by drug users of local user groups in 20 cities (Korf et al., 1999).

Mainline established a prevention project specifically for female drug users. Their drop-in centre offers several services to this user group (for example hairdressing, theatre, workshops on safe sex, overdose training and counseling on contraception). During the first year this drop-in centre organised 45 sessions for 95 women. One third of them were never reached by any regular addiction care facility.

In another project two streetworkers offer assistance to drug users who are temporary in prison. The first results show much enthusiasm to contact these workers during hours that prisoners are free of obligatory activities. The target is also to maintain these contacts after release from prison (Mainline 2000).

Addicted prostitutes

Current care is not easily accessible for addicted females that earn their 'living' with prostitution. Two cities in the Netherlands have socio-medical care and supportive 'living room projects'. These types of prevention and care are also meant for other groups and often do not deal with acute problems but rather with longer-term solutions (treatment, abstinence). Most of the addicted prostitutes have also other problems and feel uneasy or unsafe in these locations.

Specialised social work service for addicted prostitutes in the streets was organised for the city of Rotterdam (PMW, 1999). The presence of a social worker on a fixed evening and regular visits during the day made it feasible to contact these women and to motivate and support them to change their lives. In 1998 48 addicted prostitutes (some with dual diagnosis or polydrug use) became client of this specialised social work. At least 26 have one or more children living elsewhere because they had to hand them over to youth care, ex-partners or family (see 9.6b). This service does not belong to regular addiction care. 38 women had contact with specialised addiction care (a 'living room') situated near the work spot. A third of this target group used methadone, another third did not, of the others this remained unknown. The impression is that these contacts are last resort contacts. In most cases, losing contacts with these care facilities means getting lost. Contacts with regular addiction care facilities are short-term and mostly occur during crises. Contacts afterwards are rare. The main target of this specialised service is to support or assist this target group in resocialising themselves: i.e. mediating between clients and guardians, renewing contacts with their children, referring them to regular addiction care.

Another project specifically meant for addicted prostitutes offers a regular and direct accessible day-and-night supportive care facility. Its targets are: keeping contact with this target group, offering solutions for acute problems, and working on a more continuous care provision. Also, adequate parts of regular care are selected to decrease acute emergency situations (housing, health, self control, finances, violence and violations). Finally, demand-directed care fitted to the personal needs of the clients is offered, trying to increase faith in possibilities of regular care and if this is possible trying to work slowly on more permanent betterment of the situation (stabilisation). Waiting lists are absent, though incidentally clients are temporarily refused. Most admissions are within one or two days. One third of these women sincerely tries or have tried to alter their life situation. Another third persist in trying to change their life style without succeeding up to now. More than half of the Time Out clients stayed in contact with the workers and/or used this special service more than once. Variants of Time Out activities will be carried out in other regions in the Netherlands as well.

Drug use of immigrants

Another example of outreach work is the experimental project for North-African drug users in Rotterdam of whom approximately 75% never visited regular treatment facilities. The risk of infectious diseases among North African drug users is high. Besides, in North African cultures one is not supposed to talk about drug use and sexual contacts. Preventive activities are sparse and these people are difficult to reach because they are often illegal inhabitants (this appeared to be true for more than half of the contacted people). Evaluation of an experimental peer support project among this target group gives some preliminary results. Field workers were not able to select female peers. Eight male peers were coached by field workers. They had contacts with 595 male drug users. More than 90% were multi-drug users. Amongst them were 76 foreign drug tourists and 22 users coming from other cities. Some 75% never had contact with regular addiction care in Rotterdam. Most probable this sample was biased but there were no data available to test this hypothesis. Furthermore, most contacts with drug users were once-only and the content of this contact remained unknown. The effects were and could not be measured.

Dual diagnosis

The number of dual diagnosis patients is assumed to be large. In mental health in the US authors report percentages ranging from 20 to 50 and for addiction care the range goes from 60 to 80 (Kessler et al., 1999). In the Netherlands comparable percentages are mentioned (Geerlings & van den Brink, 1995; De Jong et al., 1996). In several regional centres projects are initiated to take care of this target group (Noorlander, 1997; Huygen, Janson, Korteweg Verbeeke, 1997; van Weeghel et al., 1997; Lohuis Bosma, 1998; Nes, 1999; Polstra et al., 1999). Spotting dual diagnosis patients in psychiatric or addiction care is still suboptimal. The responsibility for these patients is insufficiently recognised by both fields. Patients are often wandering between psychiatry and addiction care and seldomly meet sufficient care for their problems. Continuity of care is absent and at the same time awareness grows that monotherapies (treating addiction and psychiatric problems differently and/or separately) are insufficient for helping these people and that a co-operation of mental health care and addiction care will be necessary to develop types of integrated care for this dual diagnosis group (Meeuwesen & Kroon, 2000).

Mental health workers are inclined to send people with dual diagnosis to addiction care and workers in addiction care promptly send them back because they can not handle psychiatric problems. In the Netherlands existent frontiers between systems of addiction care and mental health are still difficult to bridge though slowly these domains begin to co-operate. In Rotterdam a ward for inpatient treatment for dual diagnosis clients has opened in 1999. After half a year, workers in this ward were able to categorise these clients (Noorlander, 2000). Most of these clients are long-term addicts (15 years and more), 70% suffer from severe mental disorders (psychosis, affective disorders, anxiety disorders, ADHD, posttraumatic stress disorder, neurological disorder or Korsakov syndrom). 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 have financial problems, are 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 impossibility of finding help for these clients destined them to this ward.

Meeuwissen and Kroon (2000) developed a questionnaire with characteristics of dual diagnosis clients and sent this to a sample of 129 workers in the field that had practice in working with these clients. Half of the workers sent back filled in questionnaires on 241 clients. Results indicated that this group had serious problems. Forty percent received mental health care, 30% addiction care and another 30% care in an integrated care setting. Some 55% used alcohol more often than three times a week, 40% cocaine, 40% cannabis, a quarter heroine, 20% methadone and another 20% other substances (barbiturates, seresta, etcetera). Most of these clients are polydrug users. This client sample had severe mental disorders (GAF scores 41-50) but the mean score for psychiatric problems was less serious in addiction care. Besides substance use disorders, nearly 50% was suffering from schizophrenia or other psychotic disorders, or a personality disorder (DSM-IV). A quarter had a mood disorder and more than 15% an anxiety disorder. Most frequently called symptoms were: suspicion, anxiety, worries about physical health, depression, cognitive disorders and self neglect (Brief Psychiatric Rating Scale). More than 50% has committed illegal or criminal acts during the past six months, a quarter was dealing drugs, some 17% prostituted herself, 40% committed offences against property, more than 20% used violence, 16% has been driving under the influence, and more than 40% caused heavy nuisance.

Recently a systematic review study is published that gives an overview of types of casemanagement for chronic addicts and the effectiveness of these interventions (Wolf et al., 2000). Case management is meant for multiproblem clients such as those in the Rotterdam hospital ward (see hereafter). The report offers a typology of casemanagement and conditions for effectiveness (based on international publications). The scope of this study is broader than dual diagnosis patients and covers also exclusively addicted clients, homeless addicts, and drug use during pregnancy. The results of five effect studies (four with control groups) for dual diagnosis show that casemanagement has slightly positive effects on patients satisfaction, drug use, psychiatric symptoms, social skills, and utilisation of care.

An experimental project for people with dual diagnosis in the North-Eastern part of our country is of interest (Hofman et al., 1997). Patients were very difficult to treat in regular psychiatric care, therefore out of treatment but probably in need for after care at home. This group consisted of deprived persons (no education, partner or job and in several cases also a judicial career). Of the 26 clients, 24 had earlier psychiatric treatment. The frequency of contacts over the study period was different. 24 clients had less than 100 contacts and two more than 300. Half of these contacts were realised within the care organisation, the other half outside. During this study ten of these dual diagnosis patients were deregistered. Four of them were referred to regular psychiatric or addiction care. Based on these results this experimental special care will be continued as regular care in one Northern region.

Inpatient Motivation Centres

Finally, we have eleven Inpatient Motivation Centres (*Intramurale Motivatie Centra*), spread throughout the country (see also 9.3.1). Four of them were evaluated. The target group is clients who have failed several times to change their drug using behaviour during outpatient treatment and reluctant to start with in-patient treatment. They are not obliged to strive for abstinence nor to comply with some psychotherapy. Instead they are offered the opportunity to have some rest, regain their physical health somewhat, and think about their future. Meanwhile they are supported to learn social skills, and to structure their daily life with regular activities. It is assumed that all this will increase the motivation to enter regular care.

All four centres are situated in Amsterdam. Participants appear to be a small subgroup of all junkies that cover the city streets and already motivated to better their situation. Twelve percent belongs to a minority group, while 30% has been inscribed in outpatient care during the period 1988 to 1996. Minority people are underrepresented in this sample. One of the targets of IMCs is to reach people from minorities because these are under-represented in this sample and regular addiction care is not able to reach them. Participants in IMCs can be divided in two groups. The first group contains the older heroin addicts who are in bad shape and who have often been in a regular clinic before. The second consist of the younger and often criminal ones, mostly cocaine users. Their experience with regular care is less prominent and they participate more often because of judiciary coercion. The average drop-out rate is 60%, 20% within ten days, 50% within a month and 30% stays longer than one month and ends their IMC stay in dialogue with the workers (10% returns home with after-care, 20% goes to some follow-up treatment or care). Afterwards they need more intensive after-care than addicts in regular outpatient care. Addicts who are not motivated or willing can not be helped successfully.

9.2.2 Low threshold services

User rooms

In 1994 two large cities have decided to support drug consumption rooms or user rooms (*gebruikersruimten*) to reduce health risks for users, to reduce drug-related nuisance in neighbourhoods, to gain knowledge about the drug scenes, to motivate users for regular care, and to be able to keep in contact with drug users (cf. Meijer et al., 2001). These rooms are professionally run facilities where drug users can safely consume drugs (mostly the smoking of heroin and cocaine). In 1996 the number of these rooms has increased to seven in different cities and other cities follow these initiatives (Biesma & Bieleman, 1998a; 1998b; 1998c; Van Rooijen, 1999). In all cities local residents were associated with these initiatives. Extra surveillance is settled in advance with the local police force.

Though opening hours, admittance criteria and surveillance during actual drug use (a maximum number of users is permitted to use the room simultaneously) may be different, most user rooms are open all day and select drug users that are registered as treatment-refractory. Access is often reserved for users with an identity card. These measures are meant to keep others who can be motivated for treatment away from these rooms. Professionals of regular organisations of addiction care have an important role in these rooms. They are looking after the health situation of users by offering food and drinks, toilets and showers, informing them, giving advice, or taking care of clean syringes, condoms, etcetera (see also 9.2.3). Users often have a specific caregiver (Biesma, Bieleman & Visser, 1998). Dealing is prohibited. The pros and cons of these facilities have been discussed and their utility defended and doubted (De Jong 2000; Fromberg and Linssen, 2000). Settings of user rooms also differ. Some are independently situated, for instance between night shelters and outpatient care facilities. Sometimes a user room can only be entered via a 'living room'. Mostly however these rooms are part of an organisation of drug users or an existent day care facility for addicts (Biesma et al., 2000).

Several evaluation reports have been published indicating that in general user rooms meet their purpose (Biesma & Bieleman, 1998a; 1998b; 1998c; Biesma, Bieleman & Visser, 1998; Meijer et al., 2001). We give a short description of two most recent studies.

In the study of Biesma, drug-related nuisance was reduced substantially, specifically visible nuisance. The amount of addicts in the street decreased and so did the number of syringes found in the neighbourhood. According to the evaluators, the health situation of addicts was improved (a decrease of the number of drug using days per week) and addiction care gained more insight in the drug scene. A year after the start the initially general negative attitude of residents against drug users and user rooms has changed substantially. Nuisance caused by houses where drug dealing is concentrated, remained stable during the same year and so did public nuisance, i.e. neighbourhood degeneration, theft or feelings of threat (Biesma, 1998).

A second evaluation of the first three months of existence of a user room in a city in the Northern part of the Netherlands shows less favorable short-term effects. Potential public nuisance situations were reduced, drug related nuisance experienced by residents has not (yet) been reduced, and nuisance in the vicinity of the user room is partly reduced and partly stable. Heroin and cocaine use is reduced, but other substances are more often used than before, polydrug use has not altered. Card holders commit less criminal acts, are more satisfied with their situation but their health situation is not (yet) improved. The authors expect that improvements will take more time than three months (Meijer, 2001).

The cocaine experiment in Rotterdam

This current experiment builds on an earlier project in Rotterdam and its surroundings ('Take Five') for motivated cocaine users (Henskens, 1999). It is meant to motivate the group that is worse off, the multiproblem crack users. Is it possible to motivate these extremely problematic crack users for treatment and to keep them in treatment for a year thus improving their health situation and reducing public nuisance? The Dutch Health Research and Development Council funded this controlled experiment with 170 treatment-refractory crack users, that will be approached by intensive fieldwork. Half of this group will be randomly assigned to motivation treatment and the other 85 receive standard treatment from a separate research team. The control group will be told that they participate in an evaluation of the addiction care in Rotterdam to avoid turmoil. Both interventions last eight to eleven months depending on the time out period. Measurement takes place before treatment, and four and eight months later. The results of this experiment are not available yet.

9.2.3 Prevention of infectious diseases

Syringe exchange

In all major Dutch cities syringe exchange services are available. Participation is estimated to be high but anonymous and the actual total number of exchanges is unknown. Due to the upsurge of public fear for an Aids epidemic a decade ago public interest suddenly increased. During the past years both have decreased. Facilities for syringe exchange exist already more than ten years. Aids infections have decreased nation wide, though in Amsterdam these are still high compared to the rest of our country. Furthermore, most younger opiate addicts do *not* inject their drugs. Both developments might stimulate the national government to quit funding syringe exchange facilities. This report explored possibilities for maintaining and enhancing the quality of these facilities.

Today these facilities differ in type of drug users, exchange system (one-to-one or otherwise), the organisation (Municipal Health Centres, on streetcorners, etc.), syringe

prices, cleaning fluids, bleach, etc.). The sale of boxes with basic injecting tools stagnated and leaflets with information on syringe exchange are seldomly asked for. Satisfaction of users about facilities varied considerably regionally as well as locally and do not coincide with the satisfaction of professionals and researchers. A structural co-operation between Aids prevention organisations and syringe exchange does not exist. Relationships are historically determined and sometimes even appear to be competitive. It is recommended to maintain the same opening hours for syringe exchange. There are doubts about the effectiveness of the promotion of guidelines and quality assurance. Of primary importance for the use of syringe exchange facilities are privacy or anonymity, low thresholds and no top-down perceived rules, clear-cut constant opening hours, and accessibility. The group of opiate addicts is getting older, new members are rare. The use of several other drugs increases: cocaine, speed, benzodiazepines, barbiturates, XTC (combined with alcohol).

HIV tests

HIV counseling and testing for drug users is widely available. The Dutch AIDS Fund reports a growing intention to offer more actively *HIV-tests and treatment* to drug users. Treatments are not only expensive but also necessitate a minimum of patient discipline for not dropping out. Therefore it remains problematic how and for what subgroup (not only drug users) this could be realised and it still is uncertain which organisations will fund this operation.

Data from the Amsterdam cohort study showed that the percentage of injecting drug users that was tested for HIV increased from 29% (1989) to 50% (1998). Still an estimated 50% of infected drug users are aware of their infection. Earlier HIV test were more frequent among foreign users, among users with higher education level, users that had pneumonia, heroin users, prostitutes and users with a known HIV-positive partner. Injecting drug users who participated in a methadone programme or a syringe exchange programme were clearly less tested before (Langendam et al., 1995).

HIV prevention

Analysis of data of 339 injecting drug users on methadone in the Amsterdam cohort study revealed, that a steady increase of methadone dosage in a harm reduction setting may support injecting drug users in the process of cessation of injecting and in reducing the spread of HIV-infection (Langendam et al., 2000).

HIV treatment

High quality treatments for HIV are offered for those with stabilised drug use (maintenance treatment). Numbers are unknown in most cities. In Amsterdam approximately 30% of the infected users are or were treated (HAART or Highly Active Anti-Retroviral Treatment). Some 50% who started this treatment dropped out, and 50% complained about the treatment regimen. Coverage for this service is selective. The access of foreigners, homeless and heavy drug users with mental illnesses is opposed.

Hepatitis B vaccination

In 1986 a vaccine against hepatitis B became available. The Health Council of the Netherlands advised the Dutch Government in 1996 (publication no. 1996/15) on combating hepatitis B with an immunisation programme directed towards the total population, together with specific programmes directed towards high-risk groups. The Dutch Government asked the Trimbos Institute to develop an implementation-plan for a free of charge immunisation program for drug users. Somewhat later the Ministry of Health preferred to implement a

vaccination programme not only for drug users but for other risk groups as well (homosexuals and heterosexuals with multiple contacts). In several regions (Amsterdam, Maastricht, Mid-Brabant, Northern Brabant, Groningen and in the environment of the rivers in the center of the Netherlands), pilots were carried out and evaluated. The results indicated that this vaccination programme should not exclusively be restricted to vaccination but it should also include registration, recruitment and selection, education, motivation for follow-up vaccinations, support and after care.

Since October 1998, research has been conducted on the feasibility and reach of a free of charge hepatitis B vaccination programme focused on various risk groups including hard drug users. After two years the data on the attendance and coverage in one region of the Netherlands will be analysed. The final report of the National Co-ordination Team for Infectious Diseases (LCI) will be available in 2001. Some regional data suggest that members of risks groups often lack the willingness to make use of this possibility (Droog, 2001). An important factor for this failure is probably the lack of co-operation between regional and local organisations of addiction care that have contacts with this specific risk group of drug users and the Municipal Health Service that has expertise in vaccination programmes. In the northern region (Groningen) recruitment was realised via anonymous syringe exchange points of the Municipal Health Service, the Projectgroup for Prevention of Youth Prostitution and the methadone maintenance programme of the organisation of outpatient addiction care in Groningen. Both recruitment and education can best be done by the organisations of addiction care. Special expertise is needed for blood sampling (part of the programme) in the group of drug users (searching for the correct veins).

Hepatitis C tests

Acute symptoms of hepatitis C are absent or not severe. Nevertheless hepatitis C is far more infectious than the A and B variants and HIV (see also chapter 3.3.3). More than 80% of the infected do not recover from this disease. Approximately 30% will have cirrhosis after 2- to 30 years. Standard treatment for this disease is Interferon, injected three times a week for six months. Interferon has severe side effects and a recovery rate of 25%. Compliance will be difficult for users, thus risks may be substantially increased. Leaflets, needle exchange and project targeting at cessation of injecting use, testing, counseling and treatment are available and frequently used, but exact data are lacking. Though the amount of injecting drug use is lowering in the Netherlands, the slumbering long-term effects of this habit among older drug users will become manifest in due course.

In November 2000 an international conference was organised in Amsterdam on this subject by several organisations amongst which the EMCDDA.

Prophylactic vaccination of early stage syphilis among (drug using) street prostitutes

Former research suggested that addicted street prostitutes in Rotterdam were probably the most important source of syphilis infection in 1996-1997. Some 75 percent of the prostitutes are hard drug addicts trying to gain money for buying drugs. Medical care in Rotterdam assumed that the empirically based increase of early syphilis patients was due to contacts with street prostitutes. Only a small part of this group appeared to be inclined to engage in a vaccination programme. Streetworkers affirmed that prostitutes that were screened positive for syphilis would not be inclined to engage in a vaccination programme. To shortcut the rapid increase of syphilis it was decided that during one month, a prophylactic vaccination of early stage syphilis (one high-dose injection of benzylpenicilline) among all street prostitutes should be executed, irrespective of the screening results. Co-operation was financially

rewarded (11,35 Euro). Screening results indicated that early stage syphilis was most prominent among South American and North African prostitutes, namely 37 and 67 percent. Analysis showed a strong relationship between drug use and syphilis infection. At the end of 1997 no new cases of syphilis infection have been registered (Bosman et al., 1999).

Immigrants

The risk of infectious diseases among North African drug users in the city of Rotterdam may be higher than in the general drug using population due to prejudiced attitudes in North African cultures on drug use and sexual contacts (see 9.2.1). Preventive activities are sparse and illegal immigrants are difficult to reach.

Reduction of drug-related infectious diseases in prisons

Recently the Trimbos-institute published a manual for raising awareness of health problems connected to drug use and drug-related infectious diseases in prisons. Primary target groups are professionals in health services in or outside prison but also social workers, prison officers, peer leaders or inmates can use this book as a source of practical information. At this moment an English and a Russian version are available and a German version is forthcoming.

Effectiveness

Authors of a review of effect studies in HIV prevention and HIV surveillance studies concluded that the consistence of findings of HIV surveillance studies across many cities in many countries offer enough evidence that combinations of preventive actions can decrease the development of HIV infections. They argue that the results of these studies can compensate the lack of effect studies of sufficient methodological quality that prohibits causal inferences (Van Ameijden et al., 1995). HIV prevention efforts appeared most effective in areas where HIV rates were still low. Lowering these rates significantly in high prevalence areas seems difficult, though analyses show that the most probable protecting factors are a high availability of sterile needles, and the use of more than one intervention over a period of several years. Long-term interventions are necessary because of the episodic and relapsing nature of drug use and risk behaviour, both in low- and high-prevalence areas.

9.3 Treatments

Treatment modalities within and between organisations of addiction care, including those concerning relapse prevention strategies are diverse (see 9) and evaluation was until recently rarely done. During the last five years evaluation has been promoted by government initiatives (i.e. the five-year programme Getting Results, see 8.2) and those from professional organisations such as the Foundation for Evidence Based Addiction Research (see 9). Other initiatives are described hereafter.

Results of a continuous programme evaluation of clinical and day treatment in one organisation of inpatient addiction care have been reported three times (Ewals et al., 1997; 1998; van der Ham, 2001). The main target of this programme is enabling a cyclical strategy to improve the quality of treatment in this organisation. Treatment satisfaction (among clients and professionals), drug use and general well being (physically and psychosocial) are determined. Treatment includes crisis intervention, detoxification and other treatments (short-term and long-

term), as well as diverse types of after care, including methadone maintenance. During the evaluation years measurements of effects have been specified. Criteria for satisfaction are: at least three quarter of the patients are satisfied and at most 10% is dissatisfied about a treatment modality or aspect. Non-respons during treatment is low (less than one third) but increase (to fifty percent) in day treatment and three months after treatment dismissal and even more so in after care (20% in 1998 and 40% in 1999). Measurements are before admission (satisfaction on information), during admission, during treatment and three months after dismissal for the separate treatment modalities. Three months after dismissal, the client results are within the satisfaction criteria. Most positive results were reported for emotional-psychological problems and physical problems. Other problems were reduced for one quarter of the patients and for 40% they were not serious anymore. The mean opinion of professionals in after care was also positive on general well-being (more than 65%), daily activities (more than 50%) and control of addiction (less than 50%). Client selfratings were more positive than those of the professionals however. One quarter of these after carers had no contacts with patients anymore, in other cases most contacts were limited to a maximum of twice a month. Drug use (abstinence) did not fulfill the success criteria (more than 10% was not abstinent afterwards), nor did the opinion on have control over the addiction three months after dismissal. Several aspects of satisfaction did not meet the criteria: waiting lists (too long), house rules (too strict), control on drug use (too soft), leisure time (too much), the end of treatment (too soon), and other aspects (opportunities to relax, number of talks with professionals, and specific activities such as working in the garden, looking at the TV news, or at a video on addiction).

Furthermore, several new developments in treatment modalities were started and are evaluated at this moment.

First, a few years ago an experiment has been funded by the government to determine positive and negative effects of medical heroin prescription for treatment-refractory chronic heroin addicts (CCBH 1998; Van den Brink et al., 1999; Hendriks et al., 2000a; 2000b). This randomised controlled multi-centre trial has been approved by the Dutch government and investigates the effectiveness of medically co-prescribed heroin and oral methadone, compared to oral methadone alone, in chronic, treatment-refractory heroin addicts in six Dutch cities. Some 625 addicts are participating now and the intermediary results are positive. The results of this project will be available in 2002.

A second project studies the effectiveness of applying new pharmacological agencies, naltrexone (oral and intravenous) in rapid detoxification and maintenance treatment (relapse prevention) of chronic opiate addicts. *This experiment elaborates on positive results of rapid detoxification in Spain and Great Britain. In these countries reports indicated that more than half of the patient did not relapse, compared with a 15% relapse rate for methadone maintenance.*

The first project study, a pilot study with a naturalistic pre-post follow-up design (Roozen et al., 2000), traced factors that could decrease relapse rates in addicts after rapid detoxification, specifically the influence of mental disease on this outcome. Almost 60% remained abstinent over six months and 55% during a year. Relapse rates were higher for poly-drug users and users with specific disorders (borderline, antisocial, narcissic or theatrical). All relapses were within the first seven months after beginning the maintenance treatment.

The second study is a current randomised controlled trial with several hundreds participants in four regions, determining the effectiveness of rapid naltrexone detoxification under anaesthesia (four hours) or slow naltrexone treatment (every sixteen hours for two days) without anaesthesia (Hendriks 1999). The costs are 5,500 Euro per treated patient. Both treatments are supplemented with ten months maintenance treatment (naltrexone combined with community reinforcement). It is assumed to be an effective alternative to other procedures that last too long (maintenance) causing high relapse rates. *Though initially this experiment was planned to end in 2001, the Minister of Health, Welfare and Sport decided that it should be continued until the final results are available (end 2002) and conclusions can be drawn on relapse rates. It is essential that knowledge of effective treatments will be established because of the uncertainty about new increases in opiate addiction in future years (van Brussel, 2001).*

Third, a randomised-controlled trial has started to determine the effects (relapse rates) of cue exposure during inpatient treatment of 130 opiate addicts. Adding a cue exposure intervention to treatment as usual, is expected to reduce the reactivity to drug-related stimuli, thus reduce the occurrence of (re)lapses among patients. The results are expected in 2003 (Kroon et al., 2001).

A fourth quasi-experimental study aims at specific effects (interpersonal behaviour and abstinence rates, three months after treatment) of interpersonal grouptherapy in an intensive (inpatient) therapeutic setting for alcohol, drug and gambling addicts. Results will be available at the end of 2002 (De Jong et al., 2001).

Two other studies concern dual diagnosis patients (see also 8 and 9.2.1) A randomised controlled trial deals with dual diagnosis or comorbidity. It determines the effectiveness of dialectical therapy for women with a borderline personality disorder and substance abuse (drugs and/or alcohol). For this extremely problematic group other treatments were not acceptable or remained without results (van den Bosch & Verheul, 2001). Measured effects are self-destructive behaviour, treatment interfering behaviour, quality of life interfering behaviour (alcohol and drug use, unstable relationships, housing facilities, unemployment, etc.).

Development and test of a protocol for diagnosis and treatment of addicts with ADHD (Attention-Deficit/Hyperactivity Disorder) is the objective of a sixth study (van de Glind & Eland, 2001). This study is conducted within two inpatient settings. The protocol is meant to describe treatment elements such as medication, coaching, partner therapy, health education, etcetera. It will be implemented in two settings and a process evaluation improves it.

9.3.1 Treatments and health care at national level

Forensic after care

A forensic addiction clinic, intended for imprisoned drug-using recidivists resisting regular care and treatment, was opened in 1998 (IVON, 1998). The treatment programme distinguishes three subsequent stages: an intramural, a semimural and a resocialisation stage. The last stage is similar to 'supported living': clients are supported in learning to live independently again after release from prison. Thus it is a long-term programme (for more details, see 9.5).

Inpatient Motivation Centres

Inpatient Motivation Centres (IMCs) can be classified as outreach work and low threshold facilities (see 9.2.1 and 9.2.2). The first IMC, initially called 'Intercultural Motivation Centre', started in Amsterdam in 1990. Due to the positive results of this facility (70% of the clients moved on to a regular inpatient centre after a three-month stay) the attention was attracted of the National Steering Committee on Nuisance Reduction (*SVO - Landelijke Stuurgroep Vermindering Overlast*). This committee advised the Minister of Health to set up ten Inpatient Motivation Centres (*Intramurale Motivatie Centra*), throughout the country for clients who fail to change their drug use during outpatient treatment after several attempts but are reluctant to start with in-patient treatment. The main objective is to motivate clients to perceive their problems, to assist in structuring their daily life, and in changing their lifestyle. The Centres are also meant to fill the gap between outpatient and inpatient treatment.

These centres offer several opportunities to this group of reluctant drug users to prepare themselves for some type of in-patient treatment. More specifically, clients are trained for three months in social and labour skills and prepared for a more demanding treatment setting. Achievements are exclusively focussed on these skills, there are no therapeutic objectives. A protected and stimulating environment is maintained and all activities (individual and in groups) are adjusted to the abilities and willingness of the client, including (as far as possible) to the cultural identity of immigrant clients. Special attention is given to transfer these clients to subsequent inpatient treatment.

First aid services

Safe dance parties do not exist and a prohibition of these events is not effective even if drug use is involved. A preferable approach is assumed to be a combination of prevention and cure by monitoring and testing new drugs and in case of emergencies by offering professional aid (Bruin et al., 1999). Regular monitoring and testing of drugs can quickly prevent the continuation of disastrous effects of pills with dangerous components. The effectiveness of First Aid services at big dance parties has been evaluated. Small teams that are well trained are more effective than bigger teams with a moralistic approach and insufficient knowledge of the possible effects of several drugs.

General practitioners

The Drug Project of the Royal Dutch Medical Association started in 1996 and aimed at determining consensus about tasks, roles and responsibilities of general practitioners concerning addiction problems. Clarity about what can and can not be done by GPs was needed, because in general it appeared that drug problems among patients were insufficiently perceived as such, thus these were not approached appropriately. In 1998 two multi partite consensus conferences were organised for representatives of the medical world, the national government and other organisations. Preliminary guidelines for general health care related to drug problems were formulated afterwards. During an invitational conference these guidelines were discussed. In the final report of the second conference statements were made about the responsibility of GPs for addicted patients in different situations (general practice, hospital, prison, or referring them to specialists from other disciplines). Further professionalisation was proposed of addiction care (a professional Statute, guidelines, research and additional professional education), and increasing co-operation and communication between disciplines (management incentives and breaking down separated funding of organisations that are or should be responsible for addiction care). Finally it was recommended that continuity of care should be enhanced by a personal coordinator of addiction care.

The Netherlands Mental Health Organisation (GGZ Nederland) and the Dutch Society of Medical Addiction Care (Vereniging Verslavingsgeneeskunde) reacted on these recommendations and directed these to the Ministry of Health, Welfare and Sports. Their reaction stressed the importance of: 1) continuing the provisional funding of methadone maintenance programmes at a national level; 2) stimulating the utilisation of existent and new methods for medical screening; 3) diagnosis and treatment of addiction problems; 4) facilitation of compensation for the costs of other medicines than methadone that are also often prescribed for these problems; and 5) better co-operation between general practitioners and (other) professional care givers.

Evaluation results

Since the past five years, the results of several systematic research reviews on the evidence of effectiveness for addiction care and prevention have been reported. Most of these were funded by the Ministry of Health, Welfare and Sports and conducted by the Trimbos-institute. The reports are an empirical basis for discussions about national drug policy and issues concerning the urgency and feasibility of evidence based demand reduction (see Special Issue 2).

Financing

The information in this paragraph has been covered in chapter 1.4.

9.3.2 Substitution and maintenance programmes

A short history

Substitution treatment started in Amsterdam in the late sixties and the most frequently used drug was and is methadone. The group of heroin users was relatively small in those years and the main objective of the first methadone programme was abstinence from heroin. Only a few addicts attended the programme. During the 'liberated' 1970s (see 8.2b) the amount of users increased considerably and so did the number of institutions offering methadone programmes to their clients. Already during the first years the initial objective was abandoned and maintenance treatment became the common target. This has been well documented by a number of authors (cf. Buisman, 1983; Driessen, 1990; 1992; Driessen & van der Wal 1993; Driessen et al., 1999; van de Wijngaart, 1991). From the beginning, the Consultation Bureaus for Alcohol and Drugs (CADs) were involved in substitution programmes. In 1976, the Health Council advised general practitioners to stop prescribing methadone to drug addicts to lower the risk of manipulation by addicted clients and improper use of prescriptions. This advice was ignored by many GP's in Amsterdam. Inventories on the prescription of methadone and the availability of substitution programmes at a national level were conducted in 1978, 1982 and 1989/1990. Some big cities have their own registration system (see 8).

Other maintenance substances and approaches

In former years other substitution possibilities have been tried out (LAAM, clonidine and palfium) but these were not successful. The present situation of methadone distribution is not substantially different from the situation in the 1980s. Methadone programmes are nowadays offered in all outpatient addiction care institutions and by some municipal health services. Approaches are different in different regions and in the larger cities (Amsterdam, Rotterdam

and The Hague). In Amsterdam, methadone maintenance is offered free of charge, without waiting lists and in three levels. Low-threshold facilities are meant to reach as much addicts as possible. Medium-threshold methadone programmes for drug users who control their use, and high –thresholds are meant for users who are willing to detoxicate. Low, medium and high represent stricter entry criteria and sanctions. In low- and medium-threshold facilities drug use is still permitted. “Clients can ‘promote’ from the low-threshold programs to the stricter programs.” (Langendam, 2000). Participation rates are estimated at 60% for low threshold facilities, 30% for medium, and 10% for high-threshold methadon maintenance. Additional services are needle exchange, extensive social-medical and psychiatric care and HIV testing and counseling.

Characteristics of methadone users

During the past decades the admission criteria for methadone programme are never specified. Being addicted to heroin for more than 6 months was enough for entering the programme. Furthermore, at least in Amsterdam, methadone programmes were meant to be differentiated to cope with the differences between hard drug users. Analysis of empirical data discerned different characteristics of those receiving methadone and differences in periods and dosages at the methadone outpost, the methadone bus, the outpatient clinic, the general practitioner and the outdoor addiction clinic.

Methadone dosage

Analyses showed that the mean methadone dosage was higher for ethnic West Europeans, older drug users, those with a longer duration of prostitution, current injectors, those with a longer duration of injecting, a longer duration of methadone use, and clients of prostitutes’ and foreigners’ outpatient clinic. Lower dosages of methadone were found for users from Dutch Caribbean origin, for those who receive methadone from a general practitioner, at the police station or in prison (Langendam et al., 1998).

In the Netherlands, it has long been common practice to distribute small doses of methadone (an average of 40 mg a day) in maintenance programmes. In Amsterdam during 1985-1998 the mean dosage increased from 41 to 50 mg/day, with half of the methadone clients using less than 45 mg/day, 25% more than 60 mg/day and 12,5% of the participating clients more than 80 mg daily (Langendam, 2000). In the United States, higher doses are common (more than 60 mg a day) in maintenance programmes that had favourable results. Clients used less other substances, their psychological and social situation improved, and they committed fewer criminal offences.

Other evidence from a prospective cohort study among 498 injecting harddrug users in Amsterdam suggest that overdose mortality is reduced by low-threshold methadone maintenance programmes but that programmes with higher dosages (more than 55 mg daily) may be more effective (Van Ameijden et al., 1999).

The Minister of Health, Welfare and Sports has funded research to discover if higher doses of methadone can contribute towards improvement of maintenance treatment in the Netherlands. A first study develops an instrument for validly measuring craving for heroin in daily practice (Driessen et al., 2001). Second, an experimental trial was initiated with some 150 participants, randomly assigned to less than 85 mg methadone per day (supplied by the usual distribution points in town) or 85 to 160 mg per day (supplied under strict medical control). Besides baseline measurements, two follow-up are foreseen, the last one 22 months after baseline. A first interim report with results of a small part of the participants showed that the situation of the high dose group was becoming more stable. Further analysis

of the larger group will have to show if high doses of methadone will prevent the situation of addicts from getting worse. The final report on the experiment is to be submitted in 2002 (Driessen, 2001).

Availability of methadone and public nuisance

Complaints of residents living in the vicinity of methadone dispensation points have resulted that several experiments were started to reduce public nuisance.

A usual three-days-a-week distribution of methadone was intensified in a city in a Southern region of the Netherlands (daily) and held constant in the surrounding area (3 days). The effect of more and less frequent methadone distribution on several outcomes (nuisance, health and criminality) were analysed. The opinion of residents and local organisations was asked before and six months after changing the distribution frequency. Second, members of the distribution team were asked at these moments to judge the health situation of clients and the amount of incidents of drug-related and distribution related public nuisance.

More than half of the city residents did not perceive changes in drug-related nuisance in general. The same result appeared for three quarters of the residents in the surrounding areas. Drug dealing and 'drug-related' nuisance have decreased according to one third of the city residents and 11% thought nuisance had increased. For the employees of organisations in the city centre drug problems have not disappeared and neither did drug-related nuisance probably due to the stand of the methadone bus. Those who think that nuisance has increased, attributed it mainly on the growth of numbers of drug users on these locations. On one location this was also due to the presence of buildings used for drug dealing, and on a second location to street prostitution.

Drug-related nuisance specifically due to methadone distribution has decreased according to 42% of the residents living in the vicinity of the distribution point in the centre of the city, did not change according to 53%, and was increased for the remaining 5%. According to one third of the employees of organisation in the city centre nuisance due to methadone distribution has increased, some 25% of them thought the opposite (nuisance has decreased).

Few residents in the vicinity of the other three locations thought that nuisance due to methadone distribution had increased. If they did this was mainly attributed to the amount of addicts in the neighbourhood of the distribution points.

The relationship between methadone maintenance and nuisance appeared to be complex and the frequency of methadone distribution may be a minor factor involved. The use of heroin as well as poldrug use (especially cocaine) has increased among methadone clients. The use of cannabis on the other hand has decreased. Police and judiciary contacts increased also. Two thirds of the clients in the city centre rejected this experiment afterwards, because contacts with the scene were more frequent and the sequence of daily activities was dominated by distribution hours (in the morning). On the other hand, members of the distribution team judged that, compared with clients with a three-days-a-week distribution (the surrounding area), the clients health situation in the centre had advanced.

Positive effects on relapses during maintenance treatment

The aims of heroin substitution by methadone cover individual and collective interests. Initially the primary goal was to abstain from heroin. Later less ambitious goals on the individual and societal level were set: stabilising possible damages of heroin use to addicts, stabilising their daily life situation, prevention of AIDS and nuisance and allowing care

workers to keep in touch with users (see 8.1). A study carried out in 1982 (Buisman, 1983) confirmed that 87% of the organisations of addiction care considered improving social functioning of the addicts was the main goal and that much activities were directed at increasing client compliance to the programme. Most programmes can be considered as outreach facilities and low threshold programmes (see 9.2.1 and 9.2.2). Prescription is sometimes also done by general practitioners or pharmacies. These two possibilities do not represent a low threshold for drug users. The advantage is however that these addresses enable users to avoid contact with other harddrug users. Research shows that relapses during methadone treatment cause anxiety or depressive feelings, but also that a relapse can be an important 'learning tool' and stepping stone to success (Driessen et al., 1999). Thus, stimulating relapsed addicts to strive for abstinence may be worthwhile for part of this population.

Changes in health during maintenance

Recurrent questions about the effectiveness of methadone distribution urged the Minister of Health, Welfare and Sports to fund a study on changes in the medical, psychological, and social situation of methadone users. Due to earlier research a sample could be traced and a comparison was made of the situation during the first test and two years later (Driessen et al., 1999). The findings show that the response during the posttest was 91%.

Of the initial sample (599 clients) three groups were discerned. First the abstinent group (longer than three months no drugs used and not in prison), the individuals who have died during this period (1,5%), and the biggest group (90,1%) of stable users of whom the majority (60%) has not changed in their medical, psychological or social situation. Of the total group 26% is better off and 17% worse (a net positive effect of 9%). Most of the situation changes that took place were not extreme. The best predictor for abstinence was the fact that clients had relapsed before (sometimes more than once). Another factor that related to abstinence is duration of support while using methadone and duration of methadone use. Most abstinent participants in this follow-up have been using methadone before their abstinence for 6-8 years. Relapses were related to methadone use during two years or shorter. Finally, the social context appears to be important for abstinence and relapse (no contacts anymore with the drug scene, breaking the vicious circle).

In addition to the effects on the individual clients, the aims of the methadone distribution also pertain to collective interests such as prevention of AIDS and nuisance. Therefore, the author does not advocate a return to abstinence as the central aim for addiction care. Furthermore, addiction care should stimulate addicts that relapsed to continue striving at abstinence afterwards and to support them in building new life routines.

Methadone and long-term drug careers

Research results show that methadone clients are older than opiate clients. They also stay longer in treatment. Many of the new methadone clients are (off spring) of cultural minorities or immigrants. Therefore, the outpatient methadone distribution system has recently been advised to prepare itself for long-term care of an aging population of chronic opiate users and a growing group of younger users from ethnic subgroups (Van Alem & Mol, 2001).

A proposal is submitted for determining the long-term course of drug careers of participants in the Amsterdam methadone programmes. Relationships between modalities of methadone treatment and the incidence of abstinence, relapse, and changes in non-prescribed use will be determined (Te Brake et al., 2001).

Guideline

Here a brief reference is made to an information booklet on methadone for those who are prone to meet people on methadone while doing their daily work. This booklet has been updated (Vossenbergh, 1999).

Funding methadone programmes

Ever since 1997, methadone distribution has been financed by temporary grants from the Medical Insurance Board (Ziekenfondsraad). This arrangement has recently been prolonged until 1 January, 2001. The Minister of Health, Welfare and Sports prefers to address a structural financing system as part of the wider problem of expenditures of medication and laboratory tests prescribed by specialised physicians in outpatient facilities. The Netherlands Mental Health Care Organisation recently submitted a proposal directed at such a system. A political choice will be formulated after receiving the recommendations from the Health Council on the medical treatment of addiction. These recommendations are expected in mid-2000. CHECK NOGMAALS The proposals on intensifying medical care and the development of a National Central Substance Registration System will also be relevant for this choice.

Medical heroin prescription

We referred already to medical heroin prescription for treatment-refractory chronic opiate users (see 9.2). This can be considered a palliative treatment for the severest types of drug users.

A living unit for older addicts

In former years there was disbelief that drug users could become fifty years, Most professionals thought that they would die much earlier. This common wisdom has been refuted during the past decade. This does not mean that older addicts are not in need of care. Partly problems are comparable to those of the elderly in general but aging drug users are less able to get their daily drug regime, thus they have a high risk for suffering from personal neglect. They need some type of supported living to maintain a minimal sufficient standard of living. Attention for problems of older chronic addicts has been drawn by professionals and the Union for Streetjunks Rotterdam.

A experimental living unit for seven methadone and cocaine using 'seniors' (older than 55 years) was funded by the Municipal Health Service in the city of Rotterdam. It started in 1999 and was evaluated a year later (Heijman & Verveen, 2000). The seniors were not extremely problematic. Yet, a maximum size of ten addicts was recommended to avoid anonymity of group members, to ensure care and to maintain the support of the neighbourhood. Living units should be operated by experienced and trained professionals. The relationship between professionals and neighbours were good and no public nuisance was detected during the evaluated year. Clients were satisfied with this type of supported living condition, could manage financially, and were able to keep their cocaine use within limits due to the support of the professionals.

9.4 After-care and re-integration

Organisation

Specific punishment regimes for drug users are the result of the awareness of severe disadvantages of imprisonment in general. Possibilities for psychological and social

reintegration is conceived to be impaired by incarceration. Therefore probation, resettlement or rehabilitation has a long history in the Netherlands. These types of after care and re-integration are meant as a substitution or complement to imprisonment and their success is largely dependent on the co-operation of different organisations.

The police, public prosecutors or judges can refer drug users to an organisation of outpatient addiction care (see 8). Social workers are mostly the probation officers that work closely together with the national Foundation for Probation Service (*Reclassering Nederland*).

Today, this possibility for criminal offenders has gained acceptance in the national discussion about adequate punishment for criminal acts. Probation was directed primarily to juvenal delinquents. In later years delinquents with a mental disorder or an addiction problem were accepted. In-prison work programmes and programmes that enable prisoners to learn something useful in daily life (giving them a chance to change) have become a normal phenomenon in Dutch society. An often discussed punishment is the task-sanction (e.g. maintaining woods, repairing bicycles, working on a farm). A nation wide telephone survey concluded that public support for task-sanctions varies from 58% (public violence) to 27% (organised crime).

Current research of the Amsterdam Institute of Addiction Research (AIAR) deals with assessing the feasibility of the early intervention approach (*Vroeghulp interventie aanpak*) by Dutch probation officers and an evaluation of the effects of this approach for arrested addicts that entered treatment (effects on addiction, criminality, health and social integration). The results will be published in December 2001. See also 9.5.

Accessibility

The accessibility of provisions for after-care is diverse and institution-specific (cf. methadone maintenance programmes, see 9.3.2).

Education and training

In 1999 a manual was published for professionals to guide the process of vocational rehabilitation of (former) drug users that highlights important aspects of working at vocational rehabilitation (Ten Cate and Hexspoor, 1999). (see further 9.6d)

d Employment

(see 9.6d)

e Housing

(see 9.1.4: drug specific communities)

9.5 Interventions in the criminal justice system

During the past five years interventions in the criminal justice system for addicts are slowly altered to types of covert coercive choice for arrested addicts.

Early intervention of the probation office (Vroeghulp Interventie Aanpak)

Early intervention was initially meant for specific drug addicts who were arrested for drug-related criminal acts and has now been expanded to all arrested drug users. In 1997 an evaluation project started to determine the feasibility and effects of an early intervention approach of the probation office for arrested addicts (Korf et al., 2000). Early intervention will be given within three weeks after the arrest by offering the treatment possibilities that are inherent to probation. All drug-related arrests were used for the feasibility study and a subsample of 200 arrests for the effects.

During the evaluation years few potentially eligible addicts are inclined to enter early intervention. Several bottlenecks might account for this lack of enthusiasm and recommendations were given for improvement. The first selection was made by police officers, their selection criteria remained unknown to probation officers, thus selection appeared to be suboptimal. A closer co-operation between the police and probation is required. The lack of sufficient personnel (police, jurisdiction, probation officers) to realise early intervention is a second bottleneck. Besides an increase in personnel, a more efficient data management in Dutch probation office is proposed. Third, the communication between probation and addiction care partners need to be improved by enhancing accessibility and information exchange. The negative image of Dutch probation and subsequently the high refusal rate of arrested addicts is a fourth bottleneck. The stick (co-operation or detention) is supposed to be a better incentive than the carrot ('it is better for you to co-operate'). The Netherlands Mental Health Care Organisation (GGZ-Nederland) recommended to push the moment of choice ahead to when clients are in fact imprisoned to increase the acceptability. Early intervention will then be changed in a type of coercive care in a later phase.

In judicial addiction care there is a large differentiation of ideas, methods, and activities. A certain standardisation could decrease the existent confusion caused by the lack of clarity of the different concepts used. It would also improve the comparability of data between organisations.

Addiction Guidance Departments (Drug Free Departments)

*Among the 13,000 Dutch prisoners or detainees 35-50% have addiction problems. A large proportion is of foreign origin (Bieleman and Van der Laan, 1999). In 1997, there were 20 Addiction Guidance Departments (*VerslavingsBegeleidingsAfdelingen* or VBAs) with a total of 446 places (cells). More than half of these facilities are located in Remand Houses, the others in prisons. *Detainees who are selected for a VBA are often immediately placed (there are no waiting lists). In practice penitentiary institutions do not often consider VBA-placement for addicted detainees so the annual number of intakes is smaller than expected. In 1999 one third of the available cells stayed empty. In VBAs detainees are supported to work on their addiction. The mean length of stay in 1999 is thirteen weeks. It is possible for VBA detainees to be referred to regular addiction care. In 1999 60% of the VBA participants received after care (inpatient or outpatient).**

An evaluation shows bottlenecks and feasible solutions. Penitentiary organisations are still largely unwilling to realise a differentiated supply (quantitatively and qualitatively) of this addiction care units. Special funding is recommended. It is concluded that some detainees should be enabled to choose between continuing methadone maintenance or abstinence, while others should be forced to choose.

Penal Placement of Addicts in a Penitentiary Treatment Institution (Strafrechtelijke Opvang Verslaafden or SOV)

In 1998, a legislative proposal indicated that chronic drug-addict offenders might best be coerced to commit themselves to an extramural treatment programme for a maximum of two years. The proposal has been debated in Parliament since and there is still substantial debate about the ethical acceptability and the feasibility of this legal measure. Technically, this innovation is a penal law measure and not a sanction. This means that application does not depend on the seriousness of the offence. All arrested addicted offenders with an extensive criminal history of drug-related crime and who have at least served one prison sentence for such crimes may be subject to this new measure. Both policy makers and professional workers considered SOV a possibility for drug addicts to combat their problem and to set a ceiling to drug-related criminal careers (Swierstra, 1999; Wolf, 1999). This chance will be offered to a subgroup of drug addicts with a longer history of (petty) crime to enable them to change their life. Legally these addicts cannot be condemned for longer periods, so detoxification, treatment and rehabilitation is precluded. The SOV offers a possibility 'to get these people on the road again'.

An experiment was set up in a big city (Rotterdam) in 1996 to determine for what categories of drug users the programme would apply. Therefore participants did not have to meet specific inclusion criteria. The evaluation results (de Koning, Intraval, 1998) showed that in the first year some 90 drug addicts participated. After six months working with SOV, professionals abandoned their initial ideas about collective methods and chose for individualised programmes. Experts argue against the SOV by stating that the effects of coercive treatment on criminality in general are small. SOV is also assumed inappropriate for addicts with serious mental problems and/or severe problems in social relations. For some addicts, the programme of 1,5 to 2 years might even be too short to change their behaviour. The conclusion is that it is unlikely that SOV will have positive effects on some categories of clients but, with some adjustments, other categories may benefit from it. Though relapses often occurred after offering clients more responsibility for their own behaviour, in general participants rated this compulsory treatment as positive. A large number of them reported that compulsion was necessary for completing the programme.

In December 2000 this legal measure has been accepted by Parliament and facilities for clients are now organised in several Dutch cities. Recently, the Ministry of Justice has started an experiment by planning a special section in the central prison of Amsterdam (Bijlmerbajes) to introduce this type of coercive treatment for a maximum of 48 treatment resistant addicts and Utrecht followed in this row, resulting in three cities where chronic drug offenders can legally be coerced to detoxification (gedwongen afkicken) and follow-up programme. In September 2001 only a fraction of the total of 240 SOV-places in Amsterdam en Rotterdam are utilised (twelve) because it usually takes some time after conviction to start SOV-treatment. During a specially organised SOV-day of the Amsterdam Court many addicts who were brought before court showed remorse and were eager to commit themselves to this type of treatment.

Identical types of coercive treatment are found in forensic addiction clinics and in the experimental project Triple-Ex in The Hague.

Forensic addiction care

A forensic addiction clinic, intended for imprisoned drug-using recidivists resisting regular care and treatment, was opened in 1998 (IVON, 1998). The treatment programme

distinguishes three subsequent stages: an intramural, a semimural and a resocialisation stage. The last stage is similar to 'supported living': clients are supported in learning to live independently again after release from prison. Working projects constitute the most important element of this long-term programme. The objective is offering an appropriate mix of therapies, practical and social skills training, education, and adaptation to the labour market situation. Only convicted addicts who are not allowed to enter other (regular) treatment programmes because of their severe addiction problems, their failures to complete treatments and/or their judicial history, are allowed to enter this special programme. For the first four years, this new intramural facility will operate as an scientific experiment. Initial results are planned to be presented at the end of 2001.

Treatment for local criminal addicts (Triple-Ex)

This experimental four-year project also includes detoxification and several types of after care (treatment of psychosocial problems, social relations, daily work). It has been restricted to the area of the city of The Hague. Evaluation of this programme showed that some forty percent of the ex-clients haven't used drugs anymore during the following two years (Addiction Severity Index). The others started to use drugs again, three quarters of them longer than half a year. Still, more than half of these relapsed clients did not touch drugs anymore in the month before follow-up measurement. In the same month clients had worked for a mean of 25 days. More than 90% entered another treatment after finishing Triple-Ex. During the follow-up most of them were arrested at least once for criminal acts, more than one third more than once. A longer duration of treatment was related to a reduction in relapse rates. Satisfaction was not related to any outcome (Vermeulen et al., 1999).

Aids prevention within prison walls

This project is also an outreach programme (see 9.2.1). Purpose of this project was to contact drug using detainees in a Remand House and offering information about infectious diseases. An experienced female streetworker visited the institution every Monday afternoon. She initiated personal (face to face) contacts with drug users in the same manner as she usually does this in the streets: quasi-accidental and -spontaneous talks. Written materials were only given when mutual faith has been established. These clients were seldomly reached during streetwork but at high risk for infectious diseases (hepatitis or Aids), thus a potential threat for public health. Though unstructured, these talks were built up of specific elements: safe drug use and safe sex, testing available knowledge and estimating the personal situation for giving adequate health and drug use education. Clients were prosecuted for shoplifting, pickpocketing, violation of the Opium Law. Main characteristics are high frequencies of recidivism (70% of the detainees) and alcohol and/or drug addiction (70-80%). Important is that they have faith in the streetworker.

The presence of a female streetworker was felt as unusual by the staff of this House. But after a period both detainees and staff grew accustomed to the presence of these fieldworkers. Getting in contact appeared to be much easier than during streetwork. During 9 months the streetworker registered a total of 191 contacts on 26 afternoons (7,3 per afternoon) with 84 detainees. Mean contact duration was half an hour. She was not able to contact all who wanted to talk to her. Contacts were continued with most of the 73 detainees who were released during this project. Language barriers caused little successful contacts with French speaking detainees.

Few drug users reported being infected by HIV or hepatitis. No HIV-tests were done. It is assumed that few are in fact infected by HIV. The chance for hepatitis C might be higher due to their lifestyle in the streets. A follow-up is ongoing now.

Effect studies of legal restrictions and treatment of addicted prisoners

Statistics on criminality in 1998 show a prevalence of addiction problems among more than half of the the top five percent (9,500 individuals with more than 20 antecedents) of registered suspects (Werkgroep Landelijke Criminaliteitskaart, 2000). This group is responsible for 46% of all registered delicts (1,4 million in total). The calculation strategy probably underestimates the actual number. This implies that the year prevalence of addiction problems among this group is more than eight times higher than the total group (Van Panhuis & Meijer, 2001). Prevention of drug-related criminal careers is targeting first-offenders and followers. However, decreasing existent drug-related crime and associated societal harm requires tackling the hard core of drug criminality, inclusive recidivists among criminal addicts. It is often assumed that an effective approach against these 20% (the hard core) would decrease 80% of drug-related criminality.

However, the results of more than 20 years penitentiary addiction care in the Netherlands are still disappointing. Though some American and Swedish evaluation studies of comparable measures showed positive effects on drug use, criminality rates, recidivism and social behaviour, there is insufficient scientific evidence for these effects and it might be risky to import these interventions in Dutch circumstances without adjustments (Rigter 1999).

An evaluation of policy measures to decrease drug-related public nuisance concluded that five years of policy resulted in a smaller 'hard core' group of addicts that cause nuisance (Broër and Noyon, 1999). But the authors think that addiction care and judicial dissuasion did not substantially reduce drug-related nuisance. One of the conclusions is that the use of hard drugs often does not cause 'objective' but 'subjective' nuisance. The biggest problem is that most civilians reject the presence of drug using addicts in the street or near the places they live. Not the number of troublesome addicts is crucial because these represent a very small group, but public aversion against presence of addicts as such.

Target of a recent literature survey commissioned by the Ministry of Justice is to underpin discussions about the advisability of altering judicial sanctions in general. We mention several important conclusions. Generally, restrictions by law (restriction of freedom) do not preclude recidive. Behaviour is difficult to change permanently, but this differs between the types of problems or crimes committed (e.g. theft, violence, sexual offenders, criminals with mental disorders). Furthermore the literature suggests that the effectiveness of programmes outside prison is generally higher than within. Important is that in both cases effectiveness is largely dependent on inclusion of adjacent interventions or treatments. Combined treatment in 'stepped care', with components of cognitive behavioural treatments appeared most promising (Beenackers, 2000).

More specific research reviews (Van den Hurk, 1998; Rigter, 1998; Baas 1998; Vennard & Hedderman, 1999; Wartna, 1999) also indicate that successive combinations of treatments (stepped care including aftercare) can have positive effects on recidivism (of both addiction and crime). It is suggested that a subgroup of high-active recidivists (the *hard core* criminal addicts) should remain in detention to ensure immediate effectiveness for society but in the long run this is not efficient. Therefore, at later moments treatment mixes can be tried out. The choice of specific variations and intensities of this care should depend on the criminal career and the frequency of recidivism of these detainees. So far, evidence exist for the effectiveness of

specific and intense treatments, but evidence-based guidelines for starting treatments and for the optimal mix for specific subgroups are absent. The evidence for less intense treatments is still insufficient (Van den Hurk, 1998; Swierstra, 1999). Recently, the necessity was defended of multicentre randomised controlled trials to determine long-term effects of judiciary addiction care (Van den Hurk, 1998; Rigter, 1998).

9.6 Specific targets and settings

a Gender-specific issues

In general gender specific data about drug demand reduction are rare and scattered (de Zwart et al., 1999; see also Key Issue 2000). In former years it has been argued that prevention and care should profit from expert knowledge about already elaborated specific treatment strategies of care for women (Uiterwaal, 1993). Although several initiatives were started since then, evaluation of these projects are still rare.

We know of two evaluations on outreach projects for addicted prostitutes (see 9.2.1). Another example is the project 'Time Out' for drug addicted prostitutes, (Goderie et al., 1999). The problems of this target group are manifold and complex. The report refers to drug use as a strategy for these prostitutes, though certainly not an effective one, to cope with their highly problematic life situation. Prevention may decrease these problems and is assumed to be the only way to get in contact with these women and offering them possibilities for change. Of primal importance for this target group is showing respect, offering a sense of personal safety and independence in what seems to be a dead end street. Paid work and self reliance can be more distant possibilities. Most of the addicted prostitutes feel uneasy or unsafe in regular addiction care. Next-best facilities such as socio-medical care and supportive 'living room projects' are not specifically meant for dealing with the acute problems of this target group. The best manner to stabilise and maybe to decrease their problems seems low-threshold, day-and-night supportive care, offering solutions for acute problems (housing, health, self control, finances, violence and violations) and if appropriate, a more continuous care provision. Thirty-six women per year have been admitted in total 70 times (for day-and-night supportive care). Incidentally clients were temporarily refused. Most admissions could be done quickly, within one or two days. One third of these women sincerely tries or have tried to alter their life situation. Another third persist in trying to change their life style without succeeding up to now. More than half of the Time Out clients stay in contact with the workers or use these services more than once. Professionals working with this target group are training each other. A second experiment has started that is aiming at more intense co-operation of Time Out activities and regular supportive care. Variants of Time Out activities will be carried out in other regions in the Netherlands as well.

The few current local projects for female drug users indicate the necessity of further research endeavours. Most of these projects are exploratory, primarily aiming at needs assessment and the coverage of care among female drug users. Other studies deal with intermediary groups (care givers or GP's) or policy decisions about prosecution of street prostitutes (Franken, 1997; Hurkmans, 1999).

We first give some tentative research data. Existing treatment projects for addicted mothers and their children are described in paragraph b.

Female problematic drug users

Of the estimated 25,000-29,000 problematic opiate users in the Netherlands, the proportion of female users is unknown. Estimates based on field studies or registration data indicate that approximately 20 to 30 percent of this subpopulation are women (e.g. data from the Drug Monitoring System in Rotterdam, RODIS, CMR, LADIS). Of all clients registered in 1998 by the Amsterdam municipal health service, some 20 per cent were female, but percentages varied widely depending on different subpopulations, for instance clients seen at regular treatment services (24%), at the police station (15%), Surinamese or Moroccan users (4-8%) and foreign users (28%) (Van Brussel & Buster, 1999).

Some exploratory gender data

In a recent analysis of LADIS 1997 data, specific profiles were drawn up of female and male clients who applied for assistance at an outpatient centre for problematic use of soft drugs, hard drugs who do not attend methadone programmes and those who do (Zwart et al., 1999). Female clients made up 18 per cent of all clients included in the analyses. Male and female drug clients were compared with regard to drug use patterns and demographic characteristics. The main conclusion was that, generally speaking, differences between hard drug users and soft drug users were appreciably more pronounced than those between men and women. The average age of first registration was roughly similar for both sexes: both 25 years for soft drug clients, both 30 years for hard drug clients with methadone, and 33 years (men) and 35 years (women) for hard drug users without methadone. Both sexes were also quite similar with regard to the substances they use, the route of drug administration and use of substances in addition to the main drug. However, women applied slightly earlier for assistance than men following the onset of a problematic use pattern, were less commonly referred by judicial organisations, were less often single, stayed longer in treatment, had more treatment contacts and a lower drop-out rate compared with male clients.

Female drug users seem to be a minority in inpatient care. Whereas the relatively low proportion of female clients recorded in LADIS may indicate that problematic drug use is less common among women than men, but another explanation is that female users are reached less well by addiction treatment and care services compared to males. Admission rates of outpatient and inpatient care suggest that the size of the female group has increased during the last ten years (De Zwart et al., 1999).

b Children of drug users

In earlier research it was estimated that a quarter of the Dutch harddrug users have (or had) one or more children to care for. This equals to 5000-7000 children born in families in which one or both parents are hard-drug users (Groeneweg and Lechner-van de Noort, 1988). Later research showed differences in child development and child care between 35 biological families with hard drugs using parents and 31 foster parent families (Leenders, 1992). Congruent with the initial hypotheses, poor outcomes were more frequent among home-reared children than among foster-reared children (35% versus 10%) and progress in development and care was most prominent among children of foster parents compared with biological parents (42% versus 13%). However, differences between both groups were not striking for moderate development and care outcomes and absent for relatively well development and care outcomes. Furthermore, no significant differences were found

between type/quantity of drug use and various measures of parent-child interaction quality (ibid.). Though drug addiction is harmful for parenthood, the dominant attitude among clinical therapists and in juvenile courts that 'parenthood and drug addiction do not go together' is questionable. Because addiction care institutions cannot give adequate help to these children and addicted parents are unfit to initiate and keep contacts with youth care, special training is necessary for reducing the risks of disturbed child development. These training sessions have been given for social workers and professionals in youth care and addiction care. The focus of this training is on increasing sensibility in parent-child interactions. Finally the choice and implementation of care is highlighted (Groeneweg and Lechner-van de Noort, 1998).

Evaluation of preventive activities or care for children of addicted parents is still rare (see also 8.2). Several local branches of organisations of addiction care and self-help groups offer services for these children that have not been evaluated yet.

We came upon one evaluation of an experimental therapeutic community for both children and parents (*De Herberg*). This specialised programme of addiction care started in 1995 with places for 16 parents and their children. The Herberg is situated in the countryside. A multidisciplinary clinical treatment was developed, concentrating on parental mental problems and addiction and on dysfunctional family interactions, quality of parenting and taking care of structured parent-child activities. Problems and situations between families appeared to be quite different, thus treatment modalities were specifically composed for separate families (Sproet and Vos, 1998).

Evaluation of this treatment, targeted changes in different aspects (physical, psychological, psychiatric, social, financial, parenting and abstinence) of 14 families (Strijker et al., 1999). Pre- and posttest (mean duration of hospitalisation was 8 months) were done with validated measurement instruments, for instance the Child Behaviour Checklist (CBCL), the Addiction Severity Index (ASI), the Symptom Checklist (SCL), and the Dutch Family Climate Scale (GKS). After hospitalisation drug use, drug-related crime, and psychological problems among mothers was substantially reduced, some were abstinent. Though more than 70% still had debts, the amount of active mothers (study or work) was increased. Children's attention deficit problems were not changed afterwards, but emotional problems and conduct problems reduced. More important is that differences with 'normal' children were not significant at posttest. Parenting problems had disappeared and the family situation did not differ from a 'normal' family. Some parent problems have not changed, for instance physical problems and depression or general sensitivity. Because most parents still had problems afterwards, appropriate after care was recommended.

Finally, we mention a systematic review study of the international literature on children of *alcoholic* parents. It presents a risk inventory for these children, preventive activities and the effectiveness of these activities (Cuijpers, 1999). Most children of alcoholic parents do not develop mental problems but the risk for these problems is higher than children from non-alcoholic families (37% versus 22%). Determinants of these problems are difficult to study rigorously thus difficult to specify validly. Different preventive programmes for children of parents with alcohol problems are developed that focus on social support, knowledge of alcohol addiction and its consequences, social skills training and dealing with emotional problems. Most child-directed programmes that were selected for this review, are initiated in or via school, but publications on self-help for children also existed. The focus of parent-directed programmes was on children from parents who were traffic offenders (driving under

the influence), or who are clients of addiction care. Until now evaluations of these programmes are still scarce and published effect studies are heavily impeded by methodological flaws.

c Parents of drug users

Parent meetings on drug use

One study (one group pretest-posttest design) focussed on the effects of four parent meetings (during evenings) on communicative behaviour towards their children and the relationship with education style. The study was conducted as part of the project Healthy School and Drugs (see 9.1.2). All parents (172) filled in a questionnaire before the meeting and were requested to send back a second questionnaire after a month. This was done by 95 parents (55%). The main conclusions were that parents did not talk more often with their children about drugs and their possible drug use then a month before, nor did their type of parenting influence it.

Self help groups for parents

In 1980 the National Foundation of Parents of Drug Addicts (*Nationale Stichting voor Ouders van Druggebruikers*) was initiated by parents who thought their influence on organisations of addiction care at that time (formerly called Consultation Bureaus of Alcohol and Drugs) was negligible. Discussion groups (self help groups, see f, hereafter) were organised to increase coping skills of parents with drug using children. Recently this Foundation also pays attention to grandparents, to parents of drug users with children. Approximately forty self help groups with a mean size of ten parents exist nowadays. These groups differ in duration, approach and in co-operation with regular addiction care. Often these are chaired by trained peer parents. Co-operation with the regular organisations of addiction care is still optional. Some agreements are made but in practice a structured working relationship (availability of rooms for meetings) is incidental. A third of the member-parents (130) participated in a recent evaluation, thus the representitiveness of the results remains uncertain (Geelen et al., 2000). The answers revealed that almost all parents were exclusively a member of this specific group. Nearly everyone thought the group (very) important and an equal number was (very) satisfied with it. Responders attended it once a fortnight (48%) or once a month (50%). Most frequently named reasons (initial and subsequent) for membership were support, companion contacts or learning to cope with their childrens' drug problems (89%). Memberships lasted one to ten years (70%). Only 25 responders answered on 'the effects' of the group (acceptance, coping skills, exchange of experiences, breaking the silence and reducing isolation).

Risk and protective factors

Recently preliminary findings of a systematic research review on risk- and protective factors have been discussed during the annual Forum on Alcohol and Drugs Research in the Netherlands (Elling-de Boer, 1999). Parental worries concerning adolescents especially focus on drug use. At this moment about fourteen organisations in the field of addiction care supply parent education and support. These preventive interventions are in their experimental stage and their effectiveness has not been tested yet. The target of this research review is the assessment of important risk factors and protective factors, and of the feasibility of effect studies. Forty studies were selected and analysed, eleven dealt with

alcohol, illicit drugs and tobacco, ten with alcohol and drugs and seven exclusively with illicit drugs. The only Dutch study dealt with alcohol, tobacco and gambling. Consequently, these preliminary results are of limited importance for prevention of drug use.

It is impossible to decide whose influence is probably most manifest, parents or peers. Peer influence is increasing when the child is getting older, but parent influence remains active still. Therefore it seems most appropriate to target preventive interventions at both parents and peers. The research literature shows that many risk- and protective factors are non-specific. A favourable family climate and parental style increase the chance for children of growing up as independent, competent human beings. This increases resilience or coping abilities when adolescents have to deal with experimental drug use by peers. Parent involvement and support seem to be equally important but these are not sufficient. Essential are also monitoring child behaviour, an open-minded communication style, setting limits to specific unwanted behaviours, and skills to solve conflict situations. Too much discipline, but also a lack of discipline can have detrimental effects. However, studies do not specify limits to be set to both sides.

Correlational studies cannot determine causal relations. Still, this research review gives an overview of possible influential factors. The relative weight of these factors are taken into consideration according to the results of multivariate analyses in the selected studies. Though the author limited her attention to family factors, the literature shows that personality factors of the children are also of importance for future drug use.

Not all parents and children are inclined to participate in drug prevention. Participation is more likely when preventive action is directed to the family and the environment (schools, neighbourhoods, peers). Non-specific preventive activities are indicated at all phases of childhood and in general 'the earlier the better' and 'the more comprehensive the better'. Many parents seem to feel powerless to set limits to undesirable behaviours of their older children. For adolescents, the author recommends a focus on monitoring, communication, setting limits to behaviour and problem solving.

d Drug use at the work place

In 1998 a survey among 1200 employees of six big companies in the Netherlands shows that during the past year around two percent has used drugs once or more. Marijuana or hashish are most often mentioned, hardly any harddrugs were used (Van der Poel et al., 1999).

In a town in the southern part of the Netherlands where drug nuisance is manifest, employers are actively recruiting drug addicts as employees. For this purpose a Foundation Shelter (*Onderdak*) has been set up. This resulted from a co-operative effort of the municipality, the local Bureau for Work Mediation (*Arbeidsbureau*), the local Institute for Addiction Care and employers in a specific town (Hemels, 1999).

A specialised institute in work place drug prevention (Alcon) described (and externally supported) four examples of Dutch industry sectors of workplace alcohol or substance abuse policies in Dutch companies. All programmes consist of Employee Assistance (EA) activities (information, education or training combined with written materials) about company policy, risks of alcohol or drug use and rehabilitation possibilities. In transportation and process industry mandatory supervisor training and employee education sessions are added. The first three examples are internally evaluated, the third will not be evaluated.

The three examples are only a brief selection out of a possible hundreds of policies and programmes in Dutch Business and Industry (not including existing programmes in vocational training).

In a food and beverage industry plant (5000 employees) an internal problem assessment by the occupational health service was realised with commitment of the management which resulted in an alcohol prevention policy.

Banking and insurance (20.000 employees) developed an internal telephone helpline that has unfolded the existence alcohol problems on the work floor, This line was proposed by industrial social work. Management endorsed future alcohol and drug policy.

In a division of the transportation industry (1.500 employees) the existent safety and health policy resulted in an increased awareness of alcohol and drug risks by the management and consequently to a business policy.

An occupational health service in the process industry (with some 3.500 employees) co-ordinate activities that are part of the safety, health and environment policy, including an alcohol and drug section (Bijl E., personal communication).

American research showed that most drug abusers (around 70%) have full time jobs. Almost half of those who work full time said their employers had some sort of drug test at hiring. SAMHSA has several publications on testing for drug use in the workplace (SAMHSA 1999a; 1999b; 1999c). A systematic research review showed only a few American studies on employee assistance programs or employee rehabilitation programs related to both drug and alcohol abuse. The content of these programs appeared to be quite different and until now there is insufficient evidence for the effectiveness of these programs (Van Gageldonk et al., 1997).

In the Netherlands some older publications deal with getting former addicts at work. These programs appeared to be successful but effectiveness is largely dependent on the labour market situation and consequently on the willingness of employers to engage former addicts. A Dutch report on self-help groups for drug abuse stated that these members may be a selection of the drug users (Geelen et al., 1999). Members of these groups are on average about thirty years of age, mostly male, living in a big city, and having paid work (see 16.14). If the situation in the Netherlands resembles that in the US this would imply that members of self-help groups are *not* a selection.

Drugs and work is probably an interesting subject, but future research will have to produce valid estimates of the size and other characteristics of this group. Reports already exist on the direct and indirect costs of alcohol abuse. Knowledge about the economic consequences of drug use in the Netherlands is still non-existent.

A recent study evaluated the effects of individual support and placement to obtain a competitive job for (former) addicts (Michon et al., 2000).

The programme target is to support and place 70 former drug addicts in a competitive job within three years (minimal fifteen hours weekly, for minimal half a year, and during a period of nine months). At least two third of the salary had to be non-subsidised. A further target is to stimulate co-operation between organisations of addiction care, local and regional social services, and the Employment Office. Third, risk- and protective factors for supported employment will be determined. Finally, relapses and drug-related nuisance should be decreased.

The expected number of (former) addicts that left the programme half way (in July 1997) was 78 of whom 36 (48%) were expected to have a paid job. During the period July

1995-July 1999 less participants (72) have left the programme and less than expected found a paid job (competitive or subsidised) (31 or 43%). Two-third of this 31 found a (regular) competitive job on the labour market. Self reports show that the situation of 60% has improved (both workers and those who did not find jobs yet). Self reported (qualitative) answers of professionals of the organisations show that the co-operation between the stakeholding organisations has improved and thus the chance of getting a job has increased. Factors that influence the outcomes of this programme: deficits in following the clients in the process of getting paid work, shortage of personnel, low quality of reporting data (programme plans, procesreports). A decrease in public nuisance could not be measured. This outcome did not seem to be realistic. Current publications show that public nuisance (and for drug-related nuisance this is even more true) is difficult to quantify, and dependent on for instance the presence of night shelters for addicts, behaviour of police officers, or presence of 'nuisance reporting facilities'.

e Ethnic minorities

Reliable data about drug use among immigrants or ethnic minorities still do not exist (Eland & Rigter, 2001). A first exploration directed at infectious diseases among North African drug users in the city of Rotterdam showed some reasons of this lack of reliable data. In North African cultures it is not common to talk about drug use and sexual contacts. Furthermore a subgroup of the immigrants are not inclined to participate because their presence is illegal (see further 9.2.1).

In the policy paper *Addiction Care and Ethnic Minorities*, measures were presented to reduce problems related to addiction among members of the ethnic minorities. Since mid-1998, the Multicultural Addiction Care Consultation Team has coordinated the implementation of these policy measures. This team is supported by the Multicultural Addiction Care Platform (PMV). The Netherlands Mental Health Care Organisation is anticipating to incorporate a transcultural policy in addiction care and other mental health sectors. One of the funding requirements of the programme *Getting Results* (see 8.2) is giving priority to ethnic minorities.

Drop out rates are high among immigrant addicts. Results of a qualitative survey among immigrant and Dutch clients and professionals in inpatient addiction care show that immigrant clients often distrust Dutch addiction care, they think it 'too white', too medical and materialistic, lacking affiliation with immigrants cultures (Broers & Eland, 2000). Immigrant addicts on the other hand often expect that professionals will solve their addiction problem and remain expectantly instead of showing responsibility for their own behaviour. Self-reflection is unusual in many non-white cultures and feelings of pride, honour or shame restrict an open attitude to solutions and delay their reactions. Furthermore, female professionals are not easily accepted by male addicts from non-white cultural backgrounds. An important advice is to spend more time on problem formulation and to involve immigrant ex-clients in supporting treatment.

A second project explored the reasons of immigrant addicts for not accepting treatment at all (Van Wamel & Eland, 2001). An important cause of the lack of participation among drug users who have no experience with Dutch addiction care is the negative image of addiction care, partly because many addicts know other immigrants with relapses after

being in treatment. And those who are experienced already have bad experiences. Their disappointment was partly due to unrealistic expectancies. Partly it was due to the way treatments were given, the rules and agreements that are made. Other reasons for non-participation were congruent with the ones presented in the foregoing study.

The Arrazi prevention project.

Moroccan adolescents (boys) show more problems with drug use, addiction and criminality than other groups. It is commonly assumed that their parents lack knowledge about drugs, about the available addiction care in the Netherlands and other related factors. It is not common to talk about drugs in Moroccan families.

Though a decrease of drug-related problems among Moroccan boys is a long-term target, a first step is the development and implementation of a special education course initiated in co-operation with Moroccan interest groups in the Netherlands. The course should enhance discussions about drugs and criminality in Moroccan families in specific Amsterdam neighbourhoods. Second, it should facilitate guidance toward regular Dutch addiction care and enhance parenting competences.

The importance of the course was stressed by almost all Moroccan parents, especially because it was initiated by Moroccan interest groups and directed toward parents. Women were more positive than men and females were more inclined to recommend the course to other parents compared to male participants. Many participating parents already know about the role of the Dutch judiciary system and the police force with regard to drug-related criminality, though a substantial part of them thought this was still insufficient. The need for information about the school system, youth problems and youth care was higher. Their thoughts about the effects of the course were moderately positive. Most effectiveness was assigned to information about Dutch society, the school system and child problems. The attitudes on education, school were slightly more positive than before and more positive on drugs and criminality. Parents who participated were also sharing their opinions more than non-participants. More than 80% thought that one should talk about drugs and criminality (against 47% of the non-participants). A strong need was felt to continue with this courses, but organising these in co-operation with Moroccan interest groups is said to be a prerequisite.

Mothers are traditionally more difficult to approach than fathers. Mothers participated less but were more enthusiast about the project. However, the group of participating mothers is probably not representative for Moroccan mothers in the Netherlands.

Tjandu Foundation. This national Moluccan foundation has expanded its activities from the original Moluccan target group to other ethnic minorities. The project *Ethnic Minority Youngsters and Creative Forms in Addiction Prevention* can serve as an example. Based on experience and the self-help approach, a manual has been written for creative and educational activities. This has been done for the Moluccan community but separate manuals are available for the Antillean, Turkish and Moroccan communities. An interim report (*Addiction Problems in the Moluccan Community in 1999*) shows a substantial reduction in the number of Moluccan hard drug addicts.

The self-help approach has also been a point of departure for a movie about Moluccan drug users. This movie is made by a Moluccan producer and Moluccan actors (among which former addicts).

Research and monitoring

Recently the results of an exploratory study on substance use among political refugees were published. Inhabitants of centres for political refugees show a considerable cultural diversity. Substance use appears to be diverse too, dependent on the habits in their home country. Former inhabitants of Somalia for instance, are prone to use qat, people from Yugoslavia heavy liquors, and in Iran opium is commonly used. Still, differences between city people and those who come from the country side are often more important, also within the same culture. Higher levels of substance use are often restricted to single males. Furthermore many inhabitants of these centres think that Dutch policy and practice concerning drugs are too tolerant. It remains unclear how to define misuse from normal use for these subgroups, because frontiers are culturally defined. We still lack specific quantitative knowledge of substance use.

The size and nature of addiction problems in ethnic minorities and the effects of care on these groups is still largely unknown. In general the effects are estimated to be small and the drop out rate high. A cohort study has to determine where, when and why in the care system ethnic minority addicts are most apt to drop out.

The Institute for Migration and Ethnic Studies is conducting a comparative study on the influence of the community and neighbourhood (high risk relations) on socially deviant behaviour among ethnic minority youngsters, devoting special attention to drug use and addiction.

The Dutch Health Research and Development Council and the Netherlands Organization for Scientific Research (ZON/NWO) funded six projects focused on ethnic minorities. Four projects had to do with the effectiveness and quality of ethnic minority care, and the two other studies have to provide information on why ethnic minority addicts make relatively little use of addiction care facilities (NWO/ZON, 1999).

One of these research projects gathered information about drug problems, the interventions that are used and bottlenecks in prevention and care for ethnic minorities. In general little is known about most aspects. Compared to white drug users, the drop out rate is higher for these groups while in treatment, but lower in methadone maintenance programs. It is recommended to increase the quantity of workers in addiction care and prevention from foreign origin, thus increasing cultural specific knowledge and acceptability, and increasing accessibility and variation of the supply of prevention and care. Overall the lack of research during the last decade is obvious. Ethnic minorities are a blind spot in this area though it is hypothesised that the quantity of hidden knowledge should have become considerable. Strategies of small scale prevention and care have been used but often ad hoc. Lack of evaluation, reporting and exchange has caused stagnation in knowledge and expertise of addiction care for ethnic minorities and refugees. The authors recommend a determination of the influence of culture-specific expertise on the quality of care. But the feasibility of implementation of these specific methods is a prerequisite for valid measurement of effectiveness of addiction care for ethnic minorities.

f Self-help groups

Self help groups have already been mentioned (see c). Other self help groups are Narcotics Anonymous and Companion Contacts.

Narcotics Anonymous

Six Narcotics Anonymous groups (NA) were recently started in the Netherlands with together 40-50 participants. These are permanent groups without trained leadership, stimulating the Christian twelve-steps-approach of Alcoholics Anonymous. A recent evaluation covers 34 members. Almost all of them live alone in big cities, are predominantly male and around 30 years. Dissatisfaction of regular addiction care was the reason for approximately half of the members to engage in NA. Before participation they were unable to stop their addiction, after attending these NA groups most of the participants had stopped using drugs, some have decreased their use and one third relapsed once or more often. The main target of NA now is preventing future use, contacts with companions and starting a new life with the help of the group. Membership is intensive and lasts longer than a year for 25% of them (Geelen et al., 2000).

Companion contacts (Lotgenotencontacten)

Companions share the same experiences, offer compassion, and give more confidence in the future. Organised companion contacts offer opportunities for mutual support between individuals with the same type of problems. Geelen and Janssen (1998) interviewed participants of companion contacts for drug problems. The reasons most often expressed for participating referred to learning from others what a drug problem actually is and how to cope with drug problems. Participants perceive an unequal relationship with professional care givers.

Effect studies

Studies of behaviour modification of drug users caused by self-help groups are very rare and all of foreign origin. The results cannot be translated to the Netherlands. In general the development and application of adequate methodology is restricted and conclusions about effectiveness of self-help remain difficult. Therefore, effects are often restricted to the utility of these groups for participants.

g Alternatives to prison and prosecution

Interventions that are of interest for this category have already been described in paragraph 9.5.

10 Quality assurance

Quality care was settled by law, it constitutes a long-term process of improvement and evaluation of it requires explicit criteria. More than ten years ago organisations of health care (including addiction care) have agreed on the implementation of quality systems during two conferences. Five years ago it appeared that this took more time than was expected initially. For the fourth conference in May 2000 a discussion paper was published that described the state-of-the-art in the field of health care (De Veer et al., 2000).

Results of this paper show that nowadays different organisations use different models of quality care but two models are most prominent in mental health care. The first is based on guidelines from the Netherlands Institute for Quality Prices. This institute is meant to stimulate quality care in all fields though it was initially operating for business organisations.

The second model is derived from the American tradition of Total Quality Management and 'business excellence'. In this model self-evaluation results in internal and external audits determine systematically and independently several aspects of organisational performances and to stimulate further development and improvement. Standards and guidelines from the International Standardisation Organization (ISO) are used to harmonise the differences in quality systems. For the domain of mental health care new elements were added to these standards to adapt it to specific characteristics of mental health care. In this model the client is the basic element (the effects of these systems) and care system elements are preconditions (organisation policy, personnel management, process management, logistics, etcetera). This model is used by search committees for comparative inter-organisational testing.

The evaluation of De Veer et al. shows indeed that developments in quality systems are much slower than expected. Too much targets were set that were too difficult to reach in five years. During the same period many organisations have merged which shifted the flow of energy for management and professionals to other problems. The last five years showed also positive results. First, quality system, responsible care and other concepts became vested terms in the interactions between government agencies, care assurance companies, care organisations and client organisations. Some other important concepts (i.e. client-directedness, effectiveness and efficiency) were operationalised to testable and measurable terms. Knowledge of the methods and the executors of external judgement trickled down to the stakeholders and have become common knowledge. A systematic implementation and development of elements of quality care still lags behind. Examples of these elements are: co-ordination of professionals, participation of clients and of the funding agencies, external orientation (continuity of care), and an organisation-wide implementation of quality system. Transparency of process, effects and costs of care within and between the organisations, for clients, assurance companies and the government is improved. The feasibility and effectiveness of legal pressures or sanctions (the national Inspectorate of Health Care) seems low. Research and financial support are a sine qua non for future developments. All this implies work-in-progress and new agreements were made for the coming years.

Several specific initiatives to enhance quality of drug prevention and addiction care have already been described in paragraph 8.2a.

Quality assurance procedures are enhanced and stimulated by the initiative of the Ministry of Health, Welfare and Sport to fund annual Branch Reports on Health Care. The trimbos-institute is responsible for the subjects Mental Health (including addiction care) and Social Service (Maatschappelijk Opvang). These annual reports are systematically monitoring statistics on the following aspects: supply and capacity, use and productivity, financing of care, and quality of care. In former years many of these statistics were absent or incomparable. Therefore the Ministry has also initiated a new registration system (ZORG-IS) to enlarge possibilities for regular reports of essential data in a systematic way (see 8). The new registration system is meant to gather client-based data that enable to 'follow' clients through the health care system. In future years different types of 'stepped care' (a stepwise client-specific programme of care), and the above mentioned other aspects can be determined and evaluated.

In paragraph 10 we already mentioned an instrument for improving registration data in addiction care. It is called AIKIS (Analyse Instrument Kwaliteit in Samenhang) and it will be

on the internet in spring 2002. The users of AIKIS are forced to report in pre-determined concepts about prevention activities and policy. It thus creates more unity of language in drug prevention and standardises the description of objectives, target groups, and activities of prevention projects (or programmes). Training sessions were organised, and a help desk was started. Working with this instrument is not obliged but many institutions have participated and suggested points of improvement.

10.1 Quality assurance procedures

At this moment the use of guidelines or protocols to standardise care activities is not commonly applied and existing protocols or monitoring practices are still rarely tested and improved.

Explicit quality assurance procedures have not been published yet (Brinkman, 1999), though recommendations for co-operation or participation between outpatient care and its clients have been made explicit after intensive consultancy of all stakeholders (IGB, 1999). Protocols were the main subject of an explorative meeting on this subject that was organised in December 1999 by the Development Centre for (Quality and Innovation of) Addiction Care (see 8.2a). Some organisations of addiction care have applied such quality assurance protocols (van Dijk, 1999; de Jong, 1999). Most obstacles are encountered during the implementation phase. Rigid application appeared to be difficult and a more flexible application was preferred. Implementation initiatives were altered depending on the obstacles that were encountered in daily practice. Key issues in this iterative process were effectiveness, efficiency, client-focus and manageability. An important obstacle appeared professional culture and autonomy. Co-operation of professionals seems a *conditio sine qua non* for success. What has to be tackled first, structure or culture, control or education? Discussions during this meeting about pros and cons of protocols suggested that the targets of these protocols were not a rigid standardisation of addiction care practice but served as rules of thumb or guidelines to structure the process of care. It was reminded that today addiction care is more frequently given by multidisciplinary teams and not by individual professionals. Second the turnover within practitioners is high which endangers the passing of knowledge when this is not explicitly put on paper. Third, a certain standardisation can decrease the enormous differentiation of methods of care or therapies. Finally, compared to health care, addiction care is a relative young discipline and the uncertainty about the effectiveness of types of care and treatments is still considerable.

10.2 Evaluation

A separate evaluation of quality systems in organisations of addiction care has not been published yet. The implementation of effective addiction care that are planned during the coming years will also result in specific evaluations in this domain (see 8.2).

Older agreements (see 10) resulted in a follow-up study of quality systems in mental health and addiction care. Questionnaires were sent to the management of all 248 organisations five years after the first survey. The response was 59% (compared with 66% in general health care). There were 19 organisations of addiction care among the 144 responders. Organisations of addiction care did not differ substantially from those in mental

health care though progress in the use of methods of quality systems in addiction care seems more advanced (De Veer et al., 2000).

Almost all organisations are active with quality systems. In several organisations more than one model is used. The model based on guidelines from the Netherlands Institute for Quality Prices is used most frequently (60%). The second one, the adjusted version of the American tradition of Total Quality Management, was mentioned almost as much (53%). Mental health organisations mentioned other models far less frequently.

In some 50% of the organisations the management is steering this development by explicitly stating what is expected from professionals, by checking their adherence and the execution of the agreements.

Quality systems are expensive and many organisations initiated a special budget, for instance for a special quality manager or a steering group. However, knowledge about costs of care and about the actual costs of activities that stimulate quality care is still rare.

Process management is improved by systematically monitoring activities. Monitoring effectiveness is largely non-existent. Using guidelines or protocols to standardise care activities somewhat is not commonly applied and existing protocols are still rarely tested and improved.

This evaluation also uncovers many complaints about quality care in mental health and addiction care. Most frequently mentioned are 'both the costs and working pressure have increased'. This broad domain is marked by the initial phase of implementing quality systems: spending most of the time to process control.

Clients are almost always committed to quality activities but this seldomly happens systematically. Information about legal rights of clients and the possibilities of care is almost always given, but client participation mostly takes place via client organisations and their influence on the supply or choice of care remains rudimentary.

Some organisations that have progressed more than others by reporting more positive than negative effects, but overall perceptions and future expectations of the effects of quality assurance systems are positive (De Veer et al., 2000), though it will take years to realise substantial quality improvements.

10.3 Research

Data in a recent report support the possibility of a 'ceiling effect' of cannabis use among secondary school students (10-18 years). For the first time in 16 years cannabis use decreased somewhat from 1996 to 1999. The use of XTC and amphetamine in this population has decreased also (De Zwart et al., 2000). Data from the Antenna survey in Amsterdam show an increase in critical attitude towards drug use (between 1997 and 1999) and a decrease of substance use in general (Korf et al., 2000).

The popularity of cannabis, synthetic drugs and other substances necessitated a national prevention policy because it is often assumed that the health risks of drug use are underestimated.

Yet a literature survey conducted by the Trimbos-institute showed that the effectiveness of drug prevention was still largely unknown. For most preventive interventions insufficient evidence for effectiveness was found (Van Gageldonk and Cuijpers, 1998). It has

also been noted on various occasions that funding or investments of research in Dutch addiction care facilities fall short and that the actions to stimulate co-operation and exchange between practice and research remains poor. Priorities of Dutch drug prevention policy are now on improving prevention effectiveness, promoting expertise and stimulating innovation and creativity (see 8.2a).

At this moment the Amsterdam Institute of Addiction Research (AIAR) is developing criteria and indicators for a monitoring system for addiction care services. The target is to improve the effectiveness and efficiency of addiction prevention and treatment programmes. Annual reporting about quality management has already been institutionalised in the Jellinek Clinic (see above).

One of the foci of the NWO/ZON Addiction Programme (see 8.2) is improvement and innovation in addiction prevention, care and monitoring. In 1999 proposals have been formulated by NWO/ZON concerning the subjects and project designs on development and implementation projects. Examples of subjects are: development of guidelines for prevention of addiction, family-based interventions, the effectiveness of coercive treatments and co-operation of with judicial after care (reclassering), and co-operation between mental health care organisations when addicts also have mental problems (dual diagnosis).

10.4 Training for professionals

Training to increase knowledge and practice of addiction care for general health professionals is underdeveloped. Up to now, the attention paid on addiction issues during basic professional training for physicians, nurses, social workers, psychiatrists and psychologists is minimal. For youth workers Jellinek Prevention set up a training course in excessive cannabis use as part of a cannabis week that was organised a few years ago. This training is continued and special training will be given to immigrant workers. Special training courses prepare addiction workers that already have experience in addiction care for professionalism in working with addicts (Nieuwenhuis and Van den Brink, 2000). Three examples of organisations that give specialised training course for addiction care are the Trimbos-institute (Netherlands Institute of Mental Health and Addiction), the Amsterdam Institute of Addiction Research (AIAR), the Jellinek School and the School of Criminal Investigation.

General training programmes as well as training sessions on more specific addiction issues are offered by the Trimbos-institute. This institute also organises forums, conferences and work shops. AIAR specialists are also involved in training courses of the European Addiction Training Institute in Munich (AIAR, personal communication). In the Jellinek School, choices for (further) training are based on the estimation of training needs in teams by programme managers. Finally, police officials and other professionals specialists are trained in combating the supply of drugs (drug trafficking) during specific course at the School of Criminal Investigation in Zutphen (personal communication).

Answers on a questionnaire sent to the management of 143 care organisations (see 10.2), collecting data on quality care in addiction care indicated that during the last five years a selection of new professionals for the implementation of quality systems occurred in 7% of the organisations (De Veer et al., 2000). Training of professionals for improving expertise regarding quality systems occurs in 69% of the institutions and training of the management in 73%. This results refer to both mental health and addiction care.

Other results indicate that in many cases professionals are stimulated to follow additional or supplement professional training (91%), or training during working hours in quality

care (82%). Finally, in 23% of these organisations professionals have received systematic feedback on the results of their treatments and care.

Although evaluation of care is only a part of quality systems, it is a crucial part. This conclusion also holds for drug prevention activities. Together with the National Support Centre for Drug Prevention (LSP) the Netherlands Focal Point has organised training sessions for drug prevention professionals late 1999 and a second round is planned in December 2000 (see 8; 8.2).

Conclusions: future trends

The most important trend in drug prevention and addiction care (both demand reduction and harm reduction) is pointing towards improving quality. Quality is a broadly defined and fuzzy concept, but crucial elements are effectiveness, efficiency (cost-effectiveness), client-centredness and – in order to evaluate these targets - the ability to measure these elements. Quality assurance is a process enabling to enhance quality and control it in the long run. All this encloses several endeavours i.e. specification, standardisation, registration, evaluation and – if necessary - correction of activities in these fields or choosing more (cost-)effective ones. It also requires basic organisational facilities to realise these endeavours.

In the Netherlands we have started to work on quality assurance in mental health and addiction care for several years now. Already at the beginning it was considered to be a long-term process of improvement. Nevertheless, an interim evaluation showed that the process of quality assurance measures is proceeding slower than expected. The evaluation results show us that today the concepts are vested terms for the management in the field and some of them (client-directedness, effectiveness and efficiency) were specified to measurable concepts. Consciousness about the necessity of quality assurance is enhanced, but management and enthusiast professionals are also convinced that obstacles for implementation are numerous. Flexible implementation strategies are required to gradually persuade workers and management in the field of the importance of quality assurance measures and to enable changes of old attitudes and settled practice in this field. Developments in quality systems show considerable differentiation and elements of these systems that were originally used in profit organisations are partly changed or others added to adapt it to the specific needs of mental health and addiction care. Guidelines or protocols are not commonly applied yet. Both research and training sessions have shown that most evaluation strategies are methodologically flawed. An evaluation instrument was constructed, disseminated and will be improved according to the latest research results and practice recommendations. Annual awards for the best prevention projects are presented. Yet, monitoring activities still need to be more centralised and registrations more comparable to enable a valid combination of local and regional data.

Important actions were initiated during the last few years in the field of drug prevention and addiction care. Though these actions were partly non concerted, they certainly help to improve quality in this field.

First, three conferences resulted in proposals for increased co-operation and communication between general practitioners and addiction care. Preliminary guidelines for general health care were set up and the importance of additional education for GPs recognised to meet these new requirements. Second, three Development Centres are set up

in 1999 to accomplish quality assurance in the long run. Third, the Office of the National Drug Monitor (NDM) has started its activities in the same year and reports annually about national drug issues for policy makers, other politicians, governmental professionals, researchers and the interested public. This Office also publishes several short NDM Notes per year with evidence-based data on specific drugs or treatments. Fourth, a national electronic register for drug prevention projects and an instrument to stimulate a systematic description of prevention activities within organisations of addiction care are both developed and will be made easily accessible on internet sites. When successful, these data facilitate data aggregation for the NDM and other organisations in the field. Fifth, a research programme is funded to stimulate high quality research in health prevention and several drug-related studies including effect studies have started now that probably enlarge or specify the evidence base for prevention, treatment or care. Finally, a new professorial chair focussing on the same subjects has been founded.

Information seeking behaviour mirrors technological developments. The tremendous growth in visits of the website of the Drug Information Line during the last three years has surpassed the frequency of telephone calls. Most probably this development is also manifest for the sites of the organisation of addiction care.

Gradually the attention paid to several groups that are difficult to reach or to treat is growing. Projects to prevent or treat drug abuse among prostitutes, imprisoned (petty) criminals, political refugees and other immigrants were started. *Treatment measures for criminal drug addicts tend to become stricter than before. Since the end of 2000 a coercive two-year treatment has gained legal support.* Special projects were meant to develop types of care for people with dual diagnosis. Inpatient Motivation Centres for treatment refractory clients were set up to help them in structuring their lives and to motivate them for regular care. Other treatment resistant users are helped by detoxification with naltrexone under anaesthesia followed by a one year maintenance treatment and psychosocial interventions. An experiment with heroin prescription for chronic users is a second example. User rooms permit outreach workers to stay in contact with and - if perceived necessary - intervene in specific scenes.

The number of injecting drug users is decreasing and this population is growing older and needing extra care to maintain a minimum level of quality of life. The risk of infectious diseases is reduced but might be much higher among immigrant groups with high rates of multidrug use that are difficult to access. A peer project was meant to inform and assist them, yet it remains difficult to reach this multiproblem group. Most of them are illegal residents and female peers were not available due to cultural restrictions. Attention for hepatitis C infections among these groups remains necessary because of slumbering long-term effects for users as well as public health.

PART IV

Key Issues

11 Poly drug use: drug set and setting

Defining polydrug use

The term 'poly drug use' is often used interchangeable with 'multidrug use', 'multiple drug use', or 'poly substance use'. Lecesse et al. (2000) make a distinction between

1. simultaneous use (drug a and b at the same time)
2. consecutive use (use of one drug following use of the other)
3. concurrent use (use of drug a and drug b at some times during the same period)
4. co-use (use of drug a and b in the same individual without a specific temporal relationship).

In the Netherlands, data on pattern 3 and 4 can be inferred from surveys looking at the prevalence of use of two more substances at a lifetime (pattern 4) or in the month or year before the interview (pattern 3). For example, in the 1996 school survey, 10% of the pupils had consumed cannabis as well as alcohol in the past month; 9% had recently used cannabis and tobacco and 8% had used all three substances (Kuipers et al., 1997). See also 11.1b. Moreover, pattern 3 is common among regular hard drug users (see chapter 2.3.3, table 17) and specific subpopulations in the party, club and pub circuit (see chapter 2.2.4, table 9 and table 10).

Pattern 3 also corresponds with polysubstance dependence or polysubstance-related disorder as defined by the DSM-IV, i.e. repeated use during the same 12-month period of at least three groups of substances (not including caffeine and nicotine) but no single substance predominated. During the same period, at least three of the nine DSM-dependence-criteria have to be met for substances as a group but not for any specific substance. However, there are no Dutch studies known to us using this definition.

Most data mentioned in the remainder of chapter 11 refer to pattern 1 and 2, i.e. (almost) simultaneous or combined substance use referring to combinations of alcohol and other drugs, such as cannabis, cocaine or crack, speed, ecstasy (Vermaas, 1999; Lecesse et al., 2000; Nabben & Korf, 2000). Simultaneous use of combinations of different drugs, for instance cannabis and ecstasy or heroin and cocaine or speed, also occurs.

11.1 Patterns and user groups

11.1a Combinations and effects sought

Combinations of alcohol and other drugs are probably most frequently used during the weekend (De Bruin, 1999). Alcohol use by young people has increased considerably during the last years. In the Netherlands young cannabis users mostly smoke this drug, using 'joints' mixed with tobacco. Thus, they use tobacco as well and nowadays also alcohol (Nabben & Korf, 2000). The use of combinations with other illicit drugs (cocaine, crack, ecstasy etcetera) is less frequent and is mainly restricted to participants in specific scenes (addict scenes and trendy scenes). Combinations of hallucinogene substances and other drugs are less frequently used at events during weekends (De Bruin et al., 1999). Trustful statistics however are absent.

Nabben and Korf (2000) interviewed a non representative sample of young people (19 to 30 years old) who had ample experience with polydrug use. The evaluated combinations were cannabis and alcohol (N=10) and alcohol and stimulants (N=15). Interviewees who combined the use of cannabis and alcohol did so preferably with friends, and especially during the weekends or when going out to clubs or parties. Combined substance use was in most cases not a consciously chosen option but largely depends on the situation and on the attitude of the peer circle towards these substances. Combined use of cannabis and alcohol is a social activity par excellence and feeling good and being in a congenial environment were conducive to this kind of polydrug use. These young people themselves did not consider this combination to be harmful, although the need for moderation was emphasised.

Many young people had no explicit motives for combining alcohol with cannabis, nor did they have clearcut expectations of the effects of combined use. Some do not expect special effects and are followers in the peer circle. Others expect to pep up from combining these substances and a third category expects to become 'stronk' (stoned and drunk). Experiences with negative effects of combined use are often attributed to drinking too much, not to cannabis use. Most interviewees however, did report unwanted nausea. In short, combining alcohol and cannabis serves a fast kick, a happy kick and a good atmosphere, and is practiced mainly by young men, in an outside environment together with friends. The attitude at home towards (poly)substance use is often negative.

The substances used by the second group were alcohol, cannabis and stimulants (ecstasy, amphetamine and cocaine). Preferences were either drinking (alcohol) or cannabis (blowing) and dependent on this primary preference, specific combinations with stimulants were usual. All of the fifteen study participants had long-term experience with alcohol though the intensity differed. The frequency of alcohol use ranged from once or twice a month to every day and the quantity of glasses during one drinking 'session' from one to fifteen. Alcohol use is presumed to stimulate a good atmosphere, relaxation and easier social contacts. Cannabis was used by fourteen of the study participants but the use of this substance was less compared to alcohol use. Cannabis use results in a feeling of rest, peacefulness, or relaxation. There was consent about the negative effects of blowing too much. It's getting you 'dopey and boring' and introvert. All used ecstasy last year and they valued the effects of this substance as more positive than those of amphetamine (rushes, well-being, energy, stamina). Fourteen used cocaine, mostly later than ecstasy (cocaine is becoming fashionable again). Cocaine is thought more suitable to the past years than the softening effects of ecstasy. Nowadays, boys and girls tend to act more extravertly to each other, thus stimulating 'cocaine kicks' have become more acceptable socially. Amphetamine ('speed') is clearly less popular than the other ones. Fourteen study participants used it once, nine have used it last year and three last month.

Here, combined use also depends largely on a positive mood, good friends, and a proper environment (in most cases the weekend trips to dance parties etcetera). Combined use is avoided when being alone or having obligations. The most frequent combinations are:

- alcohol and cocaine (most used)
- alcohol and cannabis
- alcohol and ecstasy
- cannabis and ecstasy

There are, however, many personal variations in intensity of use. Less usual are combinations of ecstasy and cocaine, amphetamine with ecstasy, cannabis and alcohol, and cocaine and alcohol. Again, the sequence of use differs considerably individually.

These 'subjective' experiences with polydrug use were to a large extent consistent with the 'objective' data from toxicological studies (Leccese et al., 2000). Some of these experiences have not been reported sufficiently to give an explanation. An example is the nausea that was reported to occur frequently when alcohol was combined with cannabis. A second example is the tendency to drink more when using cocaine compared with the combination of ecstasy and alcohol. More toxicological research is necessary to know how and why this happens (Nabben & Korf, 2000).

In addition to these largely recreational patterns of substance use, combined use is common among regular and marginalised hard drug users, especially the combination of centrally depressant and stimulant drugs, such as heroin and cocaine or amphetamine. For example, injection of so-called *speedballs* in the past 6 months have been reported by 22% of the ever injectors in the Hague, 28% in Brabant and 46% in Amsterdam (Berns et al., 2000; Beuker et al., 1999, 2001). Opiates and cocaine may also be used shortly after each other, to dampen or reduce the negative effects of cocaine smoking (e.g. paranoia, speedy effects) or to counteract the depressant effects of heroin (see also 11.1b).

11.1b Patterns and user groups: historical perspective and new patterns

Poly drug use was an unregistered phenomenon before the Second World War. After the war combined use of alcohol and tobacco became popular. During the fifties and sixties, this combination became acceptable and very popular in our country. American and European movies from the postwar era are replete with scenes that show people using alcohol and tobacco. Poly drug use including other drugs occurs often in specific user groups. In the period 1974-1980, more than 40% of 352 drug users (clients of the methadone bus programme of the Municipal Health Service in Amsterdam), mainly of Surinamese origine, used cocaine combined with heroin and 34 clients used Mandrax or methaqualon, a substance that has well-known negative impacts, such as black outs. The majority of a non-representative sample of 225 heroin users in a study on AIDS (80% were injecting heroine) also used other drugs, mostly benzodiazepines and cannabis (Van Brussel, 1979).

Information from First Aid Services working with victims of drug overdose indicated that these sad events almost always were related to polydrug use in that period (often alcohol and flunitrazepam or Rohypnol) and to psychiatric disorders (Van Brussel et al., 1987).

So, in the Netherlands the concept of poly drug use originally referred to heroin addicts who used other drugs at the same time. Heroin users have become older nowadays and few are still injecting heroin. At present heavy users within the hard drug scene more frequently combine cocaine or crack with other drugs or with alcohol.

A second group uses 'trendy' combinations in fashionable scenes (dance parties, raves, discotheques, bars, mostly during the weekend. In this case polydrug use serves to maintain an equilibrium between feeling good and feeling fit during (over)active weekends. Experimenting youngsters probably try out several combinations for supposed different

effects thus accentuating their distinct lifestyle compared to other peer groups (Nabben & Korf, 1999).

A third group consists of dual diagnosis clients with polydrug use. Dual diagnosis clients have both mental disorders and addiction problems (see 8.2). A recent study among professionals experienced in working with dual diagnosis clients was evaluated afterwards by several expert groups (Meeuwissen & Kroon, 2000). This study presents data that indicate the amount of polydrug use among this client category, which was defined as the use of two or more substances per day. Two thirds of the sample were men. The results show that 86% of the clients was a poly substance user according to this definition. Overdoses were more common among women than men (9,8% versus 1,7%). Alcohol use was often combined with cannabis (54%), cocaine (44%) and medicines (36%). Medicines were often used with alcohol (60%), and/or cannabis (42%). Cannabis users often also used cocaine (62%) or alcohol (50%). Cocaine users often combined cocaine with cannabis (58%), heroine (46%) or alcohol (37%) and heroin users with cocaine (73%), methadone/LAAM (60%), cannabis (43%) or alcohol (38%).

The oldest study reported the use of more than one drug simultaneously (pattern 1) among inhabitants of Amsterdam older than 15 years (Sandwijk et al., 1988). This study confirmed the common wisdom that the most frequently multidrug use was a combination of alcohol and tobacco. Three quarters of the alcohol users also smoked while they were drinking. Other types of multidrug use were rare but pointed at small groups that often used multiple drugs. The most prominent results are:

- More than half of the cannabis users usually drank at the same time (57%)
- Cocaine and amphetamine users often drank simultaneously (both 65%)
- More than a quarter of the cocaine users combined this with cannabis (29%).

Representative quantitative results of different groups are almost impossible to discover. Qualitative field studies offer further insight in patterns of multidrug use although the results differ somewhat. Cohen (1989) found that 'non deviant' cocaine users also used alcohol (86%, "regularly or often"). For tobacco and cannabis these percentages were 86% and 40%. Some five years later these habits have not changed significantly (Cohen & Sas, 1995). Other field studies targeted visitors of places of entertainment for young people, especially large-scale houseparties (van de Wijngaart et al., 1997; 1999). The authors found high percentages of drug use during that night and concluded that simultaneous use of different drugs was evident. Qualitative studies in Amsterdam (in depth interviews and focus groups) among visitors of parties and trendy clubs or discotheques registered a higher use of alcohol than the national study of van de Wijngaart et al., and a lower use of ecstasy in those years (see table 42). In these studies visitors were asked what substances they used during the last night (Korf et al., 1999).

Table 42 Substance use (%) during party nights in three studies

Substance	House parties National, 1996 N=764	Parties and clubs Amsterdam, 1995 N=462	Parties and clubs Amsterdam, 1998 N=456
Alcohol	34	77	84
Ecstasy	64	26	28

Tobacco	75	56	56
Cannabis	41	35	30
Amphetamine	34	6	7
Cocaine	7	7	11
Mushrooms	2	1	1
LSD	1	1	< .5

In the Amsterdam studies visitors were also explicitly asked for combined drug use. The authors discerned four types:

- The sober ones (16% in 1995 and 10% in 1998) have not used alcohol nor other substances
- The drinkers (41% in 1995 and 40% in 1998) used alcohol, but no other drugs
- The blowers (16% in 1995 and 14% in 1998) used cannabis, and most of them also used alcohol, but none did use other drugs
- The 'peppers' (27% in 1995 and 36% in 1998) used ecstasy, cocaine and/or amphetamine. Most of them used ecstasy combined with cocaine, and/or amphetamine. Most also used alcohol and/or cannabis.

11.2 Health and social consequences

11.2a Health consequences and negative effects

Recently a Dutch systematic review of toxicological research was published that explored the effects of combined use of alcohol and other psychotropic drugs. The authors suggest that effects of combined use can be additive, reinforcing or inhibiting, depending on the substances involved. Conclusions are drawn in analogous terms for specified combinations (Leccese et al., 2000).

Cannabis can have each of the three different effects on reductions of the driving ability (cognitive, perceptual and motor skills) after alcohol use. Pharmacokinetically, cannabis delays the absorption of alcohol and leads to lower peak alcohol blood levels. In contrast, behavioural studies that include alcohol blood level measures show that cannabis has no significant effect on absorption or peak blood levels.

The effects of alcohol combined with amphetamines on behaviour depend on the quantities and on the outcome measures chosen. Prospective research shows an additive effect on pleasure variables. On the other hand, retrospective research indicate that alcohol and amphetamines are used to inhibit the effects of the other drug. Other studies show an increase of the heart functions, thus increasing risks for heart disease. Finally retrospective research show that this combination (included ecstasy) can reinforce the risks of mental disorders (psychosis a.o.).

Alcohol and cocaine damages, when used separately, physical and mental health in the long run and the effects of combined use will probably be additive. The result of combined use increases the risk for cardiovascular disease. Retrospective studies point at the increase of violent thoughts, threats to use violence and finally violent behaviour.

A study of First Aid services during weekend dance parties reported that a combination of ecstasy and amphetamine shows a high risk of getting ill (De Bruin et al., 1999). This study was not specifically targeting polydrug use.

11.2b Specific social consequences for polydrug use

We lack specific research results on this subject, thus a trustful overview of social consequences is impossible. Instead we give some subjective ideas fed by daily experience of the police force with such polydrug users.

At a Conference in 1999 (*Drugsdeskundigheid terug op de kaart*) the relationship between binge drinking and drug use was discussed with representatives of the police force. They had rather bad experiences with young people who used alcohol and drugs. In a report the risk of excessive aggressiveness appeared to be high, especially after the combination of alcohol and ecstasy or speed (Snippe, 1997). Questions asked to other representatives of the police confirmed this conclusion. Answers indicate that young people who combine alcohol and hard drugs (cocaine, speed and other drugs) can be extremely dangerous (Vermaas, 1999).

Another source of data (i.e. on criminality) give indications of a specific user group. Recently published statistics on criminality in 1998, show data on the top five percent of registered criminals in the Netherlands, i.e. 9,500 individuals with more than 20 antecedent penal acts (Werkgroep Landelijke Criminaliteitskaart, 2000). This small group is responsible for 46% of all registered delicts (1,4 million in total). The prevalence of addiction problems among more than half of these registered suspects is high. The calculation strategy probably underestimates the actual number. This implies that the year prevalence of addiction problems among this group is more than eight times higher than the total group of criminal offenders (Van Panhuis & Meijer, 2001). Prevention of drug-related criminal careers is targeting first-offenders and followers. However, decreasing existent drug-related crime and associated societal harm requires tackling the hard core of drug criminality, inclusive recidivists among criminal addicts. It is often assumed that an effective approach against these 20% (the hard core) would decrease 80% of drug-related criminality.

11.3 Risk assessment and local market

See also chapter 5.3, table 40 and chapter 11.4a.

11.4 Specific approaches to the interventions

11.4a Prevention

Prevention of unconscious polydrug use

Risk assessments are regularly conducted by the test service of Drug Information and Monitoring System (DIMS) of the Trimbos-institute. The task of DIMS is testing components and intensities in random samples of (new) drugs that circulate in bars, clubs, rave parties, etcetera. Former analyses show that the ecstasy market has always been 'polluted' by other substances. Other substances than MDMA (ecstasy) were regularly found in pills that were also sold as 'ecstasy'. In 1996 twenty percent of the tested pills was polluted. Ten percent of these were adulterated with amphetamine. In 1997 this pollution reached its maximum. Half of the tested pills combined MDMA with amphetamine (see also chapter 5.3).

Recently DIMS has traced dangerous combinations of drugs within pills that were sold as 'ecstasy' during these parties. Besides MDA (an ecstasy variant), they contained PMA

(paramethoxyamphetamine). Several press releases and flyers served to warn users of these specific pills.

11.4b Treatment

At the national level, poly drug use has not been a topic in the past but nowadays attention in the big cities for the extremely problematic group of hard drug users is increasing. However, specific treatment regimes are up to now non existent in the Netherlands.

11.4c Harm reduction

We are aware of only a few specialised harm reduction tools specifically meant for polydrug users.

One example of outreach work targets addicted street prostitutes (some with dual diagnosis or polydrug use). Specialised social work service was organised for the city of Rotterdam (PMW, 1999). The presence of a social worker on a fixed evening and regular visits during the day made it feasible to contact these women and to motivate and support them to change their lives. In 1998 48 addicted prostitutes used this specialised social work and 38 of them had contacts with specialised addiction care (a 'living room') situated near the work spot. A third of this target group used methadone, another third did not, for the others this was not clear. In most cases, losing contacts with these care facilities means 'getting lost'. Contacts with regular addiction care facilities are short-term and mostly occur during crises. Contacts afterwards are rare. The main target of this specialised service is to support or assist this target group in resocialising themselves: i.e. mediating between clients and guardians, renewing contacts with their children, or referring them to regular addiction care.

Prevention and harm reduction for non deliberate polydrug use is getting more popular nowadays. Regular monitoring and testing of drugs can quickly prevent the continuation of disastrous effects of pills with dangerous components. The effectiveness of First Aid services at big dance parties has been evaluated. Small teams that are well trained are more effective than bigger teams with a moralistic approach and insufficient knowledge of the possible effects of several drugs. In the evaluated period the incidence of hospitalisation is very small (one per ten thousand visitors). The incidence rate for other accidents is two per ten thousand. Most people visiting the First Aid Post are sufficiently helped with rather simple methods (De Bruin et al., 1999). Today the initiation of Mobile Pill Test Facilities during dance parties and other big manifestations where pills are often used, is defended.

11.5 Methodological issues

11.5 a/b Limitations in data availability and future needs

At a Conference in 1999 (*Drugsdeskundigheid terug op de kaart*) the relationship between binge drinking and drug use was discussed with representatives of the police force. They had rather bad experiences with young people who used alcohol and drugs. In a report the risk of excessive aggressiveness appeared to be high, especially after the combination of alcohol and ecstasy or speed (Snippe, 1997). Until now, people who were arrested for violent acts are not checked for drug use, except alcohol when they were driving.

A thorough registration is lacking, thus the magnitude of this delinquent problem group remains unknown. The Ministry of justice is planning to improve registrations of criminal acts and analyses of these data (included substance use) in the near future (Snippe et al., 2000).

Most population surveys or school surveys do not include statistics of combined use. At best these studies give indications of combined use by reporting data on prevalence of substance use (last year or last month).

Studies that explicitly target polydrug use are more prone to enhance our knowledge than studies that only give indirect evidence of combined drug use. It is conceivable that new studies target different polydrug user groups as described earlier (see 11.1b).

11.5c Methodological proposal

(some suggestive instigations are delineated above)

12 Successful treatment: the effectiveness of the interventions

In de guidelines for National Reports treatment has always been separately mentioned from prevention. Therefore we excluded the area of drug prevention although (secondary and tertiary) prevention and treatment are overlapping.

12.1 The approaches to the treatments and the related concepts of success

12.1a Concepts and criteria for success: Intervention approaches, target groups and drugs used

The first edition of the National Drug Monitor (NDM, 1999) reported a short overview of interventions used and in-use in Dutch drug prevention and addiction care, and specified these for four substances (cannabis, cocaine, opiates, and alcohol). As we have already outlined above, we present exclusively the interventions for addiction care (i.e. treatments).

Treatment of cannabis use

In the Netherlands treatment of people who suffer from cannabis dependence consists of psychosocial treatment variants that are used for other drug addicts as well. As far as we know, pharmacotherapies against cannabis use do not exist. Incidentally benzodiazepine is used for clients who suffer from an anxiety disorder after cannabis abuse (Van den Brink & Geerlings, 1999a). Little is known yet about the effectiveness of treatments used for (chronic) cannabis abuse.

Medicinal treatment with cannabis

Seven advisory reports have been published about the pros and cons of medicinal efficacy of cannabis:

- The Dutch Health Council, 1996
- The Council on Scientific Affairs of the American Medical Association, 1997

- The British Medical Association, 1997
- The National Institutes of Health (US), 1997
- The World Health Organisation, 1997
- The House of Lords (UK), 1998
- The Institute of Medicine (US), 1999

Although doubts about the effectiveness of cannabis remain, several indications from research justify further studies. Cannabis might be effective for pain in cancer patients, nausea and vomiting with chemotherapy, extreme weight loss or loss of appetite with Aids) The evidence at this moment is scattered, because several preparations (marijuana, laboratory-made THC and variants) were used thus overall conclusions could not be drawn. Furthermore, other effective medicines are already available. Still, cannabis might serve as a reinforcer for these drugs or might be used for patients who are resistant to these drugs. Nevertheless, it will be difficult to implement cannabis in reality. Smoking it will be damaging to health, and extracts from hemp are bound to strict regulations of the Food and Drug Administration (dose, safety and efficacy). Pharmaceutical organisations will not easily be inclined to produce these pills, because hemp is difficult to patent (except genetically manipulated types). Finally, becoming 'high' is not accepted by all patients, so this effect will probably have to be separated from its medical effects.

A group of Dutch patients who suffer from multiple sclerosis, cancer or aids are already using cannabis to reduce pain. They purchase this substance in coffeeshops or it is bought from a patient.association. Because quality control of cannabis and medical support are presumed to be absent in these situations, the Minister of Health, Welfare and Sport recently pronounced that this patients will be enabled to purchase cannabis on prescription. A prerequisite is that the Opium Law should be adapted for this target (Volkskrant, 2001, Nov. 6th).

Treatments of cocaine use

Cocaine and opiate addiction often coincide, thus interfering with the choice of effective treatment. American research on the effects of treatment of cocaine abuse among methadone maintenance clients predominantly resulted in a lack of success (Silverman et al., 1998). Initially it was tried to reduce cocaine use by higher dosages of methadone. This reduced heroin use and also the craving for cocaine. Higher doses of methadone might suppress the intake of heroin and cocaine as well but offers another addiction instead. Dutch inclusion criteria and dosages differ from the American methadone programmes. An experiment with higher doses of methadone in the Netherlands is now being evaluated (Driessen et al., 2001). Buprenorfine appeared to be unsuccessful, and this negative results were also valid for several antidepressants and acupuncture. The success of psychological treatments were mixed. In general, pharmacological treatment of cocaine use is in its infancy. The evidence of effectiveness is still questionable. Most research experience is available for detoxification, reducing of withdrawal symptoms and of 'craving' (Van den Brink & Geerlings, 1999a; 1999b).

Until now specific treatments exclusively meant for cocaine addiction do not exist in the Netherlands. First, successful pharmacotherapies do not exist and the prevailing idea was that cocaine addiction needs psychotherapy. The American Collaborative Cocaine Treatment Study of the NIDA has changed this attitude somewhat. In this study the effectiveness of four treatments were evaluated: 1) cognitive therapy plus supportive drug group counseling, 2)

supportive-expressive therapy plus group counseling, 3) individual drug counseling plus drug group counseling, and 4) only drug group counseling. Cognitive and supportive-expressive therapies were offered twice a week during the first three months, once a week in the following three months and once a month during the last three months. Supportive drug group counseling consisted of weekly sessions of ninety minutes during the first six months (the twelve-step approach). The twelve-step approach was also central for individual counseling, serving as a reinforcer for drug group counseling. Contrary to the expectation of the researchers a combination of individual and group counseling (guided thus systematically offering a simple message: 'Stop cocaine use') was most effective for reducing the number of days of cocaine use, though this effect was not big. But it could be maintained for a year. We have summed up the conclusions in our annual report (NDM, 1999):

- Cocaine treatments should not be subtle. Instead a simple message (abstinence) will be sufficient
- The twelve-step approach not only offers a simple message but also a contacts with companions. In general self help is not effective but combined with support from companions it might be more effective
- Individual and group counseling should be systematic (protocolled)
- In practice a stepped care approach is probably most effective enabling professionals to adapt their treatments to individual characteristics, the phase of addiction, and thus the final target.

Still, the drop out rate during this experiment was 70%. This high rate is not uncommon in most countries and it explains more about the phenomenon of addiction than about addiction care. Results from the American Drug Abuse Treatment Outcome Studies (DATOS) suggest that clients with heavier psychiatric problems should be treated longer. Maybe the most important factor in treatment success is treatment duration (Higgins, 1999; Simpson et al., 1999). Participants who stayed in treatment longer than ninety days had better results than those who stayed a shorter period, independent of the severity of the problems. This suggests that shortening the treatment period (thus the costs) that has been often preferred by policy might very well be a highly ineffective option.

We can mention only one current local low threshold programme for difficult accessible polydrug users with an often excessive crack use. This user group causes much public nuisance. This programme however does not specifically aim at cocaine users nor does it contain a specific 'cocaine-directed' treatment. Instead it aims at creating and maintaining contacts with addicts in hidden cocaine or crack scenes in the city of Rotterdam to facilitate harm reduction actions, to stabilise crack use, and to motivate them to enter into regular treatment (Henskens, 1999). Members of this hidden user groups will be offered a time out facility to recover without the daily stress of the crack scene. They are visited daily by a professional, and the participants are offered assistance for practical problems, information, psychological and medical support. This project will be evaluated with a randomised controlled trial. Outcome measurement instrument used: EuropAsi (physical health, drug-related problems, crack consumption).

Treatment of opiate use

Above we mentioned the possible effectiveness of higher doses of methadone in maintenance programmes for opiate addiction. An American study offered opiate addicts a thirty week outpatient methadone treatment accompanied by supportive drug counseling. The authors concluded that:

- Lower doses of methadone (20-35 mg) are less effective than higher doses for stabilising their lives and remaining abstinent of opiate use
- Higher doses of methadone (80-100 mg) are more effective than medium doses (40-50 mg)
- The other effects of medium and higher doses did not differ (i.e. finishing detoxification and drop out rates in general)

A Dutch follow-up study on the effectiveness of methadone maintenance programmes targeted changes in the medical, psychological, and social situation of methadone users outside the four biggest cities in the Netherlands. Due to earlier research a sample could be traced and a comparison was made of the situation during the first test and two years later (Driessen et al., 1999). The response during the posttest was 91%. Outcome measurement instruments were specially developed for this study to detect changes in physical, psychological, and social conditions.

The initial sample of 599 clients was divided in three groups: 1) the abstinent (longer than three months no drugs used and not in prison), the deceased (1,5%), and the stabilised (90,1%). The majority of the third group (60%) has not changed in their medical, psychological or social situation. A quarter of the total group was better off and 17% worse (a net positive effect of 9%). Most of the changes were not extreme. The best predictor for abstinence was the fact that clients had relapsed before (sometimes more than once). Another factor that related to abstinence is duration of support while using methadone and duration of methadone use. Methadone doses in the Netherlands are lower than in the United States. Most abstinent participants in this follow-up have been using methadone before their abstinence for 6-8 years. Relapses were related to methadone use during two years or shorter. Finally, the social context appears to be important for abstinence and relapse (no contacts anymore with the drug scene, breaking the vicious circle).

Exclusively using psychotherapy and counseling for opiate addicts does not seem to be effective. Combinations of these therapy types with pharmacological treatments such as LAAM or buprenorphine may be more successful (Carroll, 1998). The effectiveness of naltrexone treatment is uncertain yet (Kirchmayer et al., 1999) and currently being studied in the Netherlands (Hendriks, 1999). Treatment effectiveness seems less dependent on the type of treatment than on the duration of treatment (see cocaine above). American research indicates that treatments should last at least three months or - even better - half a year. Coercive treatment arrangements, after care or a probation period will most probably have additional effects.

At this moment several research projects that have been funded recently are directed at target groups that (also) use opiates. These projects (and the included outcome measures) are:

- Relapse prevention with cue exposure therapy in inpatient addiction care (Addiction Severity Index, Symptom Checklist - 90, Profile of Mood States, Physiological Symptoms Checklist, Obsessive-Compulsive Drug Use Scale, Heroin Craving Questionnaire, Visual Analog Scales, Self-Efficacy List, Eysencks Personality Questionnaire)
- Drop out among addicts from cultural minorities in inpatient addiction care (drop out rates)
- Need for help among drug users of ethnic minorities outside addiction care (Addiction Severity Index, problems experienced)

- Rapid detoxification (4 hours) under anaesthesia with naltrexone compared with slower naltrexone detoxification without anaesthesia, followed by a one-year maintenance treatment and psychosocial interventions (Addiction Severity Index, Heroin Craving Questionnaire, percentage of abstinent participants)
- Medical prescription of heroin compared to oral methadone maintenance in chronic, treatment refractory heroin addicts (Composite International Diagnostic Interview, Addiction Severity Index, Symptom CheckList - 90, Maudsley Addiction Profile-Health Symptoms Scale, medical screening included urinalysis, EuroQol, Global assessment of Functioning DSM-IV)
- Diagnostics and treatment of ADHD patients with substance abuse in intramural addiction care (multidisciplinary development, testing and implementation of a diagnostic protocol, including a procedure and an instrument for screening: instruments for screening, self-assessment lists, psychiatric interviewing, lists for family members or partners)

12.1b Political and professional choices and principles behind the approaches

Traditionally, Dutch drug policy is perceiving drug users as patients not as criminals. The original target was detoxification. This appeared to be non-realistic, so the national policy target moved to demand and harm reduction (reduction of substance use, relapse prevention, reducing health risks and public nuisance). During the past few years the emphasis has partly shifted to quality improvement of addiction research and addiction care. The international research literature showed that a few pharmacological treatments can be effective for detoxification (buprenorphine, naltrexone). Some strategies were already tried out abroad and are at this moment tested in our country as well (rapid detoxification with naltrexone under anaesthesia versus a slower detox without anaesthesia and relapse prevention with naltrexone). The principle behind this approach is that maintenance treatment does not prevent relapses because addiction is not sufficiently neutralised. Naltrexone seems to offer this possibility and presents a better guarantee for success when combined with follow-up treatment.

In general the attitude is shifting toward a more evidence-based addiction care. Annual monitoring of national drug issues has been initiated and during the coming years it will be facilitated by (partly) new registration systems. Finally the attention might be shifted to specific groups with serious difficulties such as addicts with mental disorders (dual diagnosis), with high criminality rates, and drug users from ethnic minorities (partly also polydrug users).

12.2 Evaluation of the treatments

12.2a Research findings and used methodologies

In 1997 the Trimbos-institute conducted a systematic research review to determining the scientific evidence for effectiveness of addiction care (Van Gageldonk et al., 1997). All studies published after 1984 and several interesting but older studies were included and methodologically screened. Every Dutch effect study was included because the authors (and the Ministry of Health, Welfare and Sport) wanted to determine the empirical basis for scientific evidence in the Netherlands for determining effects of addiction care.

The abundance of the international literature forced to select systematic review studies (including meta-analyses) in the first place and recent randomised controlled trials when data from these systematic reviews were lacking or obsolete. The authors detected 144 international publications (46 systematic review studies and 98 RCTs) and 13 Dutch publications. One of the results was that in the Netherlands effect studies of good quality were scarce at that time (only one RCT). Therefore, drawing conclusions about the effectiveness of Dutch addiction care appeared to be hazardous. Largely based on American publications, the authors concluded that the evidence for many interventions in treatment is still insufficient. In general sufficient evidence was found for the efficacy of therapeutic communities, behavioural (or cognitive-behavioural) therapies, and methadone maintenance programmes. Some evidence exists for brief family-based interventions. The effects of other interventions, for instance detoxification with methadone, combined therapies, self help groups, treatments in prisons, and interventions in the work place, were at that time unknown and in most cases this condition has not changed. Table 43 gives a short overview and the decision criteria used. Critical readers were thus enabled to alter these criteria and make their own selection based on the extended tables in the appendices.

Table 43. Estimated evidence for efficacy of treatment categories for Dutch addiction care

	<i>Evi- dence</i>	<i>Remarks</i>
Detoxification with methadone	1 (?)	One Dutch study
Methadon maintenance	2	International and Dutch studies: <ul style="list-style-type: none"> • reduced heroin use and related criminality • reduced public nuisance and infectious diseases
Other medication	0	Further research needed: <ul style="list-style-type: none"> • detoxification with clonidine, naltrexone and naloxone • maintenance treatment with LAAM
Combined therapies	0	Further research needed
Psychosocial interventions	2	Especially behavioral therapies (mostly unspecified)
	1	Some evidence for short-term behavioral family therapy Reduced drug use and criminality Improved psychosocial functioning
Alternative interventions	0	Many international studies but no marked effect
Self help	0	No studies of sufficient quality
Therapeutic communities	2	One Dutch and many international studies <ul style="list-style-type: none"> • reduced drug use and criminality • improved social resistance and functioning
Penitentiary/judicial treatments	0	Dutch and international studies
Prescription of morphine or heroin	0	Two Dutch studies
Vocational Interventions	0	Three Dutch studies

2 = sufficient evidence (at least one systematic review study of at least five Randomised Controlled Trials)
1 = some evidence (Review studies of lesser quality and/or two to five Randomised controlled trials)
0 = insufficient evidence (one RCT or studies of lesser quality)

Dutch studies covered mainly methadone (maintenance) treatment, diverse psychosocial interventions, therapeutic communities and interventions to get (ex)addicts back to daily work again. Totally absent were Dutch studies aiming at the effects of other pharmacotherapies than methadone (LAAM, buprenorphine, naloxone, etcetera), combination therapies, and self help groups. Two studies dealt with effects of judiciary addiction facilities. Up to date a congruent (replication) study has not been conducted in the Netherlands but the number of good quality studies has increased substantially during the last years.

For recent Dutch effect studies of treatments for cannabis, cocaine and heroin (see 9.3 and 12.1).

Subjects of other studies are experimental coercive treatment for chronically criminal addicts, low threshold types of stepped care for chronic addicts (I. de Graaf), psychiatric home care for dual diagnosis patients (Hofman et al., 1997), regional adaptation and implementation of a care programme for dual diagnosis patients (Eland), individual support and placement to obtain a competitive job for (former) addicts, and implementation of evidence-based addiction care (guidelines).

12.2b Comparison between treatments and related approaches

NO INFORMATION AVAILABLE

12.3 Methodological issues

a. Limitations in data availability

As we have concluded already, the insufficiencies in research data to determine scientifically the amount of evidence for effectiveness of Dutch addiction care are caused by several methodological inefficiencies that are commonly known in the addiction research community. Important failures are due to the studied population (addicted people) as well as to the organisation of addiction care. Examples are a high amount of self selection, a large non compliance rate and a large drop out rate), and incomparabilities of the delivered care (interventions). Other deficiencies are methodologically bound (i.e. lack of control groups, not using validated measurement instruments, insufficient follow-up measurements). Several of these shortcomings interact.

b. Future needs

Knowledge is a half-finished product. The target of evidence-based drug addiction treatment requires more than the results of (good) effect studies alone. A commonly used sequence in the literature is:

RESEARCH → SYNTHESIS → DISSEMINATION → IMPLEMENTATION

The first two steps of this sequence, *research and research synthesis* by reviewing the scientific literature, have been already dealt with during the past years. Nonetheless, these endeavours have to continue to improve and actualise the results. Here the distinction between efficacy (proven effects in research situations) and effectiveness (effects in daily

practice) needs to be mentioned. Research under strict controlled conditions (preselected samples, guided interventions, limited but valid outcome measurement) can give answers to what *can* be effective in practice and what not. Treatments that are effective in daily practice conditions are not necessarily the efficacious treatments in controlled studies. Effectiveness in daily practice depends also on other factors such as the target group coverage of these treatments, the quality of diagnostic decisions, the quality of the choice of care arrangements, the actual implementation of care, and patient compliance (Van Gageldonk & Donker, 1999).

Dissemination has also been picked up during the past decennium. This step should also be improved because empirical studies indicate that exclusively spreading information is insufficient for stimulating use (Van Gageldonk & Cuijpers, 1998). It is a necessary but not a sufficient condition. Consciously improving the use of new treatments requires effective implementation strategies.

Implementation strategies are even more uncertain in their result. More than twenty years of research in the effects of implementation strategies for medical care offer no golden bullet in spite of existing evidence for an immense increase in efficiency when the medical care process would be organised in a slightly different way. This does not mean however that these new insights are immediately implemented in daily hospital practice. Resistance of medical specialists and other professionals against changing daily routines remains a major obstacle. Still, some useful insights in what might be a more effective/efficient way of *organising* medical care can be gained (Grol & Wensing, 2001). Depending on target group characteristics, other factors (such as feed back, engaging 'significant others'/professionals, easy access, and electronic registration devices, etcetera) co-determine the ultimate results of implementation strategies.

Experiences with evidence-based medicine in the Netherlands show that the general image evidence-based work is incorrect (Bossuyt et al., 2001). Mostly it is viewed as a compelling pattern of action that deminishes the function of individual variance and professional intuition. Instead it is a guided strategy to search for and reflect about the existing empirical evidence while working with individual patients. Even in medical science the evidence is often lacking leaving an important role for variance of patients and their environment and for professional intuition. It is therefore of utmost importance to include the evidence-based philosophy into medical education and in the training of addiction professionals as well (cf. Nieuwenhuis & van den Brink, 2000).

It is unlikely that these observations are invalid for the field of addiction care. On the contrary, several inaugural lectures and studies have mentioned that several pharmacological treatments are still in use with unproven effectiveness. On the other hand, some treatments still unused have been proven (at least partially) effective (Branch Report Public Health, 2001). There is a long way to go and in the Netherlands quality improvement of drug addiction care targets these problems as far as it is possible in the field. Electronic data registration devices on the level of the institutions of addiction care and on regional level are set up, pilots are initiated to correct the initial shortcomings and further use is stimulated in the programme Getting results by commonly agreed commitments. In the next future lessons have to be learnt from the results of implementation research in other fields. Implementation research in the drug addiction field has been started through directed research programme funding by the Dutch Health Research and Development Council.

c. Methodological proposal

RCTs are not always feasible for instance because impossibilities for engaging control group members, for keeping in contact with drug addicts for at least a year for follow-up measurements, or ethical troubles to engage addicts in randomisation procedures. In general, RCTs are also more expensive than evaluation studies. Nevertheless this ideal model should not be abandoned too easily. Today several RCTs are developed in this research field due to stricter methodological selection criteria of funding agencies (i.e. the Dutch Health Research and Development Council, the Health Council). Researchers and professionals together appeared to be able to be more creative than in former years to invent next-best methodologies for conducting RCTs. Some examples are procedures for pre-randomisation (the Zelen model), and stimulating the compliance of crack users in the control group with a financial reward and by presenting a psychologically rewarding description of the target of their 'treatment'. On the other hand it appeared to remain difficult in the Netherlands to start a community intervention trial. This was mainly caused by the prerequisite of controlling for many factors. In future years such a study might be possible due to new registration systems and a more positive attitude of professionals in the drug addiction field.

Specific literature and websites

There is a host of literature on this subject and the difficulty is to select the best and be explicit about the selection criteria and analyses. This enables others to make their own decisions instead of following 'the authorities' in the field. Systematic review studies are exactly meant for doing this. Some good reviews can be found in the Cochrane Library (www.cochrane.de) with (still) a limited coverage of the addiction field), others (mainly American) in recent issues of the common journals (systematic reviews and RCTs).

Some guidelines can be found in the NIDA publication 'Principles of drug addiction treatment. A research-based guide'. This publication offers frequently asked questions, examples of drug addiction treatments in the US, and scientifically based approaches to drug addiction treatment, and resources for further data. Note: the 'scientific base' of the presented approaches (it should be clear) has to be separately evaluated for Europe still in most cases.

For further information, see the references for this paragraph and also www.beta.nl, which offers an overview of Dutch research (and evaluation or effect studies).

13 Drug users in prison

13.1 Epidemiological situation

a. Drug use before and in prison

There is no reliable central registration of drug use among persons entering or staying in prison in the Netherlands. However, several sources of data may give an estimate of the prevalence of drug use and substance use related disorders among detainees.

- In 1997, Bieleman and Van der Laan (1999) evaluated the nature and quality of addiction probation services in prisons and remand houses. They interviewed 91 persons with

known substance use problems who were in contact with professionals of the probation service. Some characteristics:

- Average age: 32 years
 - Highest degree of education: primary school (54%), lower vocational education (23%).
 - 73% was born in the Netherlands¹
 - Most common reason for imprisonment: property crime (40%), violent offence (18%), offences against the Opium Act (14%), severe violent crime (9%)
 - Before entering prison, 74% had problems related to drug use; for 14% alcohol was the main problem and for 10% a combination of drugs and alcohol. Main substances used before detention: cocaine (32%), heroin (31%), alcohol (16%)
 - During detention, 68% of the respondents reported the use of drugs and/or alcohol. Main substances: cannabis (45%), methadone (22%), cocaine (11%) and heroin (9%).
- Van Haastrecht et al. (1998) retrospectively assessed self-reported drug use among 188 ever injectors before and during the last period of imprisonment in the 3 years before the interview. A distinction was made between current injectors (i.e. drug users who reported injecting in the previous 6 months at the last study visit before detention) and no current injectors.
 - Main drugs used daily by current injectors *before detention* were methadone (85%), speedball (injection of cocaine/heroin: 27%), heroin or other opiates (excl. methadone) (injection: 10%; other route: 18%), cocaine (not injected: 10%) and tranquillisers (29%). For drug users who were no current injectors the main drugs used daily were methadone (70%), heroin or other opiates (excl. methadone) (27%), cocaine (14%) and tranquillisers (36%).
 - In accordance with the findings of Bieleman and Van der Laan (1999), cannabis was the most commonly used substance during detention: 55% reported any use (21% used on 1-10 days, 22% used on 11-100 days, 12% on more than 100 days). Heroin use was reported by 37% (1-10 times: 23%; >10 times: 14%) and cocaine use by 20% (1-10 times: 15%; >10 times: 5%).
 - As indicated in table 13 (chapter 2.2.4), about 30% of all detainees have fairly severe drug addiction problems. These percentages are based on a DSM-III-r diagnosis for drug dependence or EuropAsi score ≥ 6 (drug section). Using a more liberal criterion (EuropAsi score ≥ 4), over 40% of the detainees in regular penitentiary institutions have a drug use problem (Koeter and Lührman, 1998).
 - Bulten (1998) investigated a sample of 200 young male detainees in a youth detention centre (age between 18-2 years). The lifetime prevalence of drug dependence (DSM-III) was 58%; last-year and last month prevalence of drug dependence were 49% and 20%, respectively. The low last month rate has been attributed to the fact that drug use was not allowed in prison.

¹ This is a higher percentage compared to the general prison population, which has been attributed to the fact that allochthonous detainees are relatively less often in contact with drug treatment and probation services than autochthonous detainees.

- Substance use (and psychiatric) problems are also common among persons who are detained in a special clinic for coerced treatment (TBS; “detention during Her Majesty’s pleasure”). On the 1st of January 2000, the total population consisted of 1,105 persons. 64% of this population had substance use problems in the time of the criminal offence (Van Emmerik and Brouwers, 2001). More specifically, the prevalence of intensive or addicted use of alcohol, cannabis or hard drugs was 41%, 31% and 27%, respectively. In 2000, 40% of the TBS detainees had a DSM-IV diagnosis of a substance use related disorder (6% alcohol psychosis; 10% drug psychosis; 14% substance use disorder).

b. Health status, social and legal consequences among drug users in prison

Information on the health status of drug users in prison is limited. Co-morbidity is high in this group. According to Koeter and Lührman (1998), almost 40% of the drug dependent detainees in regular prisons (i.e. no specific regime for drug users) fulfilled EuropAsi criteria of a double diagnosis (i.e. severe drug dependence and severe psychological problems) and 20% had complex problems (double diagnosis plus severe problems related to health; work, education or income; alcohol use; or family and social relationships). Personality disorders (Axis-2 disorders, according to the DSM-III-r) were highly prevalent among detainees who are also diagnosed with drug dependence. Another Axis-1 disorder (e.g. major depression, anxiety disorder) appeared to be rare. Further, according to the EuropAsi, between 10% and 50% of the drug dependent detainees had chronic somatic complaints, with highest rates found among those persons with complex problems. However, this scale is just a very rough indicator of physical health.

There is no specific information on the prevalence of infectious diseases among Dutch drug users in prison. According to data from the HIV sentinel surveillance of the RIVM, HIV prevalences is related to the history of imprisonment of (ever) injecting drug users. For example, in Amsterdam, 9% of the drug users who were never incarcerated tested positive for HIV against 29% who were ever incarcerated (Beuker et al., 1999). In Heerlen/Maastricht, a trend between the frequency of imprisonment and HIV prevalence was found among male drug users (never: 10%; 1-5 times in prison: 12% and more than 5 times: 31%) (Beuker et al., 2001). These data may indicate that imprisonment enhances the risk of an HIV infection, or that some other characteristics give rise to both a criminal career and positive HIV status (or both). However, the former explanation is not likely on the basis of a study by Van Haastrecht et al. (1998), showing that injection itself as well as injecting and sexual risk behaviour in prison was rare, in spite of fairly high levels of drug use (see also chapter 3.3.1). There was, however, an high risk of relapse of injection within the week after the release (63% of the pre-detention current injectors) and even on the first day (51%).

There is no information about mortality among drug users in prison. In 1999, 12 persons committed suicide but their drug use status is not known.

A report from the Health Board on the medical supervision of detained addicts will be published at the end of 2001. The Minister of Health, Welfare and Sport is also subsidising a project on the medical care for addicts run by the Netherlands Association for Mental Health Care and the Association for the Medical Rehabilitation of Addicts (Vereniging voor Verslavingsgeneeskunde). This project is focussing on the scope, position and standards of medical addict care and the medical rehabilitation of addicts.

13.2 Availability and supply

a. Availability of illicit drugs in prison

Drug use (also cannabis) is forbidden in prisons and remand houses. A policy of determent is achieved by inspections of the cell, urine analyses, bodily (and clothes) examinations and sanctions. However, from the information given in chapter 13.1, we can infer that drugs must somehow be available in prison. Specific information on this topic is lacking.

b. Smuggling into prison

See point a. No specific information available.

13.3 Contextual information

Prison environment and organisational culture in prison

Up to now, the judiciary and the public health circuits are not systematically working together on subjects that cover both policy spheres, such as matters concerning drug use. One of the results of this traditional but still existent compartmentalisation is that adequate treatment in prisons and remand houses cannot be realised at this moment. Judicial organisations do not in all cases comply with Dutch drug discouragement policy (NDM, 1999).

Penitentiary institutions and addiction care may be as separated from each other as forensic psychiatric institutions from mental health care, culturally as well as in daily practice (De Ruiter, 2001).

13.4 Demand reduction policy in prison

a. Drug user needs assessment in prison

NO INFORMATION AVAILABLE

b. Organisation of the drug services in prison

Medical staff for treating addicts is available in Remand Houses and in prisons, but the relationship between this staff and the addicts is formal and distant (see 13.3). We discern four types of facilities for drug users in prison or other penitentiary institutions (Ministerie van VWS, 2001; Branch Report, 2001).

- There are 23 *VIS-projects* (early intervention). In these projects drug users with a record of criminal recidivism are offered entry into a care programme to avoid the continuation of legal trial procedures. The intake of drug users into VIS is carried out by outpatient care professionals and funded by the National Probation Foundation. VIS is an example of dissuasion. These dissuasion projects are the least demanding ones. They offer criminal addicts the opportunity to receive treatment in a care-providing institution. This acts as an alternative to imprisonment, for example, to suspend detention on remand.

- The Netherlands has twenty drug-free Addiction Guidance Departments or Addiction Counseling Departments (*VerslavingsBegeleidings Afdelingen/VBAs*). Those drug users who are not eligible for a dissuasion project or fail to complete it, will be imprisoned or will remain in prison. While imprisoned, they may be - voluntarily and under certain conditions - placed in a VBA within a nearby detention centre. The VBAs will prepare them to enter facilities subsequent to imprisonment. VBAs offer voluntary daily medical and social care programmes (including urine control), work, discussion and sports, with a total of 446 lots. Two-thirds of the *Verslavingsbegeleidingsafdelingen* (VBAs) are in Remand Houses, the rest in prisons. VBAs are considered crucial in Dutch drug policy but the annual number of intakes has reduced recently. One third of the cells specifically reserved for this target group remained empty during 1999 which is extremely cost-inefficient. A 25% reduction of places is proposed, mainly of those situated in the prisons. This is meant to accommodate changes in the target group, namely, the growing category of prisoners who are diagnosed with a dual condition: psychological disorders and drug addiction, the so-called co-morbidity syndrome. The capacity that will fall vacant due to this reduction will be used to selection and expansion of future Individual Supervision Departments. These Individual Supervision Departments are intended for prisoners with psychological difficulties (mild), psychiatric disorders (severe), and those with for dual diagnosis.
- Penal Placement of Addicts in a Penitentiary Treatment Institution (*Strafrechtelijke Opvang Verslaafden/SOV*). SOV is meant for addicts with continuous relapses in drug use and drug related criminality, and on whom less intensive forms of relief appear to have no effect. In 1998, a legislative proposal suggested a coercive treatment programme for chronic drug-addict offenders for a maximum of two years. After Parliamentary debates coercive admission became legally accepted in December 2000. This law became active in April 2001. In several cities specific SOV-places in prisons are already reserved for this target group. The Penal Care Facilities for Addicts in Rotterdam and Amsterdam are already in operation and the first batch of inmates has since been ordered there. Other ones will be opened in Utrecht and in the South Penal Care Facility for Addicts (a collaborative venture undertaken by six cities in the southern part of the Netherlands) in September 2001. All arrested addicted offenders with an extensive criminal history of drug-related crime and who have at least served one prison sentence for such crimes may be subject to this new measure. Both policy makers and professional workers considered SOV a possibility for drug addicts to combat their problem and to set a ceiling to drug-related criminal careers (Swierstra, 1999; Wolf, 1999). This chance will be offered to a subgroup of drug addicts with a longer history of (petty) crime to enable them to change their life. Legally these addicts cannot be condemned for longer periods, so detoxification, treatment and rehabilitation is precluded. The SOV offers a possibility 'to get these people on the road again' and end their 'dead-end street of antisocial, drug dependent life styles'.
- Finally, in 1998 a Forensic Addiction Clinic (*Forensische VerslavingsKliniek*) opened its doors to enable enforced treatment of addicted detainees. It will probably be evaluated in 2002.

c. **Link with the community services outside prison**

The risk of relapse into the old (criminal and drug using) lifestyle is especially high during the period immediately after detention. For this reason, drug probation services and the above mentioned specific projects usually incorporate activities to prepare drug addicts for external

treatment and social reintegration. This is achieved, among others, by providing assistance with financial matters, housing and finding a job, which may involve contacts with various community services. A recent evaluation study showed, however, that the practice outside prison may be different (Bieleman and Van de Laan, 1999). The assistance is not always tailored to the needs of the drug addicts and they are confronted with waiting lists at various follow-up services. According to this study, continuity of care in the period after detention should be improved.

13.5 Evaluation of drug users treatments in prison

a State of the art of the evaluation in prison

Target of a recent literature survey commissioned by the Ministry of Justice is to underpin discussions about the feasibility of judicial sanctions in general. We mention several important conclusions. Generally, restrictions by law (restriction of freedom) do not preclude recidive. Behaviour is difficult to change permanently, but this differs between the types of problems or crimes committed (e.g. theft, violence, sexual offenders, criminals with mental disorders). Furthermore the literature suggests that the effectiveness of programmes outside prison is generally higher than within. Important is that in both cases effectiveness is largely dependent on inclusion of adjacent interventions or treatments. Combined treatment in 'stepped care', with components of cognitive behavioural treatments appeared most promising up to now (Beenackers, 2000).

More specific research reviews (Van den Hurk, 1998; Rigter, 1998; Baas 1998; Vennard & Hedderman, 1999; Wartna, 1999) also indicate that successive combinations of treatments (stepped care including aftercare) can have positive effects on recidivism (of both addiction and crime). It is suggested that a subgroup of high-active recidivists (the *hard core* criminal addicts) should remain in detention to ensure immediate effectiveness for society but in the long run this is not efficient. Therefore, at later moments treatment mixes can be tried out. The choice of specific variations and intensities of this care should depend on the criminal career and the frequency of recidivism of these detainees. So far, evidence exist for the effectiveness of specific and intense treatments, but evidence-based guidelines for starting treatments and for the optimal mix for specific subgroups are absent.

The evidence for less intense treatments is still insufficient (Van den Hurk, 1998; Swierstra, 1999). This would require multicentre randomised controlled trials to determine long-term effects of judiciary addiction care (Van den Hurk, 1998; Rigter, 1998). In general, the results of more than 20 years penitentiary addiction care in the Netherlands are still disappointing. Although some American and Swedish evaluation studies showed positive effects of legal measures on drug use, criminality rates, recidivism and social behaviour, there is still insufficient scientific evidence and it can be risky to import these interventions in Dutch circumstances without adjustments (Rigter 1998).

b Main findings and evaluation results (see also 9.5)

Reducing drug related public nuisance

An evaluation study of five years of policy measures to decrease drug-related public nuisance concluded that it resulted in a smaller 'hard core' group of addicts that cause nuisance (Broër and Noyon, 1999). But the authors also think that addiction care and judicial dissuasion did not substantially reduce drug-related nuisance. One of the conclusions is that the use of hard drugs often does not cause 'objective' but 'subjective' nuisance. The biggest problem is that most civilians reject the presence of drug using addicts in the street or near the places they live. Not the number of troublesome addicts is crucial because these represent a very small group, but public aversion against presence of addicts as such.

Early intervention of the probation office (Vroeghulp Interventie Aanpak)

Early intervention was initially meant for specific drug addicts who were arrested for drug-related criminal acts and has now been expanded to all arrested drug users. In 1997 an evaluation project started to determine the feasibility and effects of an early intervention approach of the probation office for arrested addicts (Korf et al., 2000). Early intervention will be given within three weeks after the arrest by offering the treatment possibilities that are inherent to probation. All drug-related arrests were used for the feasibility study and a subsample of 200 arrests for the effects.

During the evaluation years few potentially eligible addicts are inclined to enter early intervention. Several bottlenecks might account for this lack of enthusiasm and recommendations were given for improvement. The first selection was made by police officers, their selection criteria remained unknown to probation officers, thus selection appeared to be suboptimal. A closely co-operation between the police and probation is required. The lack of sufficient personnel (police, jurisdiction, probation officers) to realise early intervention is a second bottleneck. Besides an increase in personnel, a more efficient data management in Dutch probation office is proposed. Third, the communication between probation and addiction care partners need to be improved by enhancing accessibility and information exchange. The negative image of Dutch probation and subsequently the high refusal rate of arrested addicts is a fourth bottleneck. The stick (co-operation or detention) is supposed to be a better incentive than the carrot ('it is better for you to co-operate'). The Netherlands Mental Health Care Organisation (GGZ-Nederland) recommended to push the moment of choice ahead to when clients are in fact imprisoned to increase the acceptability. Early intervention will then be changed in a type of coercive care in a later phase.

In judicial addiction care there is a large differentiation of ideas, methods, and activities. A certain standardisation could decrease the existent confusion caused by the lack of clarity of the different concepts used. It would also improve the comparability of data between organisations.

Addiction Guidance Departments/Addiction Counseling Departments

In 1997, there were 20 Addiction Guidance Departments in penitentiary institutions with a total of 446 places (cells). Detainees who are selected for a VBA are often immediately placed (there are no waiting lists). In VBAs detainees are supported to work on their addiction. The mean length of stay in 1999 is thirteen weeks. It is possible for VBA detainees to be referred to regular addiction care. In the same year 60% of the VBA participants received after care (inpatient or outpatient).

The evaluation (Bieleman and Van der Laan, 1999) shows bottlenecks and feasible solutions. Penitentiary organisations are still largely unwilling to realise a differentiated supply (quantitatively and qualitatively) of this addiction care units. Special funding is recommended. It is concluded that some detainees should be enabled to choose between continuing methadone maintenance or abstinence, while others should be forced to do so.

Penal Placement of Addicts in a Penitentiary Treatment Institution (Strafrechtelijke Opvang Verslaafden or SOV)

This chance will be offered to a subgroup of drug addicts with a longer history of (petty) crime to enable them to change their life (see 13.4b). Legally these addicts cannot be condemned for longer periods, so detoxification, treatment and rehabilitation is precluded. The SOV offers a last possibility for betterment.

An experiment was set up in a big city (Rotterdam) in 1996 to determine for what categories of drug users the programme would apply. Therefore participants did not have to meet specific inclusion criteria. The evaluation results (de Koning, Intraval, 1998) showed that in the first year some 90 drug addicts participated. After six months working with SOV, professionals abandoned their initial ideas about collective methods and chose for individualised programmes. Experts argue against the SOV by stating that the effects of coercive treatment on criminality in general are small. SOV is also assumed inappropriate for addicts with serious mental problems and/or severe problems in social relations. For some addicts, the programme of 1,5 to 2 years might even be too short to change their behaviour. The conclusion is that it is unlikely that SOV will have positive effects on some categories of clients but, with some adjustments, other categories may benefit from it. Though relapses often occurred after offering clients more responsibility for their own behaviour, in general participants rated this compulsory treatment as positive. A large number of them reported that compulsion was necessary for completing the programme.

After April 2001 (when the SOV became a law) the Ministry of Justice has started an experiment by planning a special section in the central prison of Amsterdam (*Bijlmerbajes*) to introduce this type of coercive treatment for a maximum of 48 treatment resistant addicts and Utrecht followed in this row, resulting in three cities (at that time) where chronic drug offenders can legally be coerced to detoxification (*gedwongen afkicken*) and follow-up programme. In September 2001 only a fraction of the total of 240 SOV-places in Amsterdam en Rotterdam appeared to be utilised (twelve). It usually takes some time after conviction to start SOV-treatment. During a specially organised SOV-day of the Amsterdam Court many addicts who were brought before court showed remorse and were eager to commit themselves to this type of treatment.

Identical types of coercive treatment are found in forensic addiction clinics and in the experimental project Triple-Ex in The Hague (see below).

Forensic addiction care

A forensic addiction clinic, intended for imprisoned drug-using recidivists resisting regular care and treatment, was opened in 1998 (IVON, 1998). The treatment programme distinguishes three subsequent stages: an intramural, a semimural and a resocialisation stage. The last stage is similar to 'supported living', i.e. clients are supported in learning to live independently again after release from prison. Working projects constitute the most important element of this long-term programme. The objective is offering an appropriate mix of therapies, practical and social skills training, education, and adaptation to the labour

market situation. Only convicted addicts who are not allowed to enter other (regular) treatment programmes because of their severe addiction problems, their failures to complete treatments and/or their judicial history, are allowed to enter this special programme. For the first four years, this new intramural facility will operate as an scientific experiment. Initial results are planned to be presented at the end of 2001.

Treatment for local criminal addicts (Triple-Ex)

This current experimental four-year project includes detoxification and several types of after care (treatment of psychosocial problems, social relations, daily work). It has been restricted to the area of the city of The Hague. Evaluation of this programme showed that some forty percent of the ex-clients haven't used drugs anymore during the following two years (Addiction Severity Index). The others started to use drugs again, three quarters of them longer than half a year. Still, more than half of these relapsed clients did not touch drugs anymore in the month before follow-up measurement. In the same month clients had worked for a mean of 25 days. More than 90% entered another treatment after finishing Triple-Ex. During the follow-up most of them were arrested at least once for criminal acts, more than one third more than once. A longer duration of treatment was related to a reduction in relapse rates. Satisfaction was not related to any outcome (Vermeulen et al., 1999). This programme has gained financial support for several years.

Aids prevention within prison walls

Purpose of this outreach project (see 9.2.1) was to contact drug using detainees in a Remand House and offering information about infectious diseases. An experienced female streetworker visited the institution every Monday afternoon. She initiated personal (face to face) contacts with drug users in the same manner as she usually does this in the streets: quasi-accidental and -spontaneous talks. Written materials were only given when mutual faith has been established. These clients were seldomly reached during streetwork but at high risk for infectious diseases (hepatitis or Aids), thus a potential threat for public health. Though unstructured, these talks were built up of specific elements: safe drug use and safe sex, testing available knowledge and estimating the personal situation for giving adequate health and drug use education. Clients were prosecuted for shoplifting, pickpocketing, violation of the Opium Law. Main characteristics are high frequencies of recidivism (70% of the detainees) and alcohol and/or drug addiction (70-80%). Important is that they have faith in the streetworker.

The presence of a female streetworker was felt as unusual by the staff of this House. But after a period both detainees and staff grew accustomed to the presence of these fieldworkers. Getting in contact appeared to be much easier than during streetwork. During 9 months the streetworker registered a total of 191 contacts on 26 afternoons (7,3 per afternoon) with 84 detainees. Mean contact duration was half an hour. She was not able to contact all who wanted to talk to her. Contacts were continued with most of the 73 detainees who were released during this project. Language barriers caused little successful contacts with French speaking detainees.

Few drug users reported being infected by HIV or hepatitis. No HIV-tests were done. It is assumed that few are in fact infected by HIV. The chance for hepatitis C might be higher due to their lifestyle in the streets. A follow-up is ongoing now.

13.7 Methodological issues

- a* *Limitations in data availability*
SEE EARLIER COMMENTS (12.3a)

- b* *Future needs*
SEE EARLIER COMMENTS (12.3b)

- c* *Methodological proposal*
SEE EARLIER COMMENTS (12.3c)

Appendix : additional tables

Table A1: Lifetime use of drugs among pupils of 12-18 years at secondary schools

	cannabis	Ecstasy	amphetamine	Cocaine	heroin	mushrooms
1988	8	-	-	1	-	-
1992	15	3.3	2.1	1.5	0.7	-
1996	21	5.6	5.1	2.9	1.1	4.3
1999	20	3.8	2.8	2.8	0.8	3.8

-: not measured. Source: National Youth Health Survey (De Zwart et al., 2000).

Table A2: Last-month use of drugs among pupils of 12-18 years at secondary schools

	cannabis	ecstasy	amphetamine	cocaine	heroin	mushrooms
1988	3	-	-	0.4	-	-
1992	7	1	0.6	0.4	0.2	-
1996	11	2.2	1.9	1.1	0.5	1.5
1999	9	1.4	1.1	1.2	0.4	1.2

-: not measured. Source: National Youth Health Survey (De Zwart et al., 2000)

Table A3: Use of drugs among pupils of 12-18+ years at *special schools* in 1997

	cannabis	ecstasy	amphetamine	cocaine	heroin	mushrooms
LTP	24	9	7	4	2	8
LMP	14	4	3	2	1	3

LTP = lifetime prevalence. LMP = last month prevalence. Source: Stam et al., 1998.

Table A4: Use of drugs among youth participating in *truancy projects* in 1997

	cannabis	ecstasy	amphetamine	cocaine	heroin	mushrooms
LTP	56	30	25	14	4	18
LMP	35	15	9	5	1	7

LTP = lifetime prevalence. LMP = last month prevalence. Source: Stam et al., 1998.

Table A5: Number of drug client registrations at *outpatient* addiction centres

Year	opiates	cocaine	ampheta- mines	cannabis	medicines	ecstasy	others	total
90	15282	1498	244	913	798		315	19050
91	16171	1743	271	1174	833		322	20514
92	16645	2015	395	1533	844		283	21715
93	17171	2240	519	1749	696		162	22537
94	17748	3026	588	2157	690	29	168	24409
95	18062	3555	649	2465	607	228	118	25726
96	19102	4066	739	2941	601	428	173	28050
97	21645	5231	934	3678	623	514	163	32788
98	22300	5998	1043	3739	598	392	156	34226
99	24017	8028	997	3804	675	306	147	37974
00	22658	8241	747	3947	659	281	125	36658

Table A6: Number of admissions to *inpatient* addiction services

	ICD-9 codes	1990	1991	1992	1993	1994	1995	1996	1997**
Opiates	304.0, 304.7, 305.5	2089	2455	2495	2672	2774	3128	3055	1493
Cocaine	304.2, 305.6	106	123	151	168	236	323	364	387
Cannabis	304.3, 305.2	71	82	141	149	177	291	309	323
Amphetamines	304.4, 305.7	21	29	43	46	30	54	58	47
Hallucinogens	304.5, 305.3	9	4	10	8	9	8	3	4
Other*	see below	472	475	636	671	650	703	798	523
Total	304, 305.2-9	2768	3168	3476	3714	3876	4507	4587	2777

Table A6 (continued): Number of admissions to *inpatient* addiction services

	ICD-9 codes	1998	1999						
Opiates	304.0, 304.7, 305.5	1236	688						
Cocaine	304.2, 305.6	374	388						
Cannabis	304.3, 305.2	177	160						
Amphetamines	304.4, 305.7	39	25						
Hallucinogens	304.5, 305.3	18	0						
Other*	see below	198	246						
Total	304, 305.2-9	2042	1507						

Source: PIGGz (prismant, former Nzi). **incomplete data (missing for 16 institutes). Inpatient services include addiction clinics and specialised departments of general psychiatric hospitals.

*Other = Dependence on barbiturate type medicines (304.1), other drugs (304.6), combination excluding morphine-type drug (304.8), unspecified drugs (304.9), and nondependent abuse of barbiturates and tranquillisers (305.4), antidepressants (305.8), other, mixed or unspecified drugs (305.9).

Table A7: Number of admissions to general hospitals for *main* diagnosis

Substance(s)	ICD-9 codes	1996	1997	1998	1999	2000
Opiates	304.0, 304.7, 305.5	71	71	76	79	75
Cocaine	304.2, 305.6	53	55	50	65	67
Cannabis	304.3, 305.2	38	26	29	29	24
Amphetamines	304.4, 305.7	29	33	25	21	29
Hallucinogens	304.5, 305.3	15	21	27	7	16
Other*	see below	200	195	188	221	245
Total	304, 305.2-9	406	401	395	422	456

Source: Dutch Information System on Hospital Care and Day Nursing (LMR), Prismant (former SIG/NZi).

Table A8: Number of admissions to general hospitals for *secondary* diagnosis

Substance(s)	ICD-9 codes	1996	1997	1998	1999	2000
Opiates	304.0, 304.7, 305.5	607	742	596	627	558
Cocaine	304.2, 305.6	246	371	363	383	377
Cannabis	304.3, 305.2	154	184	195	247	193
Amphetamines	304.4, 305.7	46	80	69	66	61
Hallucinogens	304.5, 305.3	22	28	23	26	22
Other*	see below	555	557	521	499	499
Total	304, 305.2-9	1630	1962	1767	1848	1710

Source: Dutch Information System on Hospital Care and Day Nursing (LMR), Prismant (former SIG/NZi).

*Other = Dependence on barbiturate type medicines (304.1), other drugs (304.6), combination excluding morphine-type drug (304.8), unspecified drugs (304.9), and nondependent abuse of barbiturates and tranquillisers (305.4), antidepressants (305.8), other, mixed or unspecified drugs (305.9).

Table A9: Number of acute drug-related deaths in the Netherlands*

	Males	Females	Total
1985	34	6	40
1986	38	4	42
1987	19	4	23
1988	30	3	33
1989	26	4	30
1990	36	7	43
1991	46	3	49
1992	40	3	43
1993	30	8	38
1994	38	12	50
1995	24	9	33
1996	47	15	62
1997	57	12	69
1998	55	6	61
1999	68	8	76

* See chapter 3.2.1 for the selections of codes. *Source:* Statistics Netherlands (CBS).

Table A10: Number of offences against the Opium Act*

	soft drugs	hard drugs	Total
1985	1230	4560	5790
1986	1080	4320	5400
1987	1020	4400	5420
1988	940	3880	4820
1989	740	3960	4700
1990	780	5120	5900
1991	810	3620	4430
1992	1310	2070	3380
1993	1430	1580	3010
1994	1240	2800	4040
1995	810	2660	3470
1996	1263	5330	6593
1997	1700	8600	10300
1998			7700
1999			7600
2000			7500

* number of suspects who are interrogated for offences against the Opium Act

Table A11: Summary of drug seizures in the Netherlands in 1995-1998

	1995	1996	1997		1998*	
	Quantity	Quantity	Number	Quantity	Number	Quantity
Cannabis – kg	332 086	102 951	1 790	65 587	2 781	126 159
Nederwiet – plants	549 337	1 272 526	296	553 135	299	353 178
Cocaine – kg	4 851	9 222	1 005	11 495	1 232	8 998
Heroin – kg	351	516	812	999	835	784
MDMA – tablets*	48 418	1 498 940	310	847 052	583	1 163 514
MDMA - kg*		277		703		1 506
MDMA – liters*						32 250
MDEA – tablets	-	800 636	41	23 627	*	*
Amphetam.- tablets	850	1 025	225	102 240		242 409
Amphetam. - kg	45	324	225	815		1 450
LSD- trips	305	32 320	29	27 594	15	35 964
Total						

Table A11 (continued): Summary of drug seizures in the Netherlands in 1999-2000

	1999*		2000			
	Number	Quantity	Number	Quantity		
Cannabis – kg	14 909	110 341	9 243	39 920		
Nederwiet – plants		582 588		661 851		
Cocaine – kg	3 391	10 361	2 676	6 472		
Heroin – kg	1 552	770	1 833	896		
MDMA – tablets*	154	3 663 608	125	5 500 000		
MDMA - kg*		50		632		
MDMA – liters*		445				
MDEA – tablets	*	*				
Amphetam.- tablets		45 847				
Amphetam. - kg		853		293		
LSD- trips		2 667		9 972		
Total						

* In 1998 and 1999 MDA, MDMA and MDE have been taken together under "MDMA".

Table A 12: Number of detainees suspected or convicted for offences against the Opium Act

Year	Total number of detainees *	% of total related to the Opium Act
1991	7,302	21
1992	7,495	18
1993	8,037	18
1994	8,737	16
1995	10,329	15
1996	11,931	15
1997	11,770	16
1998	11,759	17
1999	11,827	17

* census date: September 30.

References

- Abraham, M.D. (1999). *Illicit drug use, urbanization, and lifestyle in the Netherlands*. Amsterdam: CEDRO, Universiteit van Amsterdam.
- Abraham, M.D., Cohen, P.D.A., Van Til, R.J., and De Winter, M.A.L. (1999). *Licit and illicit drug use in the Netherlands, 1997*. Amsterdam: CEDRO, Universiteit van Amsterdam.
- Anthony, J.C., Warner, L.A., Kessler, R.C. (1994). Comparative epidemiology of dependence on tobacco, alcohol, controlled substances, and inhalants: basic findings from the National Comorbidity Survey. *Experimental and Clinical Psychopharmacology*, 2: 244-268.
- Baas, N.J. (1998). Strafrechtelijke opvang verslaafden (SOV): een literatuurverkenning naar voor de SOV relevante ervaringen met onvrijwillig geplaatste justieabele verslaafden in binnen- en buitenland. Den Haag, Ministerie van Justitie (WODC).
- Barendregt, C., Van de Mheen, D., and Blanken, P. (2000). Het roken van cocaïne-base in Rotterdam: de invloed van gebruikslocatie en zelfcontrolemechanismen. In: Van de Mheen, D. (Ed.). *De Rotterdamse drugscene onder de loep. Resultaten van 5 jaar Drug Monitoring Systeem in Rotterdam*. Rotterdam: Erasmus Universiteit/Instituut voor Verslavingszorg (IVO): 47-72.
- Beenackers, E.M.Th. (2000). *Effectiviteit van sanctieprogramma's: bouwstenen voor een toetsingskader; Een literatuuronderzoek. (Onderzoeksnotities 2000/1.)* Den Haag: Ministerie van Justitie/Wetenschappelijk Onderzoeks- en documentatiecentrum (WODC).
- Berns, M.P.H., Snijders, B.M., Van Rozendaal, C.M., Schat, Y., Houweling, H., and Van de Laar, M.J.W. (1999). *Surveillance of HIV-infection among injecting drug users in the Netherlands: Arnhem 1997*. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu (RIVM).
- Berns, M.P.H., Snijders, B.M., Van Rozendaal, C.M., Van Hoek, A.F.M., and Van de Laar, M.J.W. (2000). *Surveillance of HIV-infection among injecting drug users in The Netherlands: Eindhoven/Helmond/s-Hertogenbosch 1999*. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu (RIVM).
- Beuker R.J., Berns M.P.H., Rozendaal C.M. van, Snijders B.M., Van Ameijden E.J.C., Houweling H., Laar M.J.W. van de. (1999). *Surveillance van injecterende druggebruikers in Nederland: meting Amsterdam 1998*. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu.
- Beuker R.J., Berns M.P.H., Rozendaal C.M. van, Snijders B.M., Jansen M., Hoebe C.J.P.A., Laar M.J.W. van de. (2001). *Surveillance van injecterende druggebruikers in Nederland: meting Heerlen/Maastricht 1998/1999*. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu.
- Bieleman, B., and Goeree, P. (2000). *Coffeeshops geteld; Aantallen verkooppunten van cannabis in Nederland*. Groningen: Stichting IntraVal.

Bieleman, B., and Goeree, P. (2001). *Coffeeshops geteld; Aantallen en gemeentelijk beleid in 2000*. Groningen: Stichting IntraVal.

Bieleman, B., Snippe, J., and De Bie, E. (1995). *Drugs binnen de grenzen*. Groningen/Rotterdam: Stichting IntraVal.

Bieleman, B., Spijkers, E., and Winter, H. (2000). *Evaluatie softdrugsbeleid Zoetermeer*. Rotterdam/Groningen: Stichting IntraVal.

Bieleman, B., and Van der Laan, R. (1999). *Stok achter de deur; Onderzoek naar het functioneren van de zorg voor verslaafde gedetineerden*. Groningen: Stichting IntraVal.

Bieleman, B., and De Bie, E. (1992). *Between the lines; A study of the nature and extent of cocaine use in Rotterdam*. Groningen/Rotterdam: IntraVal Foundation.

Biesma, S., and Bieleman, B. (1998a). *Wijs verwezen: evaluatie van de gebruikruimte De Verwijsplek te Apeldoorn*. Groningen, IntraVal.

Biesma, S., and Bieleman, B. (1998b). *Ruimte om te gebruiken: evaluatie gebruikruimte Spanjaardstraat Rotterdam*. Groningen, IntraVal.

Biesma, S., and Bieleman, B. (1998c). *Keetje Tippel gebruikt: evaluatie van gebruikruimte de Buren bij Keetje Tippel te Rotterdam*. Groningen, IntraVal.

Biesma, S., Bieleman, B., Visser, J. (1998d). *De Daeke in gebruik: evaluatie Opvang- en Adviescentrum en gebruikruimte De Daeke in Venlo*. Groningen, IntraVal.

Biesma, S., Meijer, G., and Bieleman, B. (2000). *Opgevangen in het centrum; Evaluatie opvang- en adviescentrum Apeldoorn*. Rotterdam/Groningen: Stichting IntraVal.

Bijkerk, R., and Grapendaal, M. (1999). *In beslag genomen verdovende middelen: 1997 en 1998*. Amsterdam: Centrale Recherche Informatie (KLPD-divisie).

Bijl, R.V., Ravelli, A., and Van Zessen, G. (1998). Prevalence of psychiatric disorder in the general population: Results of The Netherlands Mental Health Survey and Incidence Study (NEMESIS). *Social Psychiatry and Psychiatric Epidemiology*, 33 (12): 587-595.

Blanken, P., Barendregt, C., and Hendriks, V. (1997). *Op is op; Niets voor altijd! Een onderzoek naar het roken van cocaïne-base en zelf-controle mechanismen*. Rotterdam: Erasmus Universiteit, Instituut voor Verslavingszorg (IVO).

Bless, R., and Freeman, M. (1996). *Produktnormering in de verslavingszorg*. Amsterdam: Bureau O+S.

Bolier, L., and Cuijpers, P. (2000). *Effectieve verslavingspreventie op school, in het gezin en in de wijk*. Utrecht: Trimbos-instituut/GGZ Nederland.

- Bonte, J.T.P., Friden, L.M., and Van den Berg, J.W.H. (1985). De statistiek van de doodsoorzaken. *Nederlands Tijdschrift voor Geneeskunde* 129 (30): 1421-1432.
- Bosman, A., De Zwart, O., Schop, W.A., Schoots, B., Van der Meijden, W.I., and Chin-A-Lien, R.A. (1999). Increase of early syphilis in a red light district in Rotterdam (1995-1997) and preventive treatment. *Nederlands Tijdschrift voor de Geneeskunde*, 143 (46): 2324-2328.
- Bossuyt, P., and Kortenray J. eds. (2001). *Schaatsen op dik ijs. Evidence-based medicine in de praktijk*. Amsterdam, Boom.
- Braam, R.V., Dupont, H., and Verbraeck, H. (1999). *Asielzoekers en middelengebruik*. Utrecht: Centrum voor Verslavingsonderzoek (CVO).
- Braam, R.V., Verbraeck, H.T., Van de Wijngaart, G.F., Böhm, E., and Leenders, F.R.J. (1998). *Allochtonen en verslaving*. Utrecht: Centrum voor Verslavingsonderzoek (CVO).
- Branch Report (2001). *Branch report public health. Section: mental health care and social care*. Den Haag, Ministry of Health, Welfare and Sport.
- Brinkman, J. (1999). *Protocollering in de verslavingszorg; Verslag van een verkennende bijeenkomst Ontwikkelcentrum Kwaliteit & Innovatie van Zorg*. Utrecht: GGZ Nederland.
- Brinkman, J. (2000). *Besturingsmodellen verslavingszorg; Verslag van een verkennende bijeenkomst Ontwikkelcentrum Kwaliteit & Innovatie van Zorg d.d. 28 juni 2000*. Utrecht: GGZ Nederland.
- Bröer, C., and Noyon, R. (1999). *Over last en beleid; Evaluatie Nota Overlast en vijf jaar SVO-beleid tegen overlast van harddruggebruikers*. Amsterdam: Regioplan Stad en Land.
- Broers, E., and Eland, A. (2000). Verslaafd, allochtoon en drop-out. *Vroegtijdig vertrek van allochtone verslaafden uit de intramurale verslavingszorg*. Utrecht, Trimbos-instituut.
- Brommet, P.E. (2000). *Wijkgerichte alcohol- en drugspreventie bij jongeren; Evaluatie van een proefproject in de wijk Mariahoeve*. Den Haag: Parnassia Addiction Research Centre (PARC).
- Bulten B.H. (1998). *Gevangen tussen straf en zorg [dissertation]*. Amsterdam: Vrije Universiteit.
- Burger, I., Struben, H. (2001). *Haagse harddruggebruikers; Het bereik van politie en verslavingszorg in 1996-1998 en veranderingen van 1993-1995*. Den Haag: Onderzoekscommissie monitoring en registratie (MORE).
- Buster, M.C.A., and Reurs, H. (1999). *Methadonverstrekking in Amsterdam 1998*. Amsterdam: GG&GD Amsterdam.

Buster, M.C.A., Van Brussel, G.H.A., and Van den Brink, W. (2000). *Estimating the Number of Opiate Users in Amsterdam by Capture Recapture; The Importance of Case Definition*. Amsterdam: GG&GD Amsterdam.

Carsauw, H.H.C., Van Rozendaal, C.M., Scheepens, J.M.F.A., Hoebe, C.J.P.A., Meulders, W.A.J., Jansen, M., Dorigo-Zetsma, J.W., and Houweling, H. (1997). *Infecties met HIV, HBV en HCV onder injecterende druggebruikers in Heerlen/Maastricht*. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu (RIVM).

Carroll, K.M. (1998). Treating drug dependence: Recent advances and old truths. In: Miller, W.R., and Heather, N., eds.. *Treating addictive behaviors*. New York, Plenum Press.

CCBH (1998). *Investigating the medical prescription of heroin*. Utrecht: Central Committee on the Treatment of Heroin Addicts (CCBH).

Cobelens, F.G.J., Schrader, P.C., and Sluijs, Th.A. (1990). *Acute dood na druggebruik in Amsterdam*. Amsterdam: GG&GD Amsterdam.

Cohen, A.F., Van Gerven, J.M.A. (1998). *Cognitive and serotonergic function in ecstasy-users and controls: report CHDR 97103. Part one: results and discussion*. Leiden: Centre for Human Drug Research.

Cohen, P., Sas, A.. (1995). *Cocaine use in Amsterdam II. Initiation and patterns of use after 1986*. Amsterdam, Universiteit van Amsterdam, Instituute voor Sociale Geografie.

Cohen, P., and Sas, A. (1997). *Patterns of cannabis use in Amsterdam among experienced cannabis users. Some preliminary data from the 1995 Amsterdam Cannabis Survey (<http://www.frw.uva.nl/cedro>)*. Amsterdam: CEDRO, Universiteit van Amsterdam.

Cohen, P., and Sas, A. (1993). *Ten years of cocaine: A follow-up study of 64 cocaine users in Amsterdam*. Amsterdam: Department of Human Geography, University of Amsterdam.

Cohen, P. (1989). *Cocaine use in Amsterdam in non-deviant subcultures*. Amsterdam: Instituut voor Sociale Geografie.

Collijn, D.H., and Seinhorst, K. (1998). *Experiment 7-daagse methadonverstrekking: Effectmeting*. Heerlen: GGD Oostelijk Zuid-Limburg.

Consumentenbond (1998). *Weinig vertrouwen in de GGZ: meer duidelijkheid gevraagd. Consumentengids*, June, 28-29.

Coumans, A.M., Neve, R.J.M., and Van de Mheen, H. (2000). *Het proces van marginalisering en verharding in de drugscene van Parkstad Limburg; Monitor alcohol en drugs in Nederlandse gemeenten, no. 7*. Rotterdam: IVO.

Cruts, A.A.N. (1996). *Key Figures on Allochthonous Clients in the LADIS: The Dutch 'National Alcohol and Drugs Information System'*. (Paper presented at the ICAA conference.) Utrecht: Stichting IVV.

- Cruts, A.A.N., Ouwehand, A.W., and Hoekstra, M.J. (1998). *Echt nieuw of draaideurcliënt in de Nederlandse verslavingszorg?* Houten: IVV/GGZ Nederland.
- Cuijpers, P. (2000). *Cannabis*. Houten/Diegem, Bohn Stafleu Van Loghum.
- Cuijpers, P. (1999). Preventieprogramma's voor kinderen van alcoholafhankelijke ouders; Een overzicht van de literatuur. *Kind en Adolescent*, 20 (4): 248-261.
- Cuijpers, P., Vollenbergh, W.A.M., Rigter, H., Mackenbach, J.P., De Haes, W.F.M., Dercksen, A., and Smit, F. (2000). *A community intervention trial to prevent drug use among adolescents: A feasibility study. (Passed research proposal.)* Den Haag: ZON.
- CVO. (ongoing). *Verslavingspreventie onder jongeren*. Utrecht: Centrum voor Verslavingsonderzoek (CVO)/Centrum Maliebaan/Gemeente Utrecht.
- CVO. (ongoing). *Wintigeneeswijzen en de verslavingszorg*. Utrecht: Universiteit Utrecht/Centrum voor Verslavingsonderzoek (CVO).
- De Bruin, D., Maalsté, N., and Van de Wijngaart, G.F. (1999). *Goed fout gaan; Eerste hulp op grote dansevenementen*. Utrecht: Centrum voor Verslavingsonderzoek (CVO).
- De Bruin, D., and Van Aalderen, H. (2000). *Een nieuwe injectie; Een onderzoek naar de kwaliteit van de spuitomruilvoorzieningen in zes regio's in Nederland*. Amsterdam/Utrecht: Stichting Mainline/Centrum voor Verslavingsonderzoek (CVO).
- De Graaf, I., Wildschut, J., and Van de Mheen, D. (2000). *Utrechtse druggebruikers: Een jachtig bestaan; Monitor alcohol en drugs in Nederlandse gemeenten, no. 6*. Utrecht: IVO.
- De Jong, W. (2000). *Drug consumption rooms: international perspectives. (Paper presented at the 11th International Conference on the Reduction of Drug Related harm April 9-13rh.)* Jersey, Channel Islands.
- De Jong, E. (1999). *Voortgangsrapportage preventie project risikogroepen*. Den Helder: Triton.
- De Jong, C., Van de Wielen, E.G.M., Verheul, R. (1996). *Persoonlijkheidspathologie en verslaving: een uitdagende combinatie*. In: Handboek Verslaving. Houten/Zaventem, Bohn Stafleu van Loghum.
- De Jong, C.A.J. (2001). Psychiatric comorbidity in a population of patients with substance abuse disorders: The stepped assessment approach. *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.
- De Jong, C.A.J., and Carpentier P.J. (2001). Treatment of patients with ADHD and addiction with methylphenidate. *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.

De Jong, C.A.J., Breteler, M.H.M., Damen, K.F.W., Disveld, S. (2001). The effect of interpersonal therapy in interpersonal behavior and abstinence rate after inpatient treatment of addicted patients. *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.

De Ruiter C. (2001). *Gesloten circuit. Prof. C. de Ruiter kritiseert de 'alleingang' van de forensische psychiatrie*. NRC Handelsblad March 24th.

De Swaan, A. (1986). Uitgaansbeperking en uitgaansangst: over de verschuiving van bevelshuishouding naar onderhandelingshuishouding. In: A. de Swaan, ed. *De mens is de mens een zorg*. Opstellen 1971-1981. Amsterdam, Meulenhoff: 81-115.

De Veer, A., Theuws, A., Wagner, C., Van Ooyen-Houben, M., and Place, M. (2000). *Kwaliteitssystemen in de GGZ. Deel 2. State-of-the-art en ontwikkelingen sinds 1995*. Utrecht: Nederlands instituut voor onderzoek van de gezondheidszorg (NIVEL)/Trimbos-instituut.

De Weerd, I., Jonkers, R., Nierkens, V., and Jongkind, S. (1998). *Evaluatie van de campagne Hasj & Wiet: wat weet je wel, wat weet je niet*. Cannabiscampagne voor jongeren 1997. Haarlem: ResCon (Research & Consultancy).

De Zwart, W.M., Monshouwer, K., and Smit, F. (2000). *Jeugd en riskant gedrag. Kerngegevens 1999. Roken, drinken, drugsgebruik en gokken onder scholieren vanaf tien jaar*. Utrecht: Trimbos-instituut.

De Zwart, W.M., and Toet, J. (1998). *Projectvoorstel kwaliteitsverbetering van de registratie van drugsdoden*. Utrecht: Trimbos-instituut.

De Zwart, W.M., Wieman, A.W. (2001). *De registratie van drugsgerelateerde sterfte in Nederland: een verkenning van de praktijk op centraal en lokaal niveau*. Utrecht: Trimbos-instituut.

Downes, D. (1988). *Contrasts in tolerance: postwar penal policy in the Netherlands, England and Wales*. Oxford, Clarendon Press.

Driessen, F.M.H.M., Van der Lelij, B., Smeets, H.M. (2001). Effects of high doses of methadone in Dutch low-threshold methadone maintenance programs. *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.

Driessen, F.M.H.M., Völker, B.G.M., Kregting, J., Van der Lelij, B. (2001). Long-term effects of methadone provision. *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.

Driessen, F.M.H.M., Webbink, E., Van Santen, G.W., Van der Lelij, B. (2001). Optimizing the methadone-dosis: An instrument to measure craving. *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.

- Driessen, F.M.H.M., Völker, B.M.G., Kregting J., Van der Lelij, B. (1999). *De ontwikkeling van de situatie van methadoncliënten gedurende twee jaar*. Utrecht: Bureau Driessen.
- Driessen, F.M.H.M. (1992). *Methadoncliënten in Nederland*. Rijswijk/Utrecht, Ministerie van Volksgezondheid, Welzijn en Sport(VWS)/Bureau Driessen.
- Driessen, F.M.H.M. (1991). *Methadonverstrekking in Nederland*. Rijswijk/Utrecht: Ministerie van Volksgezondheid, Welzijn en Sport (VWS)/Bureau Driessen.
- Droog, K. (2001). Vaccineren tegen hepatitis B. geen kwestie van even prikken... *Preventie Periodiek* 2001/2, 7-8.
- Dusenbury, L. (2000). Family-based drug abuse prevention programs: A review. *Journal of Primary Prevention* 20: 337-352.
- Dusenbury, L., and Falco, M. (1995). Eleven components of effective drug abuse prevention curricula. *Journal of School Health*, 65: 420-425.
- Eland, A., and Rigter, H. (2001). *Allochtonen en verslavingszorg. Achtergrondstudie Nationale Drugmonitor*. Utrecht, Bureau Nationale Drugmonitor (NDM).
- Eland-Goossensen, M.A. (1997). *Opiate addicts in and outside of treatment: different populations? (Dissertation.)* Rotterdam: Erasmus Universiteit Rotterdam.
- Elling-De Boer, A. (1999). *Verslavingspreventie in de opvoeding. Mogelijkheden voor ouders om bij te dragen aan het voorkomen of terugdringen van alcohol- en drugsproblemen bij hun kinderen*. Utrecht: Trimbos-instituut.
- Ernste, D., and Bouwmeester, O. (1996). Kost verslavingszorg alleen maar geld? *Jaarverslag Jellinek, 1995*. Amsterdam: Jellinek.
- Ewals, M.W.J.M., Moors, M.J.C., Van Erck, LC. (1997). *Evaluatie-onderzoek van behandelprocessen: July 1991-December 1995*. Venray, Vincent van Gogh Instituut, Verslavingskliniek Paschalis.
- Ewals, M.W.J.M., Moors, M.J.C., Van Erck, LC. (1998). *Evaluatie-onderzoek van behandelprocessen: 1997*. Venray, Vincent van Gogh Instituut, Verslavingskliniek Paschalis.
- Farrell, G. (1998). Routine activities and drug trafficking: the case of the Netherlands. *International Journal of Drug Policy*, 9: 21-32.
- Fennema, J.S.A. (1997). *HIV infection among drug users and the potential for heterosexual spread (Dissertation.)* Amsterdam: University of Amsterdam.
- FORUM (2001). *Peer preventie bij allochtone jongeren. Begripsbepaling e omschrijving van de peer methode*. Utrecht, Instituut voor Multiculturele Ontwikkeling (FORUM).

Fromberg, E., and Linssen, L. (2000). *User rooms: a Dutch illustration of the inflation of harm reduction. (Paper presented at the 11th International Conference on the Reduction of Drug Related harm.)* Jersey, Channel Islands, April 9-13th.

Fulpen, M.M. (1997). *"Op eigen kracht"; Evaluatie van het Arrazi preventie project.* Amsterdam: Vrije Universiteit/Vakgroep Sociale Psychologie.

Geelen, K., Greshof, D., Postma D., and Sprock, B. (2000). *Zelfhulpgroepen en verslavingen. Een voorstudie.* (Reeks 2000-1.) Utrecht: Trimbos-instituut.

Geerlings P.J., and Van den Brink, W. (1995). *Verslaving en psychiatrische comorbiditeit.* In: Handboek Verslaving. Houten/Zaventem, Bohn Stafleu van Loghum.

GGZ Nederland (1998). *Resultaten Scoren. Kwaliteit en innovatie in de verslavingszorg.* Utrecht: GGZ Nederland.

GGZ Nederland (1999). *Arbeidstoeleiding van verslaafden: Hoofdpijnen, achtergronden, details.* Utrecht: GGZ Nederland.

GGZ Nederland (1999). *Convenant samenwerking tussen hulpverleners en ouders van druggebruikers.* Utrecht: GGZ Nederland/Landelijke Stichting Ouders van Druggebruikers (LSOVD).

GGZ Nederland (1999). *Informatieplan verslavingszorg IVM 2000.* Utrecht: GGZ Nederland.

GGZ Nederland (2000). *Uitvoeringsplan 2000.* Utrecht: GGZ Nederland.

GGZ Nederland (2000). *Zorg in detentie 1999. Kengetallen penitentiaire verslavingszorg & detentievervangende behandeling van verslaafden.* Utrecht, GGZ Nederland.

Goderie, M., Huntjens, K., Rijkschroeff, R., and Steketee, M. (1999). *Het Time Out Project. Zorg voor verslaafde straatprostituees.* Utrecht: Verwey-Jonker Instituut.

Grapendaal, M., Nelen, H., and Leuw, E. (1995). *A world of opportunities. Life style and economic behavior of heroin addicts in Amsterdam.* New York: SUNY Press.

Groeneweg, B.F., and Lechner-van de Noort, M.G. (1988). *Kinderen van drugverslaafde ouders: opvoeding en ontwikkeling. (Dissertation.)* Delft: Eburon.

Grol, R., and Wensing, M. eds. *Implementatie. Effectieve verandering in de patiëntenzorg.* Maarssen, Elsevier gezondheidszorg.

Grund, J.P.C., and Blanken, P. (1993). *From chasing the dragon to chinezen. The diffusion of heroin smoking in the Netherlands.* Rotterdam: Instituut voor Verslavingsonderzoek (IVO), Erasmus Universiteit Rotterdam.

Haks, K., Berns, M.P.H., Snijders, B.M., Watzeels, J.C.M., Van Regteren, A.J., and Van de Laar, M.J.W. (2001). *Surveillance of HIV-infection among injecting drug users in the*

Netherlands: meting Almelo/Enschede/Hengelo 2000. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu (RIVM).

Heijman, F., Verveen, J. (2000). *Evaluatie seniorenband. Een experiment met een woongroep voor senioren die drugs gebruiken*. Rotterdam, Boumanhuis.

Hemels, I. (1999). Ondernemers in actie voor drugsverslaafden. Banen in Heerlen. *Psy*, nr. 7.

Hendriks, V. (1999). Afkicken onder narcose. Een studie naar de effectiviteit van twee snelle detoxificatiemethoden voor heroïneverslaafden. *Epidemiologisch Bulletin*, 34 (4): 22-25.

Hendriks, J.C., Satten, G.A., Van Ameijden, E.J., Van Druten, H.A., Coutinho, R.A., and Van Griensven, G.J. (1998). *The incubation period to AIDS in injecting drug users estimated from prevalent cohort data, accounting for death prior to an AIDS diagnosis*. *AIDS*, 12 (12):1537-1544.

Hendriks, V., Van den Brink, W., Blanken, P., Van Ree, J.M. (2000a). Onderzoek naar heroïne op medisch voorschrift. Achtergrond en opzet. *Epidemiologisch Bulletin*, 35 (1), 13-19.

Hendriks, V., Van den Brink, W., Blanken, P., Van Ree, J.M. (2000b). Heroïne op medisch voorschrift. Achtergrond en opzet van het Nederlandse onderzoek naar de effectiviteit van behandeling met heroïne bij chronische, therapieresistente methadonpatiënten. *Handboek Verslaving (B 4220-1)*.

Henskens, R. (1999). *Draaiboek 'cocaine-experiment'*. Rotterdam: GGD Rotterdam e.o., Sector Gezondheidsbevordering.

Higgins, S.T. (1999). *We' ve come a long way. Comments on cocaine treatment outcome research*. *Archives of General Psychiatry*, 56: 516-518.

Hofman, K., Kuik, J., and Schut, J. (1997). *Het Assense project "Psychiatrische thuiszorg voor verslaafden"*. *Evaluatieverslag*. Assen: GGZ-Drenthe/CAD Drenthe.

Hommels, L.M., and Molleman, G.R.M. (2000). *Handboek PREFFI*. Woerden: National Institute for Health Promotion and Disease Control (NIGZ).

Huls, F.W.M., Schreuders, M.M., Ter Horst-van Breukelen, M.H., Van Tulder, F.P. (2001). *Criminaliteit en rechtshandhaving 2000*. Den Haag: WODC/CBS.

Huygen, T.M.J., Janson, T., Korteweg, M., Verbeeke, C. (1997). *Dubbel gediagnostiseerden: een co-productie van het Centrum Maliebaan en de H.C. Rümkegroep*. Utrecht.

IGB. (1999). *Participatie-protocol cliënten ambulante verslavingszorg*. Utrecht/Amsterdam: GGZ Nederland/Instituut voor Gebruikersparticipatie en Beleid (IGB).

Intraval (2000). *Doelgroepen in beeld. Doelgroepanalyse dak- en thuislozen en harddruggebruikers in Apeldoorn*. Groningen/Rotterdam: Stichting Intraval.

Jellinek (2000). *Wijkgericht werken, een praktische uitwerking. Werkwijze en ervaringen van alcohol- en drugspreventie in een community*. Amsterdam, Jellinek Preventie (reeks nr. 10).

Johnson, C.A., Pentz, M.A., Weber, M.D., Dwyer, J.H., Baer, N., MacKinnon, D.P., and Hansen, W.B. (1990). Relative Effectiveness of Comprehensive Community Programming for Drug Abuse Prevention with High-Risk and Low-Risk Adolescents. *Journal of Consulting and Clinical Psychology*, 58, (4): 47-56.

Johnson, C.A., and Solis, J. (1983). Comprehensive community programs for drug abuse prevention: implications of the community heart disease prevention programs for future research. In: Glynn, T., Leukeveld, C., Ludford, J. (Eds.). *Preventing adolescent drug abuse intervention strategies. (NIDA, Research Monograph nr. 47.)* Rockville, MD: 76-114.

Keizer, S.T., Langendam, M.M., Van Deutekom, H., Coutinho, R.A., and Van Ameijden, E.J. (2000). How does tuberculosis relate to HIV positive and HIV negative drug users? *Journal of Epidemiology and Community Health*, 54 (1): 64-68.

Kessler, R.C., McGonagle, K.A., Carnelley, K.B., Nelson, C.B., Farmer, M.E., Regier, D.A. (1999). *Comorbidity of mental disorders and substance use disorders: A review and agenda for future research*. In: P.J. Leaf, ed.. *Research in Community and mental health*. Greenwich CT, JAI Press.

Khalsa, M.E., Tashkin, D.P., and Perrochet, B. (1992). Smoked cocaine: patterns of use and pulmonary consequences. *Journal of Psychoactive Drugs*, 24 (3): 265-272.

Kirchmayer, U., Davoli, M., Verster, A. (1999). *Naltrexone maintenance treatment for opioid dependence*. The Cochrane Library, 2: 1-13.

Koeter, M.W.J., and Luhrman, G.C. (1998). *Verslavingsproblematiek bij justitiabele verslaafden*. Amsterdam: AIAR.

Koeter, M.W.J., Smit, C., Bieleman, B., Snippe, J., Van der Heijden, H. (1999). *Meld- en regelpunten in Nederland. Een evaluatie van de meld- en regelfunctie van 4 meld- en regelpunten*. Amsterdam: Amsterdam Institute of Addiction Research (AIAR).

Kok, A. *Jaarverslag 2000 Drugs Informatielijn*. Utrecht, Trimbos-instituut, 2001.

Konijn, C. (1999). Blowende jongeren: een toenemend probleem voor groepsopvoeders. *Tijdschrift voor Sociaal Pedagogische Hulpverlening*, 28: 32-38.

Korf, D.J., Nabben, T., Diemel, S., and Bouma, H. (2000). *Trends in alcohol, tabak, drugs en gokken bij jonge Amsterdammers*. Amsterdam: Thela Thesis.

Korf, D.J., Nabben, T., Lettink, D., and Bouma, H. (1999a). *Antenne 1998. Trends in alcohol, tabak, drugs en gokken bij jonge Amsterdammers*. Amsterdam: Jellinek.

- Korf, D.J., Nabben, T., Schreuders, M. (1995). *Antenne 1995. Trends in alcohol, tabak, drugs en gokken bij jonge Amsterdammers*. Amsterdam, Jellinek (reeks # 5).
- Korf, D.J., Diemel, S., Riper, H., and Nabben, T. (1999b). *Het volgende station; Zwerfjongeren in Nederland*. Amsterdam: Thela thesis.
- Korf, D.J., Riper, H., and Freeman, M. (1999). *Outreach work among drug users in Europe. Concepts, practice and terminology*. Lisbon: EMCDDA.
- Korf, D.J., Van Wijngaarden, B., Koeter, M.W.J., Riper, H., Seeman, C. (2000). *Vroeghulp aan verslaafden. Evaluatie van de Vroeghulp Interventie Aanpak (VIA) van de justitiële verslavingszorg*. Amsterdam, Amsterdam Institute of Addiction Research (AIAR).
- Korf, D.J., Van der Woude, M. Benschop, A. & Nabben, T. (2001). *Coffeeshops, jeugd & toerisme*. Amsterdam: Rozenberg Publishers.
- Korf, D.J., Nabben, T., Benschop, S. (2001). *Antenne 2000. Trends in alcohol, tabak, drugs en gokken bij jonge Amsterdammers*. Amsterdam: Thela Thesis.
- KPMG. Bureau voor Economische Argumentatie (2001). *Kosten en baten van alcoholzorg en -preventie. Eindrapport*. Hoofddorp: KPMG.
- Kroon, L.Y., Hendriks, V.M., Franken, I.H.A., Van den Brink, W., Caplan, C. (2001). Relapse prevention in inpatient drug abuse treatment: A controlled study of effectiveness of cue exposure therapy in residential treatment of opiate addicts. *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.
- Kuilman, M., and Van Dijk, A. (2000). *Alcohol- en druggebruik in de Gemeente Rotterdam; Een verslag van het bevolkingsonderzoek in het kader van de Regio- en Steden Monitor Alcohol en Drugs, no. 13*. Rotterdam: GGD Rotterdam e.o.
- Kuipers, S.B.M., Stam, H., De Zwart, W.M. (1997). *Jeugd en riskant gedrag 1996. Roken, drinken, drugsgebruik en gokken onder scholieren vanaf tien jaar*. Utrecht, Trimbos-instituut.
- Lammers, J., Neve, R.J.M., and Knibbe, R.A. (2000). *Bevolkingsonderzoek alcohol- en druggebruik Parkstad Limburg; Monitor alcohol en drugs in Nederlandse gemeenten, no. 9*. Heerlen/Maastricht: GGD Oostelijk Zuid-Limburg/Universiteit Maastricht/IVO-UM.
- Langendam, M.W. (2000, in press). *The impact of harm-reduction based methadone treatment on HIV infection and mortality. (Dissertation.)* Amsterdam: Municipal Health Service Amsterdam.
- Langendam, M.W., Van Ameijden, E., Van den Hoek, J.A.R. (1995). HIV-testen en counselen in Amsterdam; Kenmerken van niet eerder op HIV geteste injecterende druggebruikers. *Tijdschrift voor Sociale Gezondheidszorg*, 73: 354-359.

Langendam, M.W., Van Brussel, G.H.A., Coutinho, E.J.C., and Van Ameijden, E.J.C. (1999). Methadone maintenance treatment modalities in relation to incidence of HIV: results of the Amsterdam cohort study. *AIDS*, 13: 1711-1716.

Langendam, M.W., Van Brussel, G.H.A., Coutinho, E.J.C., and Van Ameijden, E.J.C. (2000). Methadone maintenance and cessation of injecting drug use: results from the Amsterdam cohort study. *Addiction*, 95 (4): 591-600.

Langendam, M.W., Van Brussel, G.H.A., Coutinho, E.J.C., and Van Ameijden, E.J.C. (in press). Mortality among drug users: impact of harm reduction-based methadone treatment. *American journal of Public Health*.

Langendam, M.W., Van Brussel, G.H.A., Coutinho, E.J.C., and Van Ameijden, E.J.C. (in press). Trends in HIV risk behaviour and methadone dosage among HIV negative drug users: an ecological study. *AIDS*.

Langendam, M.W., Van Haastrecht, H.J.A., and Van Ameijden, E.J.C. (1999). The validity of drug users' self reports in a non-treatment setting: prevalence and predictors of incorrect reporting methadone treatment modalities. *International Journal of Epidemiology*, 28: 514-520.

Langendam, M.W., Van Haastrecht, H.J.A., Van Brussel, G.H.A., Reurs, H., Van den Hoek, J.A.R., Coutinho, R.A., and Van Ameijden, E.J.C. (1998). Differentiation in the Amsterdam methadone dispensing circuit: determinants of methadone dosage and site of methadone prescription. *Addiction*, 93 (1): 61-72.

Leccese, A.P., Pennings, E.J.M., and De Wolff, F.A. (2000). *Combined use of alcohol and psychotropic drugs. A review of the literature*. Leiden: Academisch Ziekenhuis Leiden (AZL).

Leenders, F.H.R. (1992). Drug-addicted parents and their children: harm reduction in the Netherlands. *International Journal of Drug Policy*, 3 (4): 204-210.

Lijphart, A. (1968). *The politics of accommodation: pluralism and democracy in the Netherlands*. Berkeley, University of California Press.

Lohuis, G., and Bosma, H. (1998). *Een kwestie van verantwoordelijkheid nemen. Het Dubbele Diagnoseproject*. Passage, 7, 102-106.

Loof, R., and Rensink, H. (2000). *Handbook. The healthy school and drugs*. Utrecht: Trimbos Institute.

Lusthof, K.J., Ruiter, B., and Smink, B.E. (1998). *Amphetamine- and phenylpropanolamine-derivative related deaths in the Netherlands from 1994 to 1997: Toxicology and pathology*. Rijswijk: Ministerie van Justitie.

Mainline (2000). *Veldwerk binnen de muren. Aidspreventie en gezondheidsvoorlichting in een Huis van Bewaring*. Amsterdam: Mainline.

Mainline (2000). De goedkope roes van benzo's. Werking, bijwerkingen en combinatiegebruik. *Mainline*, 2000, nr.2: 4-5.

Mainline (1999). Verslavingsartsen slecht op de hoogte. Meer ervaring met hiv-medicijnen en methadon. *Mainline*, 1999, nr. 1: 10-11.

Martin, J. (1999). *Informatieplan verslavingszorg. IMV2000. Een rapport voor GGZ Nederland/Verslavingszorg*. Loenen a/d Vecht: James Martin + Co.

Matthijssen, M.P.M. (1998). *Drug-, medicijn- en alcoholgebruik van automobilisten in Nederland*. Leidschendam: SWOV.

Meeuwissen J., and Kroon, H. (2000). *Kenmerken van dubbele-diagnosecliënten. Resultaten van een vragenlijststudie*. Utrecht, Trimbos-instituut.

Meijer, G., De Jong, A., Koeter, M., Bieleman, B. (2001). *Gebruik van de straat. Evaluatie gebruiksruijnte binnenstad-Zuid Groningen*. Groningen/Amsterdam, Intraval/Amsterdam Institute for Addiction Research (AIAR).

Michon, H., Rondez, M., Van Weeghel, J. (2000). *Een werkend middel. Evaluatie van baanberekend arbeidstoeleidingsproject voor mensen met een verslavingsachtergrond. (Reeks 2000-6.)* Utrecht: Trimbos-instituut.

Mikx, T. (2000). *Rapportage Drugs Informatielijn 1999. Nr. 6*. Utrecht: Trimbos-instituut.

Mikx, T., Faasen, I., and Wychgel, H. (2000). Van de Drugsinformatielijn. *Preventie Periodiek*, 2000/2: 4.

Ministerie van Volksgezondheid, Welzijn en Sport (2001). *Drugbeleid. Voortgangsrapportage september 1999 - september 2001*. (2001). Den Haag: Ministerie van VWS (<http://www.minvws.nl/documents/gvm/Rapport/Drugbeleid01.pdf>).

Molleman, G.R.M., Kok, H.H., and Hommels, L. (1999). PREFFI. Brug tussen kennis en praktijk. *Naar een grotere effectiviteit in en na 2000*. Woerden: National Institute for Health Promotion and Disease Control (NIGZ).

Molleman, G.R.M., Van Driel, W., and Keijsers, J. (1995). *Preventie EFFektiviteitsinstrument PREFFI 1.0. Ontwikkeling van een effectiviteitsinstrument voor de gvo/preventiepraktijk*. Woerden: National Institute for Health Promotion and Disease Control (NIGZ).

MORE Onderzoekscommissie (1997). *Eindrapportage: Haagse harddruggebruikers en het bereik van politie en verslavingszorg*. Den Haag: Gemeente Den Haag.

Nabben, T., and Korf, D.J. (2000). *De combiroes; Gecombineerd gebruik van alcohol met cannabis, cocaïne, XTC en amfetamine*. Amsterdam: Thela Thesis.

Nabben, T., and Korf, D.J. (1999). Cocaine and Crack in Amsterdam: Diverging Subcultures. *Journal of Drug Issues*, 29 (3): 627-652.

Nabitz, U, Vis, C., Van den Brink, W. (2001). Wat vindt de Nederlandse bevolking van de GGZ en de verslavingszorg? *Maandblad Geestelijke volksgezondheid (MGv)*, 56, 795-805.

NDM (1999). *Jaarbericht 1999*. Utrecht, Bureau Nationale DrugMonitor.

Niesink, R.J.M. (2000). *THC-concentraties in wiet, nederwiet en hasj in Nederlandse coffeeshops*. Utrecht: Trimbos-instituut.

Niessen, W., Broer, J., Steward, R., Haayer-Ruskamp, F. (2001). *Modification of the use and prescription of benzodiazepines in the region of East-Groningen*. Groningen, University of Groningen.

Nieuwenhuijs, M., Van den Brink, W. (2000). *Adequacy of drug abuse treatment and care. Report of the Netherlands*. Amsterdam: Jellinek.

Noorlander, E. (2000). *In-patient help for 'double trouble'patients. (Paper presented at the 11th International Conference on the reduction of drug related harm.)* Jersey

Noorlander E. (1997). *Botsende culturen*. In: J. van Weeghel, A, Elling, J. van der Marck (eds.). *Dubbele diagnose: dwalen tussen psychiatrie en verslavingszorg*. Utrecht, Trimbos-instituut.

NWO/ZON. (1999). *De eerste oogst. Overzicht van het programma Verslaving van ZON en NWO: de eerste 24 projecten*. Den Haag: Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO)/ZorgOnderzoek Nederland (ZON).

Oosterhoff, S. (1998). *Drang op maat. Vijf jaar integrale aanpak justitiabele harddrugverslaafden*. Utrecht: GGZ Nederland.

Ouwehand, A.W., Van Alem, V.C.M., De Vetten, L.J., and Boonzajer Flaes, S. (2000). *Kerncijfers Verslavingszorg 1999; Landelijk Alcohol en Drugs Informatie Systeem*. Houten: Stichting IVV.

Pennings, E.J., Konijn, K.Z., and De Wolff, F.A. (1998). Klinische en toxicologische aspecten van ecstasygebruik. *Nederlands Tijdschrift voor Geneeskunde*, 142 (35): 1942-1946.

Pentz, M.A., Dwyer, J.H., MacKinnon, D.P., Flay, B.R., Hansen, W.B., Wang, E.Y., and Johnson, C.A. (1989). A multi-community trial for primary prevention of adolescent drug abuse: effects on drug use prevalence. *JAMA*, 261: 3259-66.

Peters, L.W.H., Hielkema, J.E., and Molleman, G.R.M. (2000). *Onderzoeksverslag PREFFI. Implementatietraject 1997-1999*. Woerden: National Institute for Health Promotion and Disease Control (NIGZ).

Pieters, J.J.T.M., and Reijnders, P.J.M. (2000). *Jaarverslag 1999 synthetische drugs*. Eindhoven/Den Bosch: Unit Synthetische Drugs.

Planije, M., Niesink, R.J.M., Spruijt, I.P. (2001). *Drugs Informatie en Monitoring Systeem (DIMS). Verslag 1998-2000*. Utrecht, TrimboS-instituut.

Platform Verslavingszorg Katwijk. (1999a). *Reglement riskante genotmiddelen voor instellingen voor Voortgezet Onderwijs*. Katwijk: Platform Verslavingszorg Katwijk.

Platform Verslavingszorg Katwijk. (1999b). *Reglement riskante genotmiddelen voor instellingen in het sociaal-cultureel en jongerenwerk*. Katwijk: Platform Verslavingszorg Katwijk.

PMW (1999). *Ver van huis. Hulpverlening aan drugsgebruikende straatprostituees*. Rotterdam: Prostitutie Maatschappelijk Werk (PMW).

Polstra, L., Bosma, H., De Jonge, M. eds.. 1999. *Dubbel & dwars. Samenwerking in zorg voor dubbele diagnose cliënten*. Groningen, Stichting Ambulante Verslavingszorg provincie Groningen.

Prins, M. (2000). *HIV Disease Progression in Injecting Drug Users; Epidemiological Studies. (Dissertation.)* Amsterdam: University of Amsterdam.

Prins, M., Hernandez Aguado, I.H., Brette, R.P., Robertson, J.R., Broers, B., Carre, N., Goldberg, D.J., Zangerle, R., Coutinho, R.A., and Van den Hoek, A. (1997). Pre-AIDS mortality from natural causes associated with HIV disease progression: Evidence from the European Seroconverter Study among injecting drug users. *AIDS*, 11 (14): 1747-1756.

Projectgroep Time Out. (1999). *Eindverslag van het project Time Out voor verslaafde prostituees*. Arnhem: De Griift, Gelders Centrum voor Verslavingszorg.

Puska, P., Tuomilehto, J., Nissinen, A., and Vartiainen, E. (Eds.). (1995). *The North Karelia Project. 20-year results and experiences*. Helsinki: National Public Health Institute.

Reneman I. (2001). Investigating the potential neurotoxic effects of ecstasy (MDMA): an imaging approach [dissertation]. Amsterdam: Academisch Medisch Centrum.

Rigter, H. (1998). *Effecten van justitiële drang en dwang bij de behandeling van verslaafden*. Utrecht, TrimboS-instituut.

Roozen, H.G., Kerkhof, A.J.F.M., Van den Brink, W. (2000). Ervaringen met een terugvalpreventieprogramma (CRA) gecombineerd met naltrexon bij opiaatafhankelijken: Effect op verslavingsgedrag en predictieve waarden van psychiatrische comorbiditeit. *Tijdschrift voor Psychiatrie*, 42 (5): 307-318.

RVZ/RMO. (1999a). *Verslavingszorg herijkt. Advies over een besturingsmodel voor verslavingszorg en verslavingsbeleid*. Zoetermeer/Den Haag: Raad voor de Volksgezondheid en Zorg (RVZ)/Raad voor Maatschappelijke Ontwikkeling (RMO).

RVZ/RMO. (1999b). *Achtergrondstudie bij het advies Verslavingszorg herijkt*. Zoetermeer/Den Haag: Raad voor de Volksgezondheid en Zorg (RVZ)/Raad voor Maatschappelijke Ontwikkeling (RMO).

Sandwijk, J.P., Cohen, P.D.A., Musterd, S. (1991). *Licit and illicit drug use in Amsterdam*. Amsterdam, Universiteit van Amsterdam, Instituut voor Sociale Geografie.

Sandwijk, J.P., Westerterp, I., Musterd, S. (1988). *Het gebruik van legale en illegale drugs in Amsterdam*. Amsterdam, Universiteit van Amsterdam, Instituut voor Sociale Geografie.

Schippers, G.M., and Broekman, T.G. (2001) *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.

Schoemaker, B. (2000). Pillen tegen verslaving. Overzicht ontbreekt. *Psy*, nr.7, 20-21.

Schoemaker, C., Van Zessen, G. (1997). *Psychische stoornissen bij gedetineerden: Een verkennend onderzoek in Penitentiair Centrum Scheveningen*. Utrecht: Trimbos-instituut.

Schrijvers, C.T.M., Abbenhuis, G.M., Van de Goor L.A.M., and Garretsen, H.F.L. (1997). *De prevalentie van complexe verslavingsproblematiek; Resultaten van een onderzoek bij druggebruikers in Rotterdam en Groningen*. Rotterdam: Instituut voor Verslavingsonderzoek (IVO).

SCP (2000). *Sociaal Cultureel Rapport 2000. Nederland in Europa*. Den Haag: Sociaal Cultureel Planbureau (SCP).

Sikken, F. (1997). *Een andere transmissieweg van het hepatitis C virus. Bulletin Secundaire Preventie Middelengebruik*. Utrecht: Trimbos-instituut.

Silverman, K., Bigelow, G.E., Stitzer, M.L. (1998). Treatment of cocaine abuse in methadone maintenance patients. In: Higgins, S.T., and Katz, J.L. eds. *Cocaine abuse. Behavior, pharmacology, and clinical applications*. San Diego, Academic Press.

Simpson, D.D., Joe, G.W., Fletcher, B.W., Hubbard, R.L., Anglin, D. (1999). *A national evaluation of treatment outcomes for cocaine dependence*. *Archives of General Psychiatry*, 56: 507-514.

Smink, B.E., Ruiter, B., Lusthof, K.J., Zweipfennig, P.G.M. (2001). *Driving under the influence of alcohol and/or drugs in the Netherlands 1995-1998 in view of the German and Belgian legislation*. *Forensic Science International* 120: 195-203.

Smit, F., Toet, J., and Van der Heijden, P. (1997). Estimating the number of opiate users in Rotterdam using statistical models for incomplete count data. In: European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). *Methodological pilot study of local level prevalence estimates*. Lisbon: EMCDDA.

Smit, F. 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)*. Utrecht: Trimbos-instituut.

Snippe J., and Bieleman, B. (1999). *Buurten over last: Monitoren van drugsoverlast in de SVO-gemeenten 1993-1998*. Groningen: Stichting IntraVal.

Snippe, J., and Bieleman, B. (1998). *Resultaten Metingen Drugsoverlast 1996, 1997 en 1998*. Groningen/Rotterdam: Stichting IntraVal.

Snippe, J., and Bieleman, B. (1997). *Opiate users and crime*. Groningen, IntraVal.

Snippe, J., Hoogeveen, C., Bieleman, B. (2000). *Monitor drugsproblematiek justitie. Definitiestudie en ontwikkeltraject*. Groningen, IntraVal.

Snippe, J. and B. Bieleman (1997). Opiate users and crime in the Netherlands. In: Korf, D., and H. Riper, eds. *Illicite drug use in Europe: Proceedings of the 7th Conference on drug use and drug policy*. Amsterdam, University of Amsterdam (SISWO).

SOS (1996). *Doe effe normaal. (School-adoptie-plan: algemene informatie; politietraining en lesmaterialen.)* Barendrecht: Stichting Onderwijs & Samenleving (SOS).

Spaans, E., Beltman, W., Joore, J.C.A., Mensinga, Tj.T., De Vries, I., Mostert, L.J., and Meulenbelt, J. (1999). *Landelijke registratie klinische "XTC"-incidenten*. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu (RIVM).

Sproet, M., and Vos, R.C. (1998). *Residentiële behandeling van verslaafde ouders en hun kinderen (een normatief kader). (Unpublished manuscript.)* Groningen: Vakgroep Orthopedagogiek, Rijks Universiteit Groningen.

Spruijt-Metz, D., and Van Gageldonk, A. (2000a, submitted). *What determines the effectiveness of mass media health campaigns targeting adolescent smoking?*

Spruijt-Metz, D., and Van Gageldonk, A. (2000b, submitted). *Mass media interventions targeting adolescent drug and alcohol abuse: A review.*

Stam, H., Mensink, C., and De Zwart, W.M. (1998). *Jeugd en riskant gedrag 1997. Roken, drinken en gokken in het voortgezet speciaal onderwijs en spijbelopvangprojecten*. Utrecht: Trimbos-instituut.

Strijker, J., Dickscheit, J., Zandberg, Tj., and Rink, J.E. (1999). *Samen sterk. Een evaluatieonderzoek van de Herberg betreffende drugsverslaafde ouders met hun kinderen*. Groningen: Kuno van Dijk Stichting.

Swierstra, K. (1999). Strafrechtelijke opvang verslaafden. Het aftoppen van criminele carrièrecurves. *Justitiële Verkenningen*, 25 (6): 68-83.

Te Brake, E.T.M., Van Ameijden, E.J.C., Krol, A. (2001). Long-term addiction careers and the incidence of abstinence, relapse, and non-prescribed drug use: The role of methadone treatment and other determinants. *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.

Ten Cate P., and Hexspoor, F. (1999). *Arbeidstoeleiding van verslaafden. Handleiding: hoofdlijnen, achtergronden en details*. Utrecht: GGZ Nederland.

Ten Den C., Bieleman, B., De Bie, E., and Snippe, J. (1995). *Pijn in het hart. Onderzoek naar de aard en omvang van harddrugproblematiek in de stad Utrecht*. Groningen: Stichting IntraVal.

Termorshuizen, F., and Houweling, H. (1997). HIV/AIDS in The Netherlands: Improved treatment possibilities necessitate HIV instead of AIDS surveillance. *Nederlands Tijdschrift voor de Geneeskunde*, 141 (40):1928-1929.

Tiemeijer, H. (1999). Methadon-Substitution: Erfahrungen in den Niederlanden. In: Bellmann, G.U., Jellinek, Chr., and Westermann, B. (Eds.). *Mehr als Abhängig? Versuche mit Methadon und Heroin*. Weinheim: Deutscher Studien Verlag: 27-39.

Tobler, N.S., Roona, M.R., Ochshorn, P., Marshall, D.G., Streke, A.V., and Stackpole, K.M. (2000). School-based adolescent drug prevention programs: 1998 Meta-analysis. *The Journal of Primary Prevention*, 20 (4): 275-336.

Toet, J. (1999). Country Report: The Netherlands. In: European Monitoring Centre for Drugs and Drug Addiction (EMCDDA). *Study to obtain comparable national estimates of problem drug use prevalence for all EU Member States*. Lisbon: EMCDDA.

Traag, W.A., Gercek, H., Kloet, D., Wychgel, H.D., Faasen, I.S., Kerssemaker, R.P. (2001). *Onderzoek naar residuen van bestrijdingsmiddelen in nederwiet. (Projectnr. 71.533.01, Rapport 2001.021.)* Wageningen: Rijks-Kwaliteitsinstituut voor land- en tuinbouwproducten (RIKILT).

Tweede Kamer der Staten-Generaal (vergaderjaar 2000-2001). *Vaststelling van de begroting van de uitgaven en de ontvangsten van het Ministerie van Justitie (VI) voor het jaar 2001*. Den Haag: SDU, No. 27400 VI, nr.10.

Tweede Kamer der Staten Generaal (vergaderjaar 2000-2001). *Wijziging van de begroting van de uitgaven en de ontvangsten van het Ministerie van Justitie (VI) voor het jaar 2000 (Slotwet)*. Den Haag: SDU, No. 27705 nr.2.

Tweede Kamer der Staten-Generaal (vergaderjaar 2000-2001). *Zorgnota 2001*. Den Haag: SDU No.27401, nr. 1-2

Van Aalderen, H. (1999). *Veldwerk binnen de muren. Aidspreventie en gezondheidsvoorlichting in een Huis van Bewaring*. Den Haag/Amsterdam: Ministerie van Ju Van Alem, V.C.M., and Mol A. (2001). *Aan vervanging toe? Methadonverstrekking in de ambulante verslavingszorg 1995-1999*. Houten, Stichting Informatievoorziening Zorg (IVZ).

Van Alem, V.C.M., Wisselink, D.J., and Groen, H. (1999). *Drug use in prison; Patterns of change in the Netherlands. (A report for the Pompidou Group.)* Houten/Duivendrecht: Stichting Informatievoorziening Zorg (IVZ)/Quinx Research.

Van Alem, V.C.M., Mol, A. (2001). *Aan vervanging toe? Methadonverstrekking in de ambulante verslavingszorg 1995-1999.* Houten: Stichting Informatievoorziening Zorg.

Van Ameijden, E.J.C., and Coutinho, R.A. (1998). Maximum impact of HIV prevention measures targeted at injecting drug users. *AIDS*, 12 (6): 625-633.

Van Ameijden, E.J.C., and Coutinho, R.A. (in press). Large decline in injecting drug use in Amsterdam, 1986-1998: Explanatory mechanisms and determinants of injecting transitions. *Journal of Epidemiology and Community Health*.

Van Ameijden, E.J.C., Krol, A., Vlahov, D., Flynn, C., Van Haastrecht, H.J., and Coutinho, R.A. (1999). Pre-AIDS mortality and morbidity among injection drug users in Amsterdam and Baltimore: An ecological comparison. *Substance Use and Misuse*, 34 (6): 845-865.

Van Ameijden, E.J.C., Langendam, M.W., and Coutinho, R.A. (1999). Dose-effect relationship between overdose mortality and prescribed methadone dosage in low-threshold maintenance programs. *Addictive Behaviors*, 24 (4): 559-563.

Van Ameijden, E.J.C., Langendam, M.W., Notenboom, J., and Coutinho, R.A. (1999). Continuing injecting risk behaviour: Results from the Amsterdam Cohort Study of drug users. *Addiction*, 94 (7): 1051-1061.

Van Ameijden, E.J.C., Van den Hoek, J.A.R., and Coutinho, R.A. (1996). Large declines in sexual risk behaviour with noncommercial partners among heterosexual injection drug users in Amsterdam, 1989-1995. *American Journal of Epidemiology*, 144 (8): 772-781.

Van Ameijden, E.J.C., Van den Hoek, J.A.R., Mientjes, G.H.C., and Coutinho, R.A. (1993). A longitudinal study on the incidence and transmission patterns of HIV, HBV and HCV infection among drug users in Amsterdam. *European Journal of Epidemiology*, 9: 255-262.

Van Ameijden, E.J.C., Van den Hoek, J.A.R., Van Haastrecht, H.J., and Coutinho, R.A. (1994). Trends in sexual behaviour and the incidence of sexually transmitted diseases and HIV among drug-using prostitutes, Amsterdam 1986-1992. *AIDS*, 8: 213-221.

Van Ameijden, E.J.C., Watters, J.K., Van den Hoek, J.A.R., and Coutinho, R.A. (1995). Interventions among injecting drug users: do they work? *AIDS*, 9 (supl A): S75-S84.

Van Brussel, G.H.A. (2001). Beperkte plaats van naltrexon bij de behandeling van opiaatverslaving. *Nederlands Tijdschrift voor Geneeskunde*, 145, 30, 1452-1456.

Van Brussel, G.H.A., and Buster, M.C.A. (1999). *Zorg voor de toekomst. Opiaatverslaafden in Amsterdam. Trends en cijfers '96 '97 '98.* Amsterdam: GG&GD Amsterdam.

Van Brussel, G.H.A., Van Zadelhoff, A.W., Sluis, T.A. (1987). Polydruggebruik – een nieuw verschijnsel. *Tijdschrift voor Alcohol en Drugs en andere psychotrope stoffen*, 13 (6): 198-202.

Van Brussel, G.H.A. (1979). Methadon per bus in Amsterdam. *Tijdschrift voor Alcohol en Drugs en andere psychotrope stoffen*, 9: 135-137.

Van Eijkel, J., and Mensink J. (2001). *Evaluatie subsidieregelingen methadonverstrekking, 1997 - 2000*. Amstelveen: College voor Zorgverzekeringen.

Van Emmerik J.L., 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 Gageldonk, A., and Cuijpers, P. (1998). *Effecten van verslavingspreventie. Overzicht van de literatuur*. Utrecht: Trimbos-instituut.

Van Gageldonk, A., and Cuijpers, P. (2000). Het effect van drugpreventie: onderzoek en praktijk. *Tijdschrift voor Sociale Gezondheidszorg*, 78 (6): 333-341.

Van Gageldonk, A., and Donker, M. (1999). Effectiviteit van de geestelijke gezondheidszorg. Een empirische plaatsbepaling. *TSG Tijdschrift voor gezondheidswetenschappen*, 77 (3): 169-175.

Van Gageldonk, A., De Zwart, W., Van der Stel, J., and Donker, M. (1997). *De Nederlandse verslavingszorg. Overzicht van de kennis over aanbod, vraag en effect*. Utrecht: Trimbos-instituut.

Van Gageldonk, A., and Rigter, H. (1998). *Preventie van psychische en gedragsproblemen. Een beknopt overzicht van de stand van wetenschap*. Den Haag: ZorgOnderzoek Nederland (ZON).

Van Gestel, B. (1999). *Tussen straat en kliniek. Evaluatie van vier intramurale motivatiecentra voor harddrugverslaafden*. Amsterdam: Regioplan Stad en Land.

Van Haastrecht, H.J.A., Bax, J.S., and Van den Hoek, J.A.R. (1997). Weinig HIV-risicogedrag bij drugsgebruikers tijdens detentie in Nederlandse strafinrichtingen. *Nederlands Tijdschrift voor Geneeskunde*, 141: 429-433.

Van Haastrecht, H.J.A., Bax, J.S., and Van den Hoek, J.A.R. (1998). High rates of drug use, but low rates of HIV risk behaviours among injecting drug users during incarceration in Dutch prisons. *Addiction* 93(3): 1417-1425.

Van Haastrecht, H.J.A., Van Ameijden, E.J.C, Van den Hoek, J.A., Mientjes, G.H., Bax, J.S., and Coutinho, R.A. (1996). Predictors of mortality in the Amsterdam cohort of human immunodeficiency virus (HIV)-positive and HIV-negative drug users. *American Journal of Epidemiology* 15;143 (4): 380-391.

- Van Kesteren, D. (1999). *"Balanceren tussen ge- en misbruik": Een exploratief onderzoek naar het alcohol- en druggebruik van én verslavingspreventie voor Marokkaanse jongeren*. Leiden: Faculteit Pedagogische wetenschappen/GGD Zuid-Holland Noord.
- Van Laar, M.W., and Cruys, G. (in press, 2000). *Drug-related deaths in the Netherlands. (Chapter in ECCAS monograph.)*
- Van Oers, J.A.M. (1999). *Definitie voor de opzet van de studie Volksgezondheid Toekomst verkenning 2002*. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu (RIVM).
- Van Ooyen-Houben, M., and Place, M. (2000). *Na(ar) Leidschendam 2000. Kwaliteitsbeleid in de GGZ. Stand van zaken en blik op de toekomst*. Utrecht: Trimbos-instituut.
- Van Rooijen, M. (1999). Gebruiksruimten. Keurig snuiven en spuiten. *Psy*, 3 (9): 17-19.
- Van Nes J.C. (1999). *Klinische behandeling van drugsverslaafden met een psychische stoornis: Haagse ervaringen met dubbele problematiek*. In: Handboek Verslaving. Houten/Zaventem, Bohn Stafleu van Loghum.
- Van Panhuis, P., Meijer, R. (2001). De top-5% van actiefste criminelen in Nederland. *SEC Tijdschrift over samenleving en criminaliteitspreventie*, 15(1), 5-8.
- Van Wamel, A., and Eland, A. (2001). *Buiten bereik. Allochtone drugsgebruikers buiten de hulpverlening*. Utrecht, Trimbos-instituut.
- Van Weeghel, J., Elling, A., Van der Marck, J. (1997). *Dubbele diagnose. Dwalen tussen psychiatrie en verslavingszorg*. Utrecht, Trimbos-instituut.
- Van de Glind, G., and Eland, A. (2001). Diagnosis and treatment of inpatient addicts with ADHD (Attention-Deficit/Hyperactivity Disorder). *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.
- Van de Mheen, D. (Ed.). (2000). *De Rotterdamse Drugsscene onder de loep; Resultaten van 5 jaar Drug Monitoring Systeem in Rotterdam; Monitor alcohol en drugs in Nederlandse gemeenten, no. 5*. Rotterdam: IVO.
- Van de Wijngaart, G., Braam, R., De Bruin, D., Fris, M., Maalsté, N., Verbraeck, H. (1999). Ecstasy use at large-scale dance events in the Netherlands. *Journal of Drug Issues* 29 (3): 679-701.
- Van de Wijngaart, G., Braam, R., De Bruin, D., Fris, M., Maalsté, N., and Verbraeck, H. (1997). *Ecstasy in het uitgaanscircuit; Sociaal-epidemiologisch onderzoek naar de aard, omvang en risico's van het gebruik van XTC en andere uitgaansdrugs op houseparty's*. Utrecht: Centrum voor Verslavingsonderzoek (CVO).
- Van den Bosch, L.M.C., and Verheul, R. (2001). Dialectical behavior therapy for substance abusing patients with a borderline personality disorder. *Register of Alcohol, drugs, and tobacco research 1999-2000*. Nijmegen, Bureau Bèta.

- Van den Brink, W., and Geerlings, P. (1999a). *Farmaca in de behandeling van verslavingen (deel 1)*. *PsychoPraxis*, 1(1): 23-29.
- Van den Brink, W., and Geerlings, P. (1999b). *Farmaca in de behandeling van verslavingen (deel 2)*. *PsychoPraxis*, 1(2): 61-63.
- Van den Brink, W., Hendriks, V., Van Ree, J.M. (1999). Medical co-prescription of heroin to chronic, treatment-resistant methadone patients in the Netherlands. *Journal of Drug Issues*, 29 (3): 587-608.
- Van den Broek, H., Klerks, P., Den Otter, P., Zandhuis, E., and Van der Werf, J. (2000). *ADAM in Holland? Verslag van de Pilot Monitoring van drugsgebruik onder arrestanten bij Politie Haaglanden*. Den Haag: Eysink Smeets & Etman.
- Van der Gulden, J. (2001). Wetenschappelijke kennis als halfproduct. *TSG Tijdschrift voor Gezondheidswetenschappen*, 79 (7): 401-402.
- Van der Ham, M.W. (2001). *Evaluatie-onderzoek van behandelprocessen: 1998-1999*. Venray, Vincent van Gogh Instituut, Verslavingskliniek Paschalis.
- Van der Heijden, T. (1999). Nederland luilekkerland? Trends in de drugshandel. *Het Tijdschrift voor de Politie*: 9-17.
- Van der Hurk A.A. (1998). *Tussen de helpende en harde hand. Een studie naar mogelijkheden van succesvolle zorg voor verslaafde gedetineerden*. Nijmegen: Katholieke Universiteit Nijmegen.
- Van der Poel, A., and Van de Mheen, D. (1999). *Softdrugs in Midden-Holland; Een onderzoek naar de omvang en achtergronden van softdrugsgebruik*. Rotterdam/Gouda: IVO/GGD Midden-Holland.
- Van der Poel, A., Sanders, A., Bongers, I., Kayser, R. (1998). *Medicijnen, drugs en werk. Een verkennend onderzoek naar de invloed van medicijnen en drugs op werk*. Utrecht, Stichting Trindeborch Consult, Sectie Medicijnen & Drugs.
- Van der Stel, J. (1999). *Een nieuw drugsbeleid? Voor- en nadelen van de legalisering van drugs. Achtergrondstudie bij het advies Verslavingszorg herijkt*. Zoetermeer/Den Haag: Raad voor de Volksgezondheid en Zorg/Raad voor Maatschappelijke Ontwikkeling.
- Van der Werf, M.J., Van Benthem, B.H., Van Ameijden, E.J. (2000). Prevalence, incidence and risk factors of anaemia in HIV-positive and HIV-negative drug users. *Addiction*, 95 (3): 383-392.
- Verdurmen, J.E.E., Toet, J., and Spruit, I.P. (2000). *Alcohol- en druggebruik in de gemeente Utrecht; Monitor alcohol en drugs in Nederlandse gemeenten, no. 8*. Utrecht: Trimbos-instituut.

Vermaas, P. (1999). Drugs en geweld. 'Poligebruikers' zijn onvoorspelbaar en agressief. *Algemeen Politieblad*, nr. 10.

Vermeulen, K.T., Hendriks, V.M., Zomerveld, R. (1999). *Drangbehandeling in Den Haag: Evaluatieonderzoek naar de effectiviteit van het behandelprogramma Triple-Ex voor justitiabele verslaafden*. Den Haag, Parnassia Addiction Research Centre (PARC).

Visser, R. (1999). *Evaluatie van de middelenserie van Jellinek Preventie*. Amsterdam: Jellinek Preventie.

Vrieling, I., Van Alem, V.C.M., and Van de Mheen, H. (2000). *Drop-out onder allochtonen in de ambulante verslavingszorg 1994-1998*. Houten/Rotterdam: IVV/IVO.

Vruggink, J. (2000). *Gepakt en gezakt: invloed van de ontnemingsmaatregel op daders*. Amsterdam: Rozenberg Publishers.

Warmenhoven, N.E. (1998). *Verslavingspreventie bij instellingen voor verslavingszorg en GGD'en*. Utrecht: Trimbos-instituut.

Wartna, B.S.J. (1999). *Recidive-onderzoek in Nederland: een overzicht van Nederlands onderzoek naar hernieuwd crimineel gedrag*. Den Haag, Ministerie van Justitie (WODC).

Werkgroep Landelijke Criminaliteitskaart (2000). *170.000 verdachten (en hun kenmerken). Landelijke verdachtenkaart 1998: eerste aanzet*. Woerden, Programmabureau Abrio.

Wetser, P., and De Jong, A. (1999). *Uitgaan en drugs. Samenhangende preventieaanpak van recreatief druggebruik*. Utrecht: Trimbos-instituut.

Wiessing, L.G., Houweling, H., Spruit, I.P., Korf, D.J., Van Duynhoven, Y.T.H.P., Fennema, J.S.A., and Borgdorff, M.W. (1996). HIV among drug users in regional towns near the initial focus of the Dutch epidemic. *AIDS*, 10 (12):1448-1449.

Wiessing, L.G., Toet, J., Houweling, H., Koedijk, P.M., Van den Akker, R., and Sprenger, M.J.W. (1995). *Prevalentie en risicofactoren van HIV-infectie onder druggebruikers in Rotterdam*. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieu (RIVM).

Wiessing, L.G., Van Rozendaal, C.M., Scheepens, J.M.F.A., Fennema, J.S.A., Dorigo-Zetsma, J.W., and Houweling, H. (1997). *HIV-Surveillance onder intraveneuze druggebruikers en Surinaamse/Antilleaanse harddruggebruikers in Amsterdam 1996*. Bilthoven: Rijksinstituut voor Volksgezondheid en Milieuhygiëne (RIVM).

Wits, E., Spijkerman, R., Bongers, I. (1999). *Als je alleen blowt, is niet leuk man!" : middelengebruik, tijdsbesteding en vrienden van jongeren uit risicogroepen in Rotterdam*. Rotterdam: IVO.

Witteveen, E., Langendam, M.W., and Van Ameijden, E.J.C. (submitted). *Motieven voor en methoden van stoppen met spuiten onder Amsterdamse druggebruikers: een kwalitatieve studie*.

Witteveen, E., Van Ameijden, E.J.C. (submitted). *Druggebruikers en HIV-combinatie Therapie (HAART): belemmerende en faciliterende factoren voor therapietrouw.*

Wolf, J. (1999). *Overwegingen bij overlastbeleid. Verslag van een onderzoek naar inhoud en uitvoering van het overlastbeleid.* Utrecht: Trimbos-instituut.

Wolf, J., Mensink C., en Van der Lubbe, P. (2000). *Casemanagement voor langdurig verslaafden met meervoudige problemen. Een systematische overzichtsstudie van interventies en effecten.* Utrecht: Trimbos-instituut.

Wychgel, H. (1998). *Verslavingspreventie bij instellingen voor verslavingszorg en GGDen 1998.* Utrecht: Trimbos-instituut.

Zitman, F.G., Breteler, M.H.M., Van de Lisdonk, E.H., van Balkom, A.J. L.M., Oude Voshaar, R.C., Gorgels, W.J.M.J., Mol, A.J.J. (2001). *The benzoredux-study: reduction of chronic benzodiazepine use.* Leyden, Leyden University, Department of Psychiatry.

ZON (1999). *De eerste oogst. Overzicht van het programma Verslaving van ZON en NWO: de eerste 24 projecten.* Den Haag: ZorgOnderzoek Nederland (ZON)/Nederlandse Organisatie voor Wetenschappelijk Onderzoek (NWO).