EMCDDA SCIENTIFIC REPORT

An inventory of on-site pill-testing interventions in the EU

EMCDDA 2001

Verein Wiener Sozialprojekte

ChEckiT!

The report entitled ‘An inventory of on-site pill-testing interventions in the EU’ was prepared by
Harald Kriener[*]
in cooperation with
Renate Billeth, Christoph Gollner, Sophie Lachout, Paul Neubauer, Rainer Schmid[**]

[*] Vienna Social Projects, Rotenmuehlgasse 26, A-1120 Vienna, Austria
E-Mail:checkit@vws.or.at Fax: ++43-(0)1-810 13 019
Website: http://www.CheckYourDrugs.at

[**] University Hospital of Vienna, Department of Biopharmaceutical and Toxicological Analysis, Waehringer Guertel 18-20, A-1090 Vienna
E-Mail:Rainer.Schmid@AKH-Wien.ac.at

Project coordinator: Gregor Burkhart
E-mail: gregor.burkhart@emcdda.org

European Monitoring Centre for Drugs and Drug Addiction
Rua da Cruz de Sta. Apolónia, 23-25
P-1149-045 Lisbon
Portugal
http://www.emcdda.org

1 Introduction

Over the last ten years a new youth and music culture – often referred to as 'rave' or 'techno' scene – has been developing all over Europe. This youth culture is, above all, characterised by its preference for electronic music and dancing. New esthetical values and codes, different communication patterns, a persistent commercialising period of the whole culture, new synthetic drugs and changing drug-consumption patterns are further distinguishing marks of the rave scene. Ten years after the start of this youth culture, the drug-prevention field is still asking itself how to deal in a reasonable and adequate manner with all these developments, new substances, legal concerns and with what has come to be labelled as 'recreational drug use'.

At the same time, however, there have been interesting and very effective responses to these new circumstances, problems and needs of potential consumers of new synthetic drugs, especially for people participating in the rave scene. Already at the beginning of the 1990s, the Netherlands started a pragmatic approach with their *Drugs Information and Monitoring System DIMS*: pill testing along with information on effects and dangers of illicit substances and the monitoring of these new developments. This method of harm reduction that focuses very specifically on the needs and problems of the new scene was taken up later by other European projects as well as by the organisation *dance safe* that operates in the United States of America[1].

Self-organised structures that follow the aims of harm reduction have played an important part in these developments. In general, projects such as *Eve & Rave*, *Techno Plus* or *Energy control* – just to name a few – that emerged from the techno scene itself were key figures in defining the needs and problems of the rave scene, and ways of countering these problems by providing pleasant and healthy spaces within techno events, clubs or festivals, and by formulating essential risk-reduction messages in an intelligible and straightforward manner. The dialectical exchange between self-organised and state-sponsored projects assisted in generating an extensive pool of knowledge, experience, and goal-directed methods. Whether self-organised or state-sponsored, all of these organisations may be reduced to one common denominator: harm or risk reduction and acquiring information on needs, problems, and consumption patterns of consumers of new synthetic drugs as well as getting scientifically sound data on the compounds of ecstasy pills and other illicit substances.

Most organisations that took part in this survey already knew each other and have been engaged in informal knowledge transfer, most notably in

[1] www.dancesafe.org

exchanging data on unexpected, new and especially dangerous substances as well as consumption trends. Yet, apart from anecdotal reports in the mass media, the general public and even prevention, experts still have little knowledge about the methods, goals and legal status of pill-testing projects. Therefore, this report tries to offer information that may be useful not only as a resource or knowledge pool for ongoing pill-testing projects and organisations that would like to set up new pill-testing projects, but also as a summary of valuable data for professionals working in the information and prevention fields. It may be used, furthermore, as a starting point for even closer collaboration amongst the different pill-testing projects as well as for cooperation between pill-testing projects and other European organisations.

The report tries to provide an extensive overview of goals, methods, results and evaluation efforts of pill-testing projects that have been going on in the European Union and of projects intending to set up pill-testing projects in the near future. It also gives some information on the legal frameworks in different European countries, for unequivocal legal regulations are inevitable prerequisites for running pill-testing projects. In Germany, for example, a country with a lively rave scene and a remarkable number of consumers of new synthetic drugs, several different state-sponsored and self-organised organisations have been trying to establish pill-testing projects for more than five years. However, there is still no legal foundation for pill-testing projects and therefore – with the exception of DROBS Hanover – no drug checking going on as yet.

The following topics and questions are covered and discussed in this report:

- An inventory of *pill-testing programmes* in the European Union, including ongoing programmes and programmes still in planning stage.

- A collection of *possible goals* of pill testing, featuring topics such as how to use on-site pill testing for harm reduction interventions and for which kind of harm reduction interventions, or how to use on-site pill testing for prevention messages and for which kind of prevention messages.

- General *project conditions* such as organisational structures, budget, activities, involved professional groups and project results.

- An illustration of the *legal framework* concerning pill-testing activities in different European countries.

- *Strategies* being used *on site*, activities undertaken besides pill testing, cooperation with organisers, health services, police and local

authorities, as well as possible strategies to obtain a clear picture of the target groups.

- A description of possible and employed *analytical procedures* featuring their benefits and gaps, costs, personal requirements, and issues such as best use, capacity, and time lapse before disseminating results.

- Potentials and difficulties of *evaluation.*

- Future goals and plans.

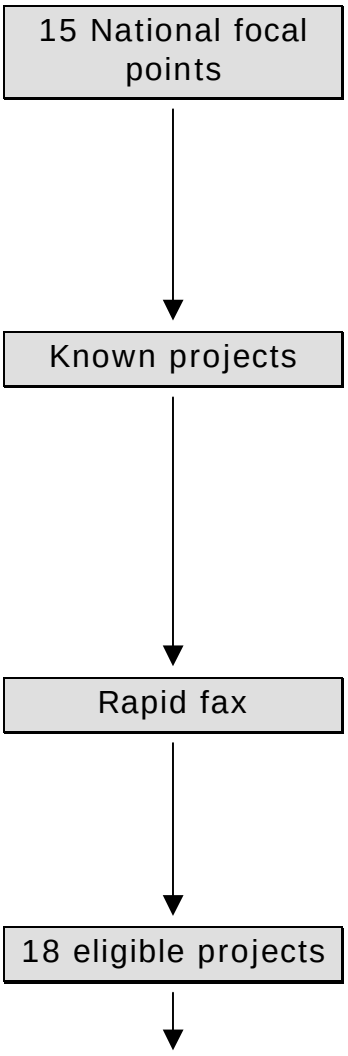
To obtain all of this information, a comprehensive questionnaire was worked out and sent to all organisations known to us. Most topics that we were trying to cover were answered by these questionnaires. Telephone interviews and e-mail exchanges were used to elucidate individual problems or shortcomings of pill-testing interventions and to concentrate on interesting topics that have been raised by some partners but not by others. Finally, in November 2000 a joint pill-testing meeting of project representatives was scheduled in Vienna to discuss some of the following issues in more detail: legal situation, project goals, analytical procedures and regular information exchange.

2 Methods of the study

2.1 Selection criteria

The main purpose of the study was to collect information about organisations carrying out or planning *on-site* pill-testing interventions. Due to the fact that there are just a few on-site pill-testing projects in the EU and because we wanted to give a broad overview of pill-testing interventions in general, we decided to broaden our scope and to include projects not carried out on site in the study as well. In the remainder of this report we will refer to these projects as "stationary-testing projects".

2.2 Sampling procedure



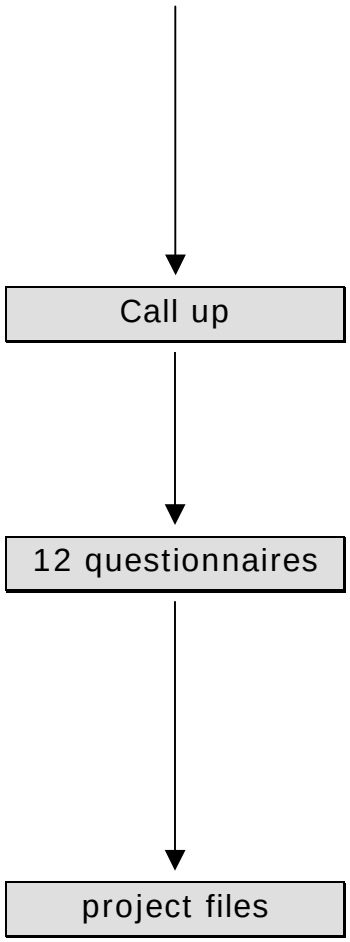
To receive data from as many organisations as possible, it was decided to employ a multistage recruiting mechanism. At first the 15 "National Focal Points" of the EU Member States were contacted. We asked them for information about organisations, which carry out or are planning pill-testing interventions.

The sample assembled by the Focal points was made up of organisations, which had become known to us in connection with research and practical projects. In the end we had an address pool of 20 projects from 9 countries including Austria, Belgium, France, Germany, Greece, Netherlands, Spain, Switzerland[2] and the UK.

Next, a so-called *rapid fax* was sent to all contact persons from the address pool, in which we gave some information about the study and asked them, if they had carried out, are actually doing or planning pill-testing interventions. Furthermore, we asked them if they knew other organisations carrying out pill-testing interventions. 18 projects answered our fax. We got two new addresses, and so we had sent out a total of 22 faxes and received 19 answers.

In the end, 18 projects met our criteria. All

[2] Even though Switzerland is not a Member State of the European Union, it was decided to include the Swiss project Pilot E in the questionnaire study because of their sound scientific background, both in terms of chemical analysis and methods of psychosocial intervention. Pilot E is, furthermore, member of the informal network of European Pill-Testing Projects.



projects received an extensive questionnaire either about ongoing pill-testing interventions or about planned ones. Where an ongoing project was planning to set up a new or additional project, the project representatives were asked to fill out both questionnaires.

Due to the unusual length of the questionnaire we phoned most of the organisations to point out the importance of this study and kindly asked them to return the forms.

The questionnaire was sent back by 11 projects from seven different countries. One project filled in both questionnaires (concerning ongoing and planned projects), so that we finally got 12 questionnaires, eight concerning ongoing and four concerning planned projects (Table 1). Due to a lack of personnel and financial resources, seven projects were unable to respond to the questionnaire.

As a final step we attempted to gather information on projects that did not fill in the questionnaires in order to work out at least short "project fact files". Telephone interviews and Internet investigations and analyses of project reports were used to come up with some more important data.

Table 1 Projects included in the study

Country	Project	Status	On-site testing	Stationary testing
A	ChEck iT! / Vienna	Current	x	
B	Modus Vivendi Brussels	Planned	x	
CH	Pilot E / Bern	Current	x	
CH	Eve & Rave Schweiz	Current	x	x
D	DROBS / Hanover	Current	x	x
D	Eve & Rave Berlin	Current	x	x
D	Drogenhilfe Munster	Planned	x	x
D	Eclipse / Berlin	Planned	x	x
E	EnergyControl / Barcelona	Current	x	x
F	Mission XBT / Paris	Current	x	x
F	Techno Plus / Paris	Current	x	x
NL	DIMS / Utrecht	Current		x
NL	DIMS / Utrecht	Planned	x	

Nine organisations are doing or planning to do both on-site and stationary testing. Three projects are doing/planning on-site testing only (*ChEck iT!*, Modus Vivendi, and Pilot E).

2.3 Questionnaire

2.3.1 Elements of the questionnaire

Two questionnaires were designed, one for ongoing projects, the other one for projects in planning stage. In fact, they were quite similar: since we knew from the rapid faxes, that plans existed only for on-site testing projects. The only major difference was that the questionnaire for planned projects did not cover stationary testing.

Due to the fact, that we wanted to know very precisely and in detail how the various interventions were carried out, the questionnaires consisted of 53 pages for ongoing projects and of 27 pages for projects in planning stage. The questionnaires were partly inspired by the questionnaire developed by EDDRA and by the questionnaire used by Tossmann et al. for their study on *Demand reduction activities in the field of synthetic drugs in the European Union*[3]. Below you can find the topics featured in the questionnaires.

2.3.2 Data about the organisation or project

2.3.2.1 Main characteristics

- Project goals
- Target groups
- Activities
- Involved professional groups
- Legal basis of pill testing

2.3.2.2 Intervention methodologies and strategies on site/not on site

- Getting information about the target group
- Carrying out on-site or stationary pill testing
- Presenting results to the target group
- Offering information talks
- Cooperation with organisers, club owners etc.

2.3.2.3 Evaluation: methodologies and results

- Variables, indicators, methods, results and problems of process and outcome evaluation
- Importance of the various activities
- Use of evaluation guidelines

2.3.2.4 Future goals/plans/projects

[3] Tossmann, Boldt & Tensil (1999), *Demand reduction activities in the field of synthetic drugs in the European Union*. Berlin: SPI

2.3.3 Special items

For the following topics we used questions that differed comparatively strongly from the EDDRA questionnaire that had been used to describe set-up, methods, goals, results and questions of evaluation for various European prevention projects. Since the EDDRA questionnaire is widely used, some of the differences in the pill-testing questionnaire are briefly explained below.

2.3.3.1 Goals

The distinction between "general" and "specific" objectives, as laid down in the EDDRA questionnaire, was not used, because we could not assume that this distinction was common to the projects in question. Furthermore, a multiple choice format was chosen that allows the extent of approval to be measured – from "is a main goal" to "is no goal at all" – to preformulated goals. Of course there was also the opportunity to fill in goals freely. It was assumed that with this approach, the study could come up with a precise picture of the individual organisation's motives for running pill-testing projects.

2.3.3.2 Target groups

In comparison with the EDDRA questionnaire, some new and more detailed categories for target groups – that seemed to be more suitable for pill-testing projects – were designed. Again, project representatives could rate to what extent the proposed groups of persons belong to their individual target groups. Additionally the opportunity to differentiate between age groups was given.

2.3.3.3 Evaluation

We assume that evaluation is an activity which can be carried out to a *more or less extent*. Therefore, in contrast to the EDDRA questionnaire, we did not want the question *have you carried out an evaluation of your project?* to be simply answered by "yes" or "no". We slightly adapted this question and asked the partners, "to what *extent* have you carried out an evaluation?" and offered the following categories: *up to now there has been no evaluation*, *some questions of evaluation have been analysed*, *most questions of evaluation have been analysed*, and *a full evaluation has been carried out*.

Furthermore, we did not ask for the variables, indicators, methods and results of the evaluation *in general*, but related these questions to individual project activities (e.g. "on-site testing", "presenting the results to the target group", "distribution of information material"). We believed

that this *modus procedendi* would yield a precise picture of what was actually being done in the field of evaluation.

2.4 Telephone interviews and e-mail exchange

With a couple of telephone interviews we managed to clarify ambiguous questionnaire answers and to get additional information about the respective projects. Furthermore, we gathered some information on projects that did not fill in the questionnaires via telephone interviews, Internet investigations, and analyses of project reports.

2.5 Pill-testing meeting

Finally, in November 2000, a joint meeting of pill-testing project representatives was scheduled in Vienna to discuss issues such as the legal situation, project goals, analytical procedures, and regular information exchange in more detail. The meeting was attended by the following project representatives:

Daniel Allemann	Pilot E - Bern
Thierry Charlois	Techno Plus - Paris
Hans Cousto	Eve & Rave Switzerland
Tibor Harrach	Eve & Rave Berlin; Technonetwork Berlin
Catherine Van Huyck	Modus Vivendi - Belgium
Jaap Jarmin	Jellinek Prevention – the Netherlands
Harald Kriener	*ChEck iT!* - Vienna
Peter Märtens	DROBS Hanover
Hans Pauli	Pilot E - Bern
Rainer Schmid	*ChEck iT!* - Vienna
Artur Schroers	Drogenhilfe der Stadt Munster- Germany

In order to accomplish the workload in one day we had to refrain from inviting all project representatives to Vienna. We tried, however, to have representatives from as many different countries as possible, representatives from self-organised projects as well as state-sponsored projects and representative with as much knowledge on different analytical devices as possible.

3 Results

3.1 Possible goals of pill-testing projects[4]

Pill testing can be employed for a variety of different goals. Broadly, pill testing is used to warn against very harmful and unexpected substances on site and via the Internet and as an attractive method to contact potential consumers of illicit substances to offer information and counselling. In the following, pill testing that pursues such goals is defined as *drug checking*. Furthermore, pill testing is a promising instrument to gain precise knowledge not only about the current black-market situation but for detecting, tracking and monitoring emerging consumption trends, local and international changing patterns of use, and a variety of demographic data on consumers of illicit substances and other people at risk. This scientifically motivated approach that also creates evidence-based knowledge for new and ongoing primary and secondary prevention projects is commonly named *monitoring*. Between these two poles – *drug checking* and *monitoring* – a couple of further and well-defined goals and approaches can be located. In the following drug checking, monitoring, and some of these other goals shall be discussed in detail.

3.1.1 Harm reduction and risk reduction

Harm reduction "refers to policies or programmes that focus directly on reducing the harm resulting from the use of alcohol or other drugs, both to the individual and the larger community."[5]

Risk reduction "describes policies or programmes that focus on reducing the risk of harm from alcohol or other drug use. Risk reduction strategies have some practical advantages in that risky behaviours are usually more immediate and easier to objectively measure than harms, particularly those harms which have a low prevalence."[6]

---

[4] This chapter is based on discussions that took place in the course of the pill-testing meeting on 3 November, 2000. The list should not be regarded as comprehensive, however, we believe that the most important goals and possibilities of pill-testing projects are being covered. It should also be understood that not all organisations call all of these possible goals *their* goals. Some organisations would word the paragraphs differently or put special emphasis on some, but not all goals. There is considerable overlapping with project goals that were named in the questionnaires. These goals can be found in chapter 3.2.4.

[5] Definition taken from UNODCCP (2000), *Demand Reduction. A Glossary of Terms*. New York: United Nations Publication, p. 31.

[6] Loc.cit, p. 64. Since these definitions do not differ decisively from each other and some organisations prefer the term *harm reduction* over the expression *risk reduction* both terms shall be used synonymously in this report. For example, in the Vienna pill-testing meeting some experts specified that *harm* relates to an objective situation whereas *risk reduction* is oriented towards individuals and individual decisions that people freely chose.

In the context of new synthetic drugs there are some well-established approaches to reduce harm such as handing out condoms for free or giving out drinking water to reduce or stabilise body temperature and to avoid heatstroke. In addition, there are possible harms in the party scene that can be countered by pill-testing projects only. All pill-testing projects inform consumers about very dangerous and unexpected pills on site, through magazines and posters or through the Internet. The DIMS project, for example, warned successfully against very high-dosed pills and both the DIMS-project and Contact Bern put out warnings against pills containing atropine. In autumn 2000 *ChEck iT!* found several pills containing PMA/PMMA and immediately put out warnings on site in cooperation with local organisers and DJs and through the Internet. 24 hours later, the warning was published on the most important prevention- and other-scene homepages around Europe.[7] Apart from warnings issued against dangerous and unexpected pills, dosage makes a difference. In terms of neurotoxicity, several scientific studies pointed out that, among other factors, the probability for possible neurotoxic damage in the serotonergic system grows with the amount of MDMA being consumed. Therefore, most pill-testing projects inform potential consumers that they should not, if at all, consume more than 1,5–1,8 mg MDMA/kg bodyweight because of possible long-term damages to an important region of the brain. These messages, that are often followed by consumers of ecstasy, are only meaningful if consumers are in a position to have their pills chemically analysed. Otherwise they are unable to follow this or similar advice.[8]

3.1.2 Publicity for prevention work and safer-use messages

Even though a large proportion of rave visitors shows a willingness to deal with effects and dangers of psychoactive substances, it is not that easy for people who would like to provide that information to get the attention of the visitors in places with lots of other attractive and stylish things to do. Therefore, it is no surprise that projects or people who "only" provide information through information sheets or word-of-mouth at raves, clubs or festivals do not get the attention they expect.

Pill testing is an instrument that attracts a lot of visitors – because it deals with substances, because there is at least some technical equipment there

[7] Pills containing PMA/PMMA led to more than ten casualties from the dance scene in the U.S.A, Denmark, Norway, Germany and Austria. All casualties were assumed to have consumed ecstasy and all persons died from very high body temperature and subsequent organ failure.

[8] To succeed in reaching potential consumers of illicit substances, it is important that pill-testing projects as well as information and counselling are being offered at places where potential consumers of ecstasy or speed spend their leisure time, e.g. at raves. Some more remarks on acceptance and useful spots for counselling and information can be found in: Tossmann, H.P, & W. Heckmann (1997), *Drogenkonsum Jugendlicher in der Techno-Party-Szene.* Köln: BzgA, p. 122

and because exact content of pills is always a major concern to visitors. This situation can be used to provide visitors with information sheets or booklets and to offer information and counselling talks. *ChEck iT!*, for example, found that when information is provided by a couple of team members at clubs or raves, they talk with about 20–40 people in the course of 8 hours, depending on the location and the visitors. When *ChEck iT!* is present at raves offering both information *and* chemical analysis, they have contact with more than 260 people on average, even though "only" 75 pills are being analysed in the same time. This tells us that pill testing – besides its merits in a narrower sense – is good publicity for safer-use messages, counselling and prevention work in general.

Pill testing must not, however, be misconstrued as a bait to attract people – pill testing is an end in itself. Credibility and acceptance are necessary prerequisites for both pill testing and distributing information – trying to delude somebody will not work out. On the other hand, publicity is a very useful and important side effect of pill-testing projects that may legitimately be used for other goals as well. Tossmann & Heckmann highlight that people from the party scene feel that prevention should be conveyed using marketing strategies: "Prevention should be regarded as a product that has to be brought before the public using marketing strategies."[9]

3.1.3 Transporting safer-use messages

Pill testing in itself is a method of harm reduction. It is, furthermore, being used to transport safer-use messages that cover a variety of topics. Some of these topics and good ways to pass on these and other safer-use messages are addressed below.

> *[Pertinent] messages must be adapted to the target population; this implies a gender-specific approach (men and women have different needs). Wording must be adapted to the target population (when targeting young people, use clear language, avoid obscure scientific terms). (...) [Messages have to include] a minimum of information on harm reduction, information must be neutral – avoid moralising and judgmental statements, information about products must be brief. (...) Different products require different approaches to prevention. All information should be available in recreational spots frequented by young people, thus helping individuals to make educated choices.*[10]

A few important examples of possible safer-use messages are mentioned below. The messages do of course differ from substance to substance and have to be worded differently for different target groups. The crux of the matter is – as cited above – to pass the information on in a neutral, non-

9 Tossmann, H.P, & W. Heckmann (1997), *Drogenkonsum Jugendlicher in der Techno-Party-Szene.* Köln: BzgA, p.122

10 Forum Européen; Secucities drugs network (1999), *The Pertinency of Drug Prevention Messages Project 1998-1999*. Rennes: IMR, p.38

moralising and non-judgmental manner without patronising or alarming the visitors.

Acute and short-term hazards to health

- If you are consuming illicit substances despite health and legal risks, inform yourself about effects and dangers.
- You cannot know what your pill contains unless it was chemically tested.
- Dosage makes a difference. Women need less to experience similar effects than males.
- You cannot predict the effects and dangers of psychoactive substances when you mix them.
- Most psychoactive substances put a strain on your organs. Do not consume psychoactive substances when your health is already impaired (e.g. liver or kidney problems)
- The effects of psychoactive substances are not only determined by the substance and the amount taken. Set and setting are important factors too.
- Care about your friends and other visitors.
- Tell your friends what and how much you have taken.
- Drink enough non-alcoholic beverages to replenish your fluids.
- Have a rest every now and then to cool off and relax.

Long-term hazards to health and addiction

- Many illicit substances are physically and/or psychologically addictive.
- Many substances may potentially harm your health in the long run.
- Ecstasy, methamphetamine and other drugs may alter or damage the function of your brain.
- Most psychoactive substances cross the placenta and get into a mother's milk.

Legal risks

- Most psychoactive substances are forbidden by law. If you are convicted of possession of illicit substances you risk fines, imprisonment, revocation of your driving licence and possibly bans to pursue certain occupations.

Safer-sex messages

- Hepatitis, HIV and other infectious diseases can be transmitted by sexual intercourse. Especially when you are on drugs you may lose your inhibitions. Always use condoms when you are having sex.

Safer-driving messages

- Your coordination and response-time can be badly impaired by psychoactive substances. Don't drive when you are on drugs.

3.1.4 Monitoring and research

Collecting data about drug markets, demographic and psychological, medical and social issues[11] concerning rave visitors and other consumers of illicit substances is an important prerequisite to setting up and improving information and prevention projects and to plan scientific studies on patterns of use and related dangers. Monitoring is, therefore, not only monitoring of substances but also monitoring of personal and sub-cultural needs, problems and other factors. This enables representatives from the fields of prevention, drug information, and public health to respond quickly and adequately to new trends[12].

People working with recreational consumers of illicit substances find that they need to know very precisely about effects and dangers of synthetic drugs. However, the effects that specifically-dosed substances have upon their consumers can only be assessed if the consumers and the professionals that work within that scene have knowledge about dosage and content of particular tablets. If this was not the case, people giving information would simply not be regarded as trustworthy "messengers" and prevention would just encourage the continuation of relying on the many myths that prevail in the party scene and that sometimes serve as justification for particular consumption patterns or the consumption of illicit substances in general.[13]

All pill-testing projects do regularly acquire at least some basic data on the substances being presented for analysis and the potential consumers who hand in portions of their pills or whole pills. In general, people who are interested in drug-checking projects also willingly participate in large-scale questionnaire studies. To sum up, the fields of pill testing have proven very effective in acquiring information that could otherwise only be gathered by using large financial and personnel resources and in assuring a high level of credibility in the eyes of potential consumers of illicit substances.

---

[11] This includes topics such as consumption patterns within specific sub-cultures, subjective risk assessments, personal risk-reduction methods and subjective evaluations of prevention projects, poly drug use, appearance of new substances on the market, potential for abuse and addiction, potential short- and long-term harms, and many more.

[12] For a thorough discussion of potential benefits of pill-testing projects for the fields of public health see: Schroers, Artur (1999), Die Zukunft hat schon begonnen? Perspektiven der Sekundärprävention. Oder: Gesundheitsförderung im Bereich „neuer Drogen“ mit Hilfe von Drug-checking und Monitoring. In: Kammer (ed.): *Jugend Sucht Hilfe. Sekundärprävention in der Jugendhilfe*. Nürnberg: emwe-Verlag.

[13] Cousto, Hans (1997), *Drug-checking. Qualitative und quantitative Kontrolle von Ecstasy und anderen Substanzen.* Solothurn: Nachtschatten, deals more specifically with the question of reliability and credibility of people giving out information on effects and dangers of psychoactive substances.

3.1.5 Supporting *safer-house* campaigns and public health

Pill testing has been serving as a cornerstone for projects that have been trying to reduce risks in the party scene and to transform the party scene into a more health-oriented movement. As an exemplary public-health model, the Dutch *Safer House-campaign* set up a system in the early 1990s that goes far beyond mere pill-testing and information work: rave organisers were responsible for providing cool and well-ventilated spaces, drinking water, high-capacity cloakrooms, clean restrooms, cheap beverages and other features. Private security companies and medical aid services had to undergo specific training and – with the aim of gaining respect and trust - had to employ female professionals as well. This was especially important for the security companies that in general are a male-dominated or male-only profession. At large-scale events, pill-testing and information projects had to be present on site.

Even though pill testing is just one part of *safer-house* or public-health campaigns, it is probably the pivot of these undertakings. Therefore, pill testing should be seen as a tool that gets people together to work jointly on improving conditions. The goal of *safer-rave* or *safer-house* campaigns is not only to avoid risky consumption patterns but to create lively spaces that allow party celebrations without feeling the urge to consume illicit substances in risky ways – if at all.

3.1.6 Ethics

Most pill-testing projects regard pill testing also as an ethical matter. Potential consumers of illicit substances should be enabled to be responsible and to care for themselves and their friends. In this context pill testing as one variety of harm reduction is seen as a pragmatic and *human* approach. The *right to know* and the possibility to decide on possible health risks should be rated higher than legal or ideological concerns.

3.1.7 Knowledge base for primary and secondary prevention

The information gained through drug checking and monitoring regarding pill content, demographic data, consumer motives, and consumption trends is an essential source for rethinking, adapting or broadening efforts in the field of secondary prevention. For primary prevention, facts about consumption motives, new consumption trends and demographic data should at least be used to reassess the validity of specific risk and protection factors. This is especially important since the last few years have produced a new scene of consumers of illicit substances, new substances and new consumption trends that cannot be ignored by primary prevention.

3.1.8 Effects on the black market

From a methodological point of view, it is difficult to assess the influence of pill-testing projects upon the black-market situation. It is, however, realistic to assume that pill-testing projects that offer chemical analyses on a regular basis have some influence at least upon local markets. Overall, to alter black markets is "not a primary goal" or "no goal at all" for most pill-testing projects, even though it may be assumed that in the long run pills that are labelled with "unexpected or especially dangerous content" cannot be sold easily anymore which subsequently has to be seen as a success for public health[14].

3.1.9 Information for the entire population

Pill-testing projects are interesting and frequently used targets for mass media. Media reports transport the problems concerning new synthetic drugs and the work of information and prevention projects to the greater part of the population. Myths concerning dangers and effects of psychoactive substances are shattered, and discussions about illicit substances may follow more rational paths than before. Warning campaigns against very dangerous and unexpected substances in ecstasy tablets may, furthermore, lead to more caution towards synthetic drugs in general and subsequently to fewer consumers of illicit substances – though this hypothesis still has to be proven.

3.1.10 Prerequisite for information / warning system

In countries where on-site pill-testing interventions are part of a local or national strategy, it is assumed that warning systems on new, unexpected or very dangerous pills or on new consumption trends strongly benefit from pill-testing projects. On one hand, no other project or organisation yields data that represent actual drug and consumption trends as quickly and reliable as pill-testing projects do. On the other hand, the information provided by warning systems can only be used meaningfully if there are projects that have the capacity to tell their clients what they are specifically warning against. For example, it is important for potential consumers to know that above a specific amount of MDMA the probability for long-term neurophysiological changes increases or that small amounts of PMA did kill several people. This information can, however, only be used by potential consumers if we are able to tell them specifically in which tablets which quantity of which substance was found. Or to put it another way: consumers can only estimate the risks they are going to take if they know what their pill contains.

[14] In Cousto, Hans (1997), *Drug-checking. Qualitative und quantitative Kontrolle von Ecstasy und anderen Substanzen.* Solothurn: Nachtschatten, some more remarks on the influence of pill testing on the black market can be found.

3.2 General conditions[15]

3.2.1 Organisational framework

Often, pill-testing projects are carried out by persons from different professional fields, for example, social workers and psychologists are working together with chemists. Therefore, the organisational forms vary among the different pill-testing projects. Only two of them act as single organisations. Most of them (eight) are organised along with other organisations – either as a partner in a cooperation of different organisations (four), or being structured under a head organisation (four).

3.2.2 Financial situation of the projects[16]

Table 2 Annual project budgets

Project	*Annual budget (EURO)*
EnergyControl Barcelona	**50,000**
Contact Bern	**71,000**
DIMS Utrecht (stationary)	**507,000**
Mission XBT Paris	**380,000**
Eve & Rave Berlin	**15,000**
Eve & Rave Switzerland	**25,000**
Techno Plus Paris	**400,000**
Check it! Vienna	**145,000**

Figures for the annual budget of each project range from more than EUR 500 000 (DIMS Utrecht) to EUR 15 000 (Eve & Rave Berlin). It must be emphasised that these figures are composed differently – e.g. some include the coordination of a head organisation, some do not – and as a result have to be compared carefully. The average annual budget (median) is EUR 71 000.

The most important source of financing are public authorities. Most budgets are composed of between 80 tand 100% from local, regional or federal authorities while none of the projects receives money from the European Union. Only the Eve & Rave projects act independently from public subsidies. These projects get most of their financial resources from potential users, club owners and party organisers, from donations as well as membership fees. In general, commercial sponsoring plays a negligible part (Techno Plus: 10%, Eve & Rave Switzerland: 9%).

[15] In the sections “goals” and “target groups” we do not distinguish between current and planned projects, as there were no significant differences.

[16] DROBS Hanover could not make any specifications about their annual budget, because the project is embedded in a bigger organisation.

Figure 1 (below) shows the exact composition of annual project budgets.

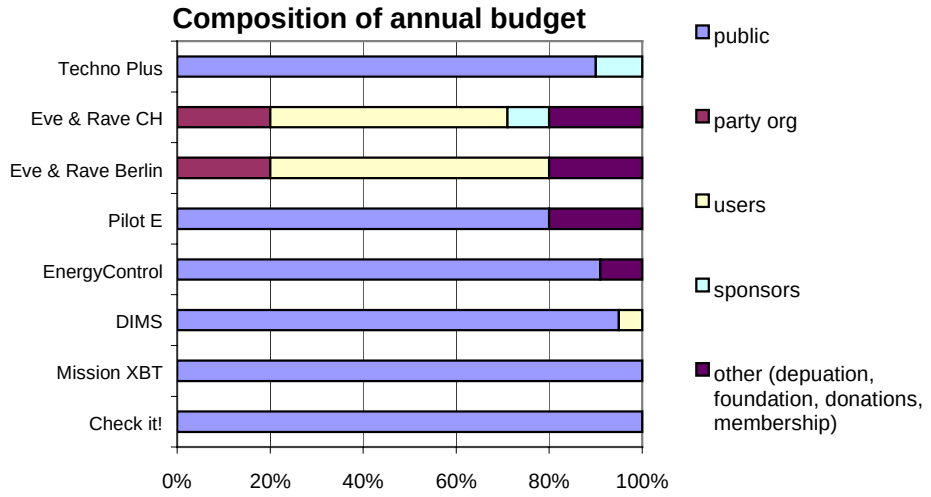


Figure 1 Composition of annual project budgets.

3.2.3 Involved professional groups

As stated above, a wide range of professional groups and volunteers are working for the individual projects. Most projects named social workers as members of their team, youth workers and psychologists were mentioned often as well.

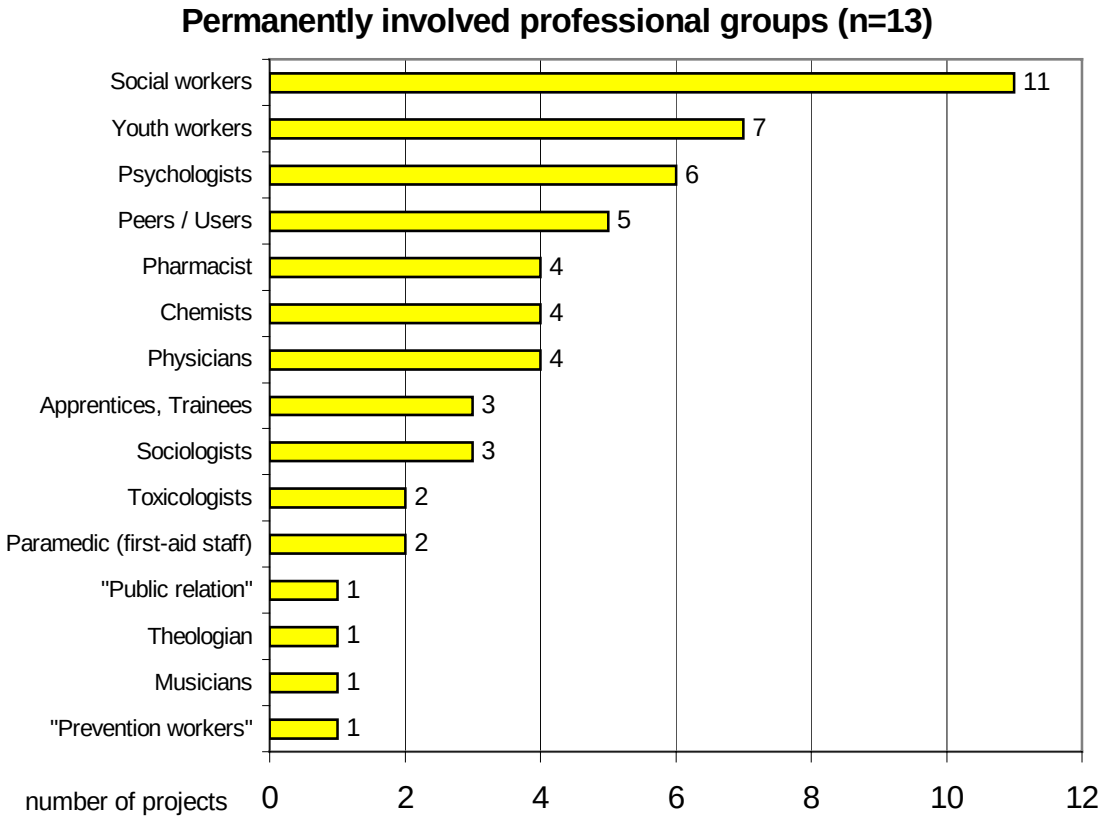


Figure 2 Permanently involved professional groups in pill-testing projects.

3.2.4 Goals

In contrast to the possible pill-testing goals described in chapter 3.1, the following goals are preformulated ones and focus primarily on the actual rave visitor-team member interactions. Every single project agreed to the three goals: *to prevent clients from using especially dangerous or contaminated substances*, *to communicate "safer-use" messages*, and *to improve the users' factual knowledge about substances and risks*. Therefore it seems that the key issue is *information*: knowledge may not prevent the use of drugs, but it can prevent the use of them in an especially risky way. *To influence the users attitude towards drugs* is an important goal as well and it is remarkable that still 9 out of 13 projects pursue also scientific goals.

Self-organised groups, that emerged out of the scene, also name goals such as *support of "Drogenmündigkeit"*[17], *promotion of social coherence within the scene* or *fun and happiness* – goals not to be found in projects that are financed by the state and which follow a more or less scientific prevention strategy.

Table 3 Frequency and extent of approval to preformulated goals.

Goals	X	S	Frequency "main goal" or "important goal" (n=13)
We do not want our clients to use especially dangerous or contaminated substances.	1,22	0,44	13
When our clients consume drugs we want them to respect "safer-use" messages	1,22	0,44	13
We want to improve the users´ factual knowledge about substances and risks	1,44	0,73	13
Every consumer should know what *each* particular pill/trip contains (quality check of specific pills/trips)	1,33	0,50	12
We want to influence the users´ attitude towards drugs – towards more criticism	1,67	0,71	11
We want to collect data for scientific purposes (e.g. monitoring trends; epidemiological data about users)	2,33	1,00	9
We want to collect data for the police (e.g. dealer structures, drug distribution and trafficking)	4,00	0,00	0

Note: x=mean, s=standard deviation. The categories were: *is a main goal*=1, *is an important goal*=2, *is a goal to some extent*=3, *is no goal at all*=4

[17] The term *Drogenmündigkeit* is difficult to translate into English. It means to consume drugs in a responsible manner, to decide freely which drugs one would like to consume, and to know what is good and what is bad for oneself.

The following goals were added by some of the projects (each one mentioned only once):

- collect data to assess the *quality* of substances;
- promotion of *party culture;*
- support of *"Drogenmündigkeit";*
- promotion of *social coherence* within the scene;
- fun and happiness;
- influence illegal markets towards better quality;
- identify new consumption trends;
- develop a knowledge base for practical prevention strategies;
- development of more efficient chemical analysis procedures; and
- development of more efficient counselling methods.

3.2.5 Target groups

Pill-testing projects generally try to reach consumers and potential consumers of psychoactive substances. The minimum criteria for belonging to a target group seems to be *not consuming, but interested in party drugs*. In scientific terms we would label these groups as risk groups. The issue, therefore, is *secondary prevention*[18]. The more *excessive* people consume, the more they are considered as a *main* or *important target group*.

Table 4 Frequency and extent of approval to preformulated target groups.

Target groups	X	S	frequency "main target group" or "important target group" (n=9)
Persons who consume "party drugs" (sometimes) excessively	1,00	0,00	9
Persons who consume "party drugs" regularly but without periods of excessive use	1,11	0,33	9
Persons experimenting with "party drugs"	1,22	0,67	8
Persons who do not consume but who are interested in "party drugs"	1,89	0,78	7
Persons, who do not consume and who are not interested in "party drugs"	3,13	0,99	1

Note: x=mean, s=standard deviation. The categories were: *is a main target group*=1, *is an important target group*=2, *is a target group to some extent*=3, *is no target group at all*=4

Three projects marked the category "we have not defined specific target groups: anyone who is interested in our project, is automatically part of the target group". It is quite remarkable that none of the projects made use of the opportunity to differentiate the answers according to the age of the clients. It seems that younger people are not considered a more important target group than older ones – and the other way around.

Self-organised groups added teachers (2x), parents (2x), and politicians (2x) to their target groups. From their point of view, the focus of interest should not only be users or potential users, but also other social groups that interact with consumers of illicit substances or influence the rave scene and its general conditions. *Other prevention organisations* was named once as a target group.

[18] In terms of target groups all projects could be assigned to secondary prevention. However, some pill-testing projects prefer not to use the term prevention at all. Instead, they refer to *information* or to topics such as *Drogenmündigkeit* (see above). In contrast to secondary prevention, primary prevention would require that everyone, even if he or she is not even interested in party drugs, is part of the target group.

3.2.6 Activities

The projects were asked to name activities they are undertaking besides pill testing. Figure 3 (below) shows that pill-testing interventions offer more than just mere testing of pills. Most of the projects also offer *information talks* and *crisis intervention*. *Scientific publications* and *running a webpage* were also named more often than could have been expected. Communication of objective information to the target groups plays an important role in every project.

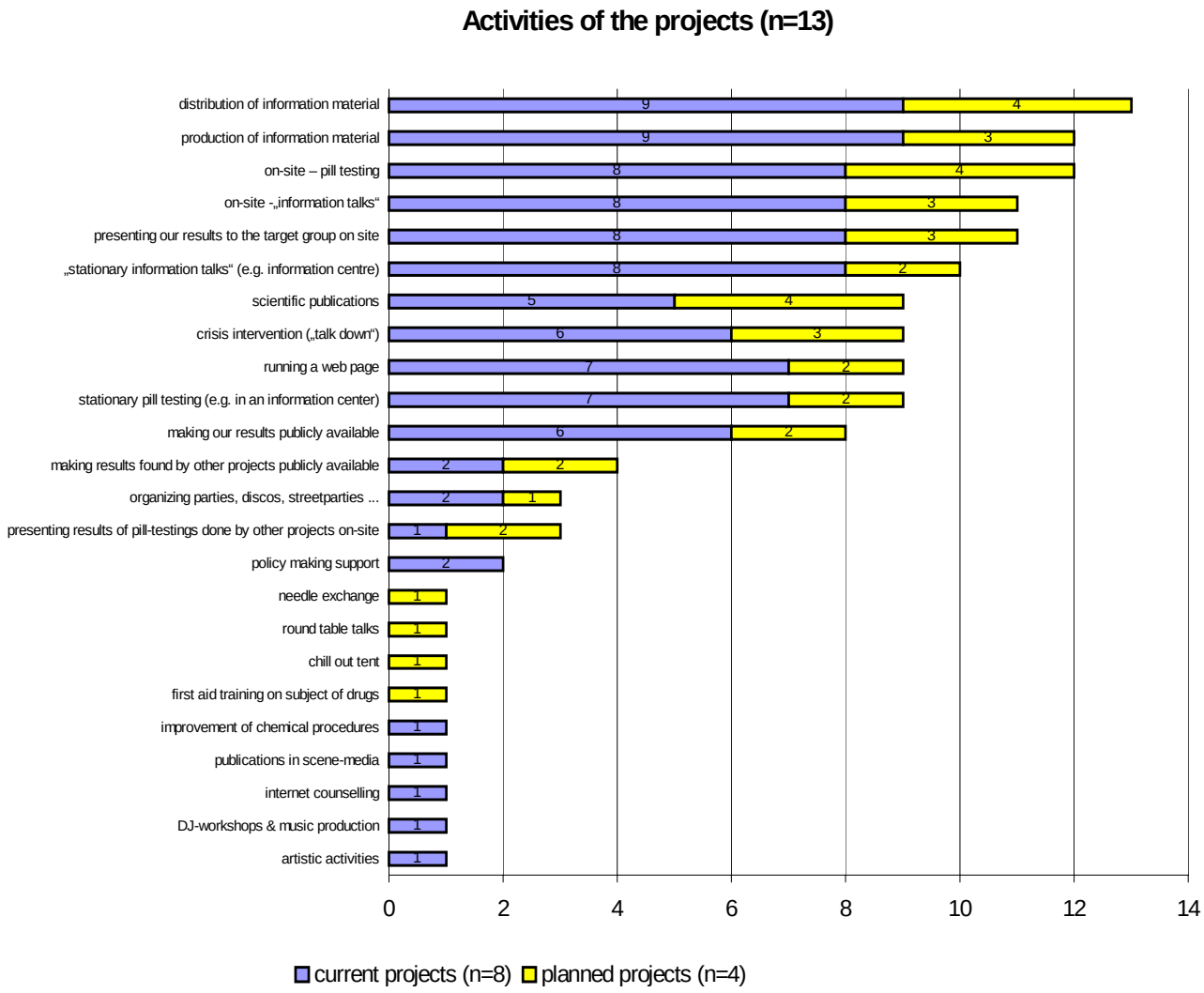


Figure 3 Activities pursued by the individual projects.

3.2.7 Number of activities and persons reached in 1999

Since there are great differences between the pill-testing projects concerning number of active people and analytical set-up, neither the number of on-site testings, nor the number of reached persons, nor the number of pills chemically tested can be compared meaningfully. For the sake of completeness, however, we note that in 1999, the number of on-site testings ranges from five for *ChEck iT!* and DROBS Hanover to 24 for Energy Control. The number of pills tested per rave, ranges from 7 (Pilot E) to 75 (Energy Control). Again, for these numbers the analytical set-up has to be taken into account. For example, while Pilot E is working with a reliable HPLC-system, Energy Control is using quick tests for on-site testings.

On average, people who make use of pill-testing projects are 22 years of age. The fact that there are considerable differences in the age-distribution must be noted. People who approach *ChEck iT!* are on average 18 years of age, while people who get in contact with Eve & Rave Switzerland are on average 30 years old. Since none of the projects is trying to reach a particular age group, this variability has to be explained by different group compositions of rave visitors from country to country and by the events chosen for pill-testing activities. While there are huge differences according to age, all projects agree that they are being approached by more male (72%) than female visitors (28%).

With respect to information talks and counselling, no project listed less than 40 on-site talks with potential consumers per event (Techno Plus) and no project more than 250 talks (*ChEck iT!*) in 1999.

3.3 Legal situation

In order to analyse chemically ecstasy and other illicit substances, the substances have to be presented by potential consumers. Moreover, some projects cannot analyse these pills without touching them. These circumstances along with the fact that pill-testing is a relatively "new" concept raise a general uncertainty concerning legislation. Thus, apart from the Netherlands which – with its comprehensive approach towards harm reduction and health promotion – is the only country where pill testing is part of the official drug policy, drug checking is not integrated in general, nationwide official concepts or policies. All other countries have to rely on regional regulations, ad hoc legal opinions, or special agreements.

In Europe there are several different ways of including drug checking into existing regulations. In Austria, Belgium and the Netherlands, drug-checking projects have a prevailing scientific purpose. In Belgium, it is as yet unclear whether potential users may receive feedback about content and dosage of tested pills. In Switzerland, legal opinions confirmed that drug checking was legal as long as it was connected with prevention messages.

Another important topic with regards to legislation is the question as to whether illicit substances may be touched and handled by project representatives. As regards Austria and Germany, touching illegal substances and giving them back to potential users would constitute a violation of the respective laws. Drug laws in other European countries may have similar regulations – however, the full treatment of this topic is not within the scope of this report.

Generally, a minimum of political backing and good cooperation with the local police force seem to be necessary to run pill-testing projects. In particular, there has to be an exchange of views or agreement with the police in order to avoid them intervening at on-site pill testings – especially if the police are actually forced by law to intervene in view of potentially illegal acts, which is the case in most European countries.

In the remainder of this chapter the legal conditions in countries with pill-testing projects is briefly discussed.

3.3.1 Austria

A drug-policy concept for the whole of Austria does not exist, but there are several drug policy concepts for the Austrian provinces. Pill testing is part of the official Vienna drug policy that was passed by majority decision.

The bases for on-site pill testings are official statements by the *Ministry of Justice* and the *Ministry of Social Affairs and Health* declaring pill testing a

legal procedure, if it is done by a scientific institution. No illicit substances may be touched or handled by the project members, for giving back or passing on illicit substances would be a violation of the Austrian law on controlled substances. *ChEck iT!* has a good working base with the local police who support the preventive measures of the project: the police are present at raves where *ChEck iT!* offers chemical analysis, but they do not concentrate their actions on visitors of *ChEck iT!*

3.3.2 Belgium

Research is a field under federal authority, prevention a topic under communal authority. Thus, on the condition that research is the prevailing purpose of pill-testing, pill-testing projects – specifically Modus Vivendi – are accepted by the Federal Ministry for Public Health. It is not clear yet, however, whether providing information and feedback to potential consumers of illicit substances is legal, since to date local authorities have not issued an official acceptance of the project. Local police do not approve the project and discourage users to come to the testing by showing massive physical presence.

3.3.3 France

There is no specific law concerning pill testing. A special commission working by direction of the French Prime Minister is responsible for the official drug policy. Although pill testing in general is illegal under French law, the government subsidises pill-testing projects such as Techno Plus, le project SINTES, and Mission XTB. The SINTES-project of the *Observatoire Français des Drogues et des Toxicomanies*[19] is allowed to collect pills and have them analysed in laboratories in cooperation with organisations such as *Médecins du Monde*. Except for very dangerous pills, no information on content is fed back to potential consumers of these substances.

3.3.4 Germany

The legal situation in Germany concerning pill testing is confusing. There are several legal opinions from public prosecutors and lawyers that come to different conclusions. Even though over the years there have been many attempts by different projects to come to an agreement with public authorities and to set up pill-testing projects on a sound legal basis, the testing of illicit substances is generally not allowed in Germany. Chemical analyses of illicit substances may only be done by pharmacies or public authorities. It seems, however, that acceptance of on-site pill testing carried out by prevention projects depends on the public prosecutors responsible and on agreements with the local police. The only projects

[19] Further information about SINTES can be found in: Observatoire Français des Drogues et des Toxicomanies (2000), *Tendances Récentes. Rapport Trend – Mars 2000.* Paris: OFDT. Also available through the Internet at www.drogues.gouv.fr

currently running pill-testing projects are DROBS Hanover (with a special agreement with the local public prosecutor and in cooperation with DIMS Utrecht) and Eve & Rave Berlin. Investigations against Eve & Rave employees owing to assumed possession of illicit drugs were stopped after resolutions of the Berlin courts saying that the "possession of illegal narcotics is legal, as long as there is no intent to possess and consume it"[20]

In 1999 a *Drug-checking-concept*[21] was prepared by the *Technonetwork Berlin* – a cooperation of organisations that work in and with the techno scene – and passed on to the Ministry of Health. As yet there is no decision whether pill-testing projects shall be accepted in Germany or not.

3.3.5 The Netherlands

The Netherlands already started the monitoring project *Drug Information and Monitoring System* (DIMS) at the beginning of the 1990s. DIMS consists of a nationwide network of prevention organisations. Today, pill testing is an official part of Dutch drug policy and has been approved by the Dutch Parliament. The DIMS project is, however, not allowed to analyse pills that are presented by obvious dealers or producers. Since ecstasy is considered a *hard drug*, there are special agreements with the *Ministry of Justice* and the General Prosecutors. As in many other countries, pill testing is mainly done for scientific purposes, i.e. monitoring of illegal drug markets.

3.3.6 Spain

In Barcelona, both the city municipality and the police are familiar with the project Energy Control and support their activities. However, since there were no official inquiries to either allow or to forbid pill-testing projects in the past, it is not entirely clear whether there are provisions that explicitly do allow or forbid pill-testing activities in Spain.

3.3.7 Switzerland

After thorough legal debates and legal opinions on the topic of pill testing, Pilot E is allowed to test pills in the canton of Bern and has the support of public authorities, the local police and party, and party organisers. Also Eve & Rave Switzerland does not have problems with legality. Pilot E is

[20] Decisions of the Amtsgericht Berlin, March 3 1998 and the Landgericht Berlin March 1, 1999. For further details see Eve & Rave (2000): *Vereinskonzept und Tätigkeitsbericht*. Berlin: Eve&Rave; Chapter 1.3.8.1 „Chronology of state repression against the Drug-Checking Programme of Eve & Rave Germany". Available also through the Internet at: www.eve-rave.net/abfahrer/download.sp

[21] Techno-Netzwerk Berlin (1999), *Drug-Checking-Konzept für die Bundesrepublik Deutschland. Erarbeitet vom techno-netzwerk berlin für das Bundesministerium für Gesundheit.* Berlin: techno-netzwerk berlin. Available also through the Internet at: www.eve-rave.net/abfahrer/download.sp

not allowed to give out quantitative analyses for “obvious dealers”. In this respect, the regulations resemble those of the Netherlands. The pilot projects of Eve & Rave Switzerland in 1997/98 and Pilot E in 1998/99 were publicly subsidised.

3.4 Intervention methodologies and strategies on site

3.4.1 On site

Seven projects are currently offering on-site testing, four projects are planning to do so.

3.4.1.1 How to get information about the target group

The projects were asked to name ways of getting information about target groups such as age, sex, needs, problems or consuming patterns to plan and set up pill-testing projects.

The table below shows that *word of mouth* and *learning by doing* are considered most important. This is not an argument against more structured data collection through scientific literature, by questionnaires, and interviews – methods that were mentioned by seven, respectively six different projects – but it shows that it is necessary to have access to the scene and to be accepted by the people who are part of the scene to come up with useful approaches.

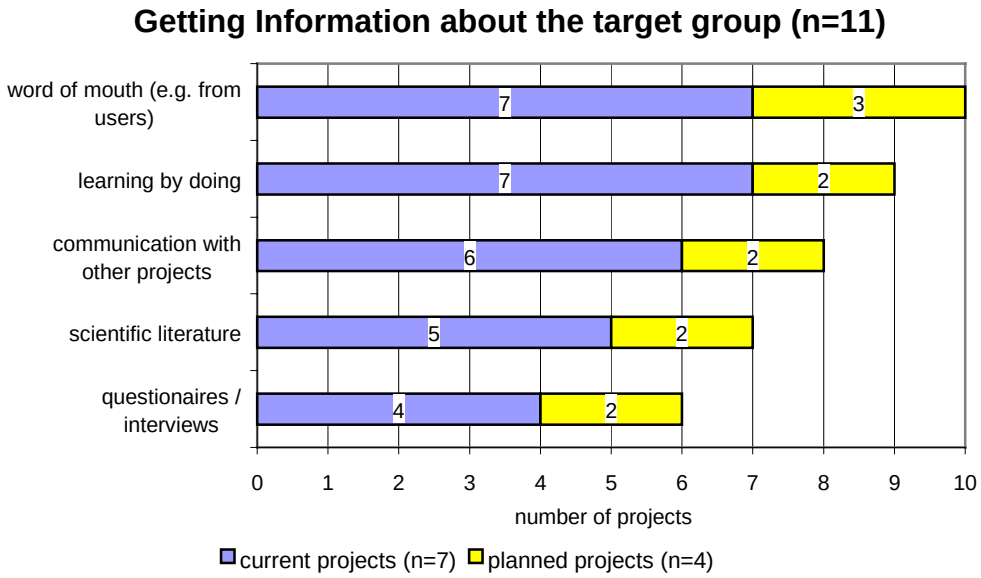


Figure 4 Useful activities to get information about the target group.

This assessment was underlined by answers from ongoing projects to the question *what activities had proven especially useful for getting relevant information about the target group*. The project representatives responded that *being present at parties*, *doing talks on site with a non-moralistic approach*, or *giving objective information* proved most efficient. Again, a prerequisite in order to be able to pursue such methods is to get the visitors' confidence.

3.4.2 Professionals participating in an average on-site testing event

The number of people participating in an average on-site testing event ranges from 1 to 35. The professions of the people are also quite diverse.

Table 5 Professionals participating in an average on-site testing event.

Project	No. of people	Profession	status
Current			
DROBS / Hanover	1	social worker	employed
EnergyControl / Barcelona	4	1 social worker, 3 peers/users, 1 other member of the group	employed and voluntary
Pilot E / Bern	2	1 social worker, 1 pharmaceutical laboratory assistant	employed
ChEck iT! / Vienna	20	6 social workers, 4 psychologists, 3 apprentices, 7 chemists	employed
Mission XBT / Paris	?	youth workers, social workers, psychologists, sociologists, chemists, peers/users, apprentices/trainees, pharmacist	employed and voluntary
Eve & Rave Berlin	?	youth workers, social workers, physicians, paramedics, psychologists, sociologists, chemists, peers/users, apprentices/trainees, musicians	voluntary
Eve & Rave Schweiz	?	youth workers, social workers, paramedics, physicians, psychologists, sociologists, chemists, peers/users, apprentices/trainees	voluntary
Techno Plus Paris	24	peers/users	employed and voluntary
Planned			
Eve & Rave Münster	4-5	1 social worker, 1 sociologist, 2-3 peers/user	employed and voluntary
DIMS / Utrecht	?	youth workers, social workers, paramedic	employed
Modus Vivendi / Brussels	?	youth workers, social workers, psychiatrists, psychologists, chemists, peers/users, apprentices/trainees	employed and voluntary

3.4.2.1 Favourite place for pill testing

Favourite places for pill-testing interventions are either near the entrance or near the chill-out area (Chai-Shop, Space-Bar). The work-site should be as close and visible to the audience and as quiet as possible. The projects promote their pill-testing services by project flyers, rave or event flyers, posters, signposts or by setting up desks for distributing the information.

3.4.2.2 How to present results to the target group

Among the pill-testing projects featured in this report, there are differences concerning the question of *who* shall get *which* information about quality and quantity of tested pills. Some projects such as Eve & Rave believe that everybody should have access to all information available, for example through the Internet. Other organisations such as Pilot-E, DIMS, DROBS Hanover or *ChEck iT!* believe that everybody should have information on especially dangerous pills but not about all pills. All projects, however, pass the testing results on at least to the person who brought the pill. Concerning the topics *giving information also to the rave audience* respectively *to the public in large* we could identify two different models, with Model I consisting of three sub-models:

Model I: Graded amount of information for specific groups

a) Information only for the person who brought the pill

Mission XBT only passes the results to the person who brought the pill for testing, even if it is considered *dangerous*. The project argues, that information can best be given orally, face to face: “talking is better than a doubtful drug analysis”.

b) Information for others only in the case of "especially dangerous" pills

This model that is applied by *DIMS*, *DROBS Hanover, Energy control*, *Pilot-E,* and *Techno Plus* aims to give information about the pill orally and only to the person that presented the pills for testing. The arguments for not passing on all available information to everyone are either based on prevention – "we are not a public dealer service, people should come and talk with us about their consumption" (mentioned by *Contact Bern* and similarly by *Energy Control*) – or on technical problems that turn out to be prevention arguments as well: “because of the large number of duplicates it does not make sense to publish results. We cannot guarantee that pills with the same name and size have the same ingredients, when identified by quick tests and pill listings” (*DROBS Hanover*).

When pills with especially dangerous substances are identified, *all* information about the pill is transmitted to the whole audience at music events or to the public at large through posters, flyers, lists or the Internet. One possible definition of especially dangerous pills is given by *ChEck iT!*: every pill that contains substances such as PMA, Atropin or Methamphetamin and pills that contain more than 120mg MDMA, MDA, MDE or MBDB[22].

[22] The 120mg margin is somewhat arbitrary (because body weight matters, different amphetamin derivatives have different margins in terms of effects and dangers, and pills with, say, 90mg may be dangerous in the long run as well.). We believe, nevertheless, that this limit is justified: nowadays, pills with 120mg or more are totally unexpected for users and that level of dosage has an influence on possible neurotoxic effects.

c) S*ome information for others in case of "expected" pills, all information in the case of "especially dangerous" pills*

The *ChEck iT!* model is quite similar to the one described under Model Ib. The main difference is that pill-testing results are not given orally but posted next to the place where the pills are presented for analysis so that everyone interested is able to read it. The leaflets can only be assigned to particular pills via an individual number that is given to the potential consumer that presented a pill. Neither brands of pills nor any other physical properties are depicted in the leaflets. So people only know what has been found in the pills in general, but not which pill or logo belongs to which content. *ChEck iT!* argues that it does not intend to promote high dosed MDMA pills or any other substances. In practice, it has happened once or twice, that people tried to sell pills referring to "good" results, even though they were of course unable to prove the "goodness" of their pills. In these cases the project staff immediately asked the person to leave the *ChEck iT!* area.

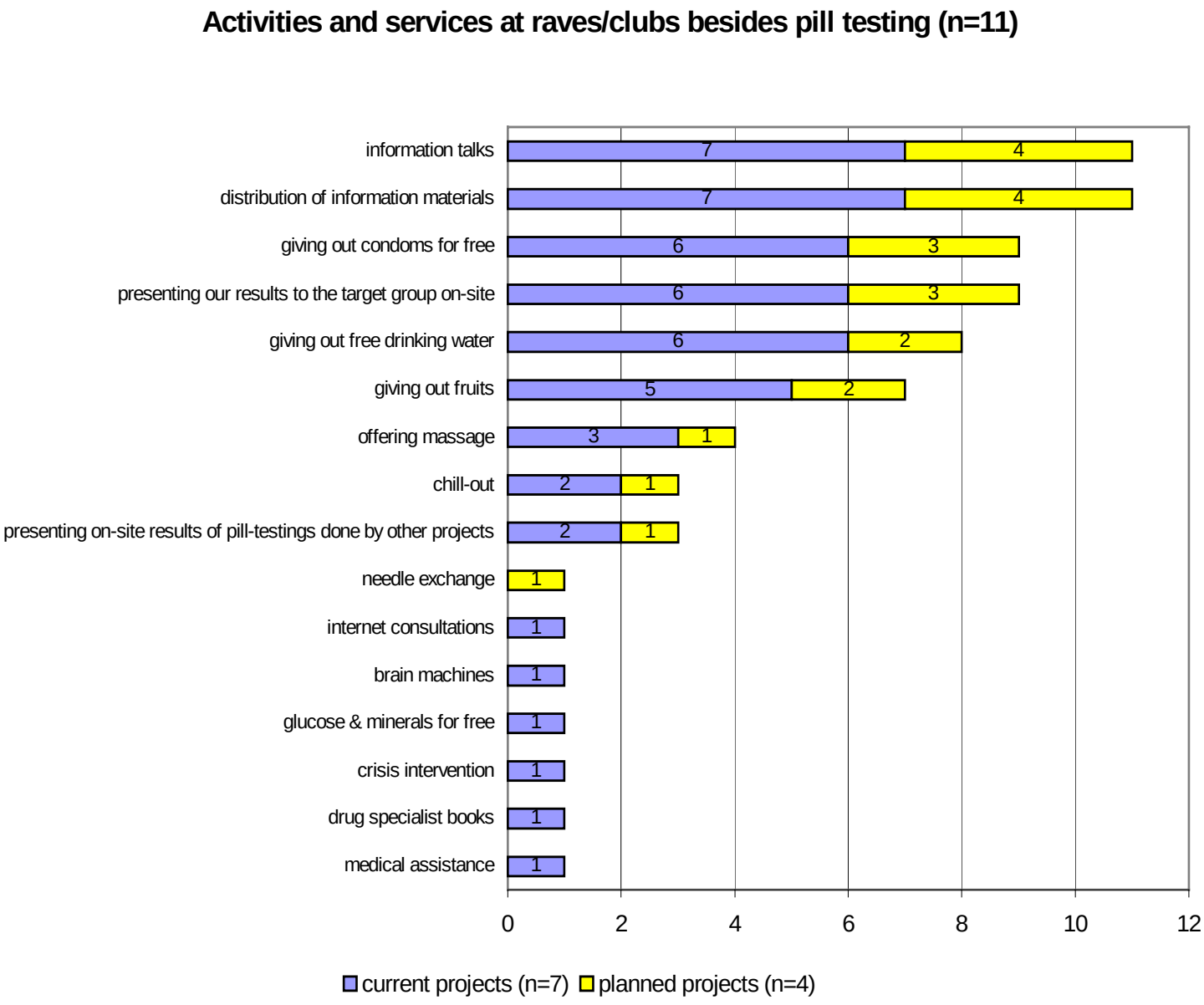
Model II: all information for everyone

This model is advocated by *Eve and Rave*. *Eve and Rave* argues that every consumer has the right to know what each specific pill contains. There are no information restrictions for mprevention purposes because everyone is responsible for what he or she does in connection with this information. From this point of view, there is nothing bad about advertisement for "good pills". Therefore, all available information - including brands – on pills is given to everyone who is interested through postings, lists, or the Internet.

3.4.3 Activities and services at raves/clubs besides pill testing

Figure 5 (below) shows that the notion of *information* is of high importance to all projects featured in the report. Other methods to reduce possible harm such as giving out condoms, fruit or drinking water are mentioned by most projects as well. In principle, the methods to care for visitors and the possibilities for "alternative" activities seem to be unlimited, as can be shown by examples such as offering massages or by providing artistic animation and so called *brain machines*[23].

Figure 5 Activities and services at raves/clubs besides pill testing.



[23] *Brain machines* are more or less complex devices designed to send out visual and/or acoustic stimuli to alter ones perception without the need for psychoactive substances.

3.4.4 Cooperation with other organisations

By now it should be evident that pill-testing projects require a high level of cooperation with various professional fields to provide goal-oriented activities. The project representatives were therefore asked to name their cooperation partners and to rate their satisfaction with the cooperation. In particular we asked if there was cooperation with the organisers of music events, the health services, the police and local authorities.

3.4.4.1 Cooperation with organisers

Seven out of eight projects cooperate with organisers, and they are by and large satisfied with this cooperation. Many organisers have recognised that pill testing can even have a "promotional" effect on their event. *ChEck iT!*, for example, states that it is usually invited, supported and promoted on event flyers or web pages, but that the organisers are not interested in paying for *ChEck iT!* activities. *Eve and Rave Berlin* and *DROBS Hanover* report that in their experience the bigger and more commercial events are, the less interest organisers display towards risk-reduction measures.

3.4.4.2 Cooperation with health services

Two projects report that no emergency health services are available at events where they work. The other five projects state that the cooperation runs as follows: there is an exchange of information on site, and the project staff direct rave visitors to emergency staff in the case of physical problems whereas the latter ask for help in cases of psychological problems.

3.4.4.3 Cooperation with the police

Five out of eight projects report cooperation or at least information exchange with the police. Again, these projects are quite satisfied with these contacts. *Eve and Rave Switzerland* says that there is a common search for pragmatic and adequate solutions to drug-consumption problems. *ChEck iT!* reports that the police support its prevention goals and do not intervene. Furthermore, some organisations hold regular information exchange on substances and substance trends with the police. All organisations agree, however, that no information on clients whatsoever is passed on to the police. By the way, passing on information about clients to *anybody* would be a violation of respective laws in most European countries.

3.4.4.4 Cooperation with local authorities

Five out of eight projects cooperate with local authorities and report positive experiences: they give grants and lend political support.

3.4.5 Information talks

By "information talks" we mean conversations between the project staff and potential drug users that last longer than five minutes and deal with topics such as safer-use messages, information about substances or psychosocial problems. All projects offer "information talks" on site – four out of seven do pill testing. All projects also offer information talks, even if they are not present with the chemical analysis on that particular day. Out of the four upcoming projects three are planning to offer information talks.

3.4.5.1 Professional groups offering information talks

Table 6 Staff members offering information talks come from a variety of professions.

Project	No. of people	Profession	Status
Current			
DROBS / Hanover	3	social workers	employed
EnergyControl / Barcelona	4	1 social worker, 3 peers/users, 1 other member of the group	employed and voluntary
Pilot E / Bern	2	social workers	employed
ChEck iT! / Vienna	13	6 social workers, 4 psychologists, 3 apprentices	employed
Mission XBT / Paris	?	youth workers, social workers, psychologists, sociologists, chemists, peers/users, apprentices/trainees, pharmacist	employed and voluntary
Eve & Rave Berlin	?	youth workers, social workers, physicians, paramedics, psychologists, sociologists, chemists, peers/users, apprentices/trainees, musicians	voluntary
Eve & Rave Schweiz	?	youth workers, social workers, paramedics, physicians, psychologists, sociologists, chemists, peers/users, apprentices/trainees	voluntary
Techno Plus Paris	54	peers/users	employed and voluntary
Planned			
Drogenhilfe Munster	3-4	1 social worker, 2-3 peers/user	employed and voluntary
Eclipse Berlin	?	youth workers, social workers, psychologists, sociologists, chemists, peers/users	voluntary
Modus Vivendi / Brussels	9	3 social workers, 2 psychologists, 4 peers/users	employed and voluntary

3.4.5.2 Useful activities to contact people

To take up contact with visitors you either have to approach them actively or you have to wait to be approached. Three out of seven projects actively contact people while the others wait to be approached. In order to get in contact with visitors easily the following methods were proposed by the three organisations:

- Setting up an information desk, handing out project flyers and information material to let everyone know that the project is present
- Asking people whether they would like to know anything about the project or about effects and dangers of substances
- Decorating chill-out areas
- *Eve and Rave* suggests showing yourself to be part of the rave scene and agreeing with their values rather than with the views of the respective government and authorities.

3.4.5.3 Main topics of "information talks"

All projects agree that they often talk with visitors about the project itself, and about effects and risks of psychoactive substances. Below the most important topics of information talks are listed.

- The project itself
- Effects and risks of psychoactive substances
- Ingredients of pills
- Risks concerning the combination of different substances
- Risk reduction and safer use
- Physical problems
- Psychological problems
- Social problems (e.g. in the family or school)
- Drug politics and legal situation
- Set and setting of drug consumption
- How to support a friend who is abusing drugs

3.5 Intervention methodologies/strategies not on site

Answers to the topics

- How to get information about the target group
- How to promote the testing project
- How to present the results to the target group
- How to do best "information talks"

were quite similar to the ones covered in section 3.4. The only relevant new information concerns analytical procedures. These procedures are covered in section 3.7. Analytical procedures.

3.5.1 Assessment of the importance of activities and services

We asked the projects which activities and services they consider important to reach their goals, regardless of whether they actually offer these activities or services or not. This should give a comprehensive picture of what is necessary and desirable for pill-testing projects. As already pointed out in the section on project goals, the main aspect besides pill testing is *information*, which can be given through information materials, information talks, and through the Internet.

Table 7 Assessment of the importance of activities and services.

Activities	x	s	Frequency of rating 1 or 2
distribution of information material	1,09	0,30	12
on-site "information talks"	1,09	0,30	12
on-site testing	1,18	0,40	12
production of information material	1,36	0,50	12
stationary information talks (e.g. in an information centre)	1,45	0,52	12
stationary testing (e.g. in an information centre)	1,45	0,69	11
running a web page	1,55	0,69	11
crisis intervention (e.g. "talk down")	1,33	0,50	10
giving out free drinking water on site	1,60	0,70	10
giving out condoms for free on site	1,30	0,67	9
presenting results to the target group on site	1,56	1,01	9
making results publicly available (e.g. by flyer, magazines, web page)	2,20	1,32	8
scientific publications	1,80	0,92	7
giving out fruits on site	2,10	1,10	7
presenting pill-testing results of other projects on site	2,11	1,27	7
making pill-testing results of other projects publicly available (e.g. by flyer, magazines, web page)	2,11	1,27	6
offering massage on site	3,13	0,83	3
organising parties, discos, street parties ...	3,13	0,83	2

Note: x=mean, s=standard deviation. The categories reached from 1: "very important" to 4: "not important at all"; n=12

When we talk about "information" in this context one has to point out, that this is not the kind of "information" that follows the *deterrence paradigm* and that attempts to communicate that each illegal drug is *per se* dangerous in every case. That type of information is not credible for visitors of raves and similar music events. Usually ravers do not define themselves as "drug users" or even "drug addicts" and therefore one scarcely meets them at traditional counselling or treatment facilities. So, the main issue is a non-moralistic approach by giving *objective* information. Most people do care about their health, although this does not keep them from using drugs.

Pill testing is the key service to access the target group. *ChEck iT!* and *Pilot E* made the experience that "information talks" without pill-testing

services are by far less attractive. Thus, the purpose of pill testing is not only to prevent people from using *especially dangerous* drugs, but also to get the opportunity to give information about effects and risks of psychoactive substances.

In terms of goals, self-organised projects follow a slightly different path. They prefer to consider themselves as a part of the scene and, therefore, also call activities such as *to name persons responsible for wrong decisions in drug policy*, *setting an example*, or *party with the scene* as important activities.

3.6 Analytical procedures[24]

3.6.1 Chromatography

Chromatography is the *separation* of a mixture of compounds into its separate components and is widely used for the *identification* and *determination* of the chemical components in complex mixtures.

The components to be separated are distributed between two phases, one of which is stationary while the other – the mobile phase – moves in a definite direction over the stationary phase. Substances that are distributed preferentially in the moving phase pass through the chromatographic system faster than those that are distributed preferentially in the stationary phase. As a consequence the substances are eluted from the column in inverse order of their distribution coefficients with respect to the stationary phase. Chromatography can separate gases and volatile substances by Gas Chromatography (GC), non-volatile and large molecular weight material including biological substances by Liquid Chromatography (LC).

The Chromatogram

A detector, placed at the end of the column, that responds to the presence of analytes leaving the separation system, produces a series of signals (peaks), called a chromatogram. Generally a chromatogram is a plot of a function of solute concentration versus elution time or elution volume. Chromatograms can be used for qualitative and quantitative analysis. Each peak generally represents a discrete chemical compound, or a mixture of compounds with identical partition coefficients. The time required for each component to emerge from the separation system (column) is characteristic for the compound and is known as its retention time. The area under the signal (peak) is proportional to its concentration in the sample. So data in qualitative analysis and quantitative analysis come from the positions of individual peaks and the areas under them with the base line being that portion of a chromatogram when only carrier gas emerges from the column.

---

[24] Apart from the questionnaire data and *ChEck iT!* know-how the following resources were used for this chapter:

http://rsc.anu.edu.au/~webad3/hplc/index.html
http://hplc.chem.shu.edu/NEW/HPLC_Book/index.html
http://kerouac.pharm.uky.edu/ASRG/HPLC/hplcmytry.html
http://members.iworld.net/guesu/gs/a_introduction/index.html
http://www.britannica.com/bcom/eb/article/6/0,5716,119266+1+110406,00.html
http://anylresc.idl.ukans.edu/brsl/bioms2.htm
http://www.ez-test.com
http://www.erowid.org/chemicals/mdma/mdma_faq_testing_kits.shtml#legal
http://www.chem.hope.edu/labscape/catofp/chromato/tlc/page.htm
http://www.samford.edu/schools/artsci/chemistry/tlc/sld001.htm

3.6.1.1 High Performance Liquid Chromatography (HPLC)

Analytical mechanisms

High Performance Liquid Chromatography (HPLC) is chromatography in the liquid phase. It is a method of separating a mixture of compounds based on their differing physical properties, such as polarity, charge and size.

HPLC utilises a liquid mobile phase to separate the components of a mixture in interacting with a stationary phase. The components (or analytes) are first dissolved in a solvent ('mobile phase'), and then forced to flow through a chromatographic column ('stationary phase') with constant speed under (high) pressure. In the column, the components of the mixture are retained in different extents on the stationary phase and thus resolved into its components. The 'stationary phase' is defined as the immobile packing material in the column. The interactions of the analytes with mobile and stationary phases can be modified through different choices of both solvents and stationary phases.

The information that can be obtained by HPLC includes *identification*, *quantification*, and *resolution* of a mixture of compounds.

Chemical separations can be accomplished using HPLC by utilising the fact that certain compounds have different retention times in a particular column and mobile phase. Thus, the operator can separate compounds from each other using HPLC.

In the detection system (absorbency detectors, UV-detectors, fluorescence detectors, electrochemical detectors) each compound shows a characteristic signal (peak) under certain chromatographic conditions. Depending on which compound mixtures have to be separated and how closely related the analytes are in terms of chemistry, the operator must choose proper chromatographic conditions, such as the mobile phase composition, type of column, temperature and other factors to allow adequate separation of the desired compound eluting in the desired order from the stationary phase.

Quantification of compounds by HPLC is the process of determining the unknown concentration of a compound in a known solution. It involves injecting a series of known concentrations of the standard compound solution onto the HPLC for detection. The chromatograph of these known concentrations will give a series of peaks that correlate with the concentration of the compound injected.

Generally, for HPLC of drugs the separation principle of reversed phase separation is utilised. In this case the retention follows the (gross) 'lipophilicity' of the analyte. Identification of unknown substances can be

achieved by their retention time (‘retention indices’) in combination with their spectral properties. By linking the results with a database of reference substances (as in the commercially available dedicated HPLC instrument REMEDi®) a high degree of identification-security can be obtained.

For the identification of synthetic drugs HPLC analysis is a very versatile and efficient system. The extent of identification of unknown samples (pills) is, however, very much dependent on the availability of reference compounds. If the respective reference samples are unavailable, the identification of unknown substances is rendered impossible.

Costs for one instrument:	EU 20.000-40.000.-
Instrumental costs/analysis:	variable, normally EU 0.5,- - 1,-
Reliability of results:	high
Identification of substances:	depending on instrumental configuration: medium to high
Availability of the instrument:	generally used for biopharmaceutical & toxicological analysis
Duration of analysis:	depending on set-up and accuracy of answer between 5-20 mins
Staff requirements:	chemical training necessary
Suitable for on-site testing?:	yes, but higher logistic requirements
Benefits for pill testing:	high, because of detailed information on samples, quantitative results available, low sample demand. As a result, HPLC has a high degree of versatility not found in other chromatographic systems and it has the ability to easily separate and quantify a wide variety of chemical mixtures. Rapid analysis and high resolution.
Disadvantages for pill testing:	a sample of reference substances must be utilised in order to assure identification of unknown compounds. Identification of compounds can be assured by combining two or more detection methods.

3.6.1.2 Thin Layer Chromatography (TLC)

Analytical mechanisms

Thin Layer Chromatography (TLC) is a technique for separating and thus identifying dissolved chemical substances (=mobile phase) by virtue of their differential migration over glass plates or plastic sheets coated with a thin layer of a finely ground adsorbent, such as silica gel or alumina. (stationary phase). TLC is relatively quick and requires small quantities of sample material.

For TLC, a sample of the mixture to be separated is deposited at a spot near one end of the plate and a suitable solvent is allowed to rise up the plate by capillary action. The components of the sample become separated from one another because of their different degrees of interaction with the thin layer on the plate or sheet. The solvent is then allowed to evaporate, and the location of the separated components is identified, usually by application of reagents that form coloured products with the substances. The purity of a sample may be estimated from the chromatogram. An impure sample will often develop two or more spots, while a pure sample will show only one single spot.

Costs for one instrument:	EU 1.000,- - 5.000,-
Costs per analysis:	low, EU 1-2.-
Reliability of results:	medium, only qualitative results, for quantitative data, instrumental set up necessary
Identification of substances:	low, only coarse identification in comparison to Rf-values with reference substances
Availability of the instrument:	no larger instruments necessary
Duration of analysis:	approx. 30 mins, several analyses in parallel
Analytical questions:	identification of the most common substance groups, no detailed information
Staff requirements:	some training, but no high skills necessary
Suitable for on-site testing:	perhaps - no experiences available
Benefits for pill testing:	relatively cheap, quick and easily available, requires small quantities of material.
Disadvantages for pill testing:	limited accuracy in identification, quantification difficult to perform

3.6.1.3 Gas Chromatography (GC)

Analytical mechanisms

Gas Chromatography (GC) is an analytical technique for separating chemical substances in the gas phase over a stationary liquid phase. It is widely used for quantitative and qualitative analysis of complex mixtures.

The method consists of, first, introducing the test mixture or sample into a stream of an inert gas, commonly helium, that acts as carrier (=mobile phase). Liquid samples must be vaporised during injection into the carrier stream. The gas stream is passed through the separation column, through which the sample components move at velocities, influenced by the degree of interaction of each analyte with the stationary liquid phase. Substances having greater interaction with the stationary phase are retarded to a greater extent and consequently separate from those with less interaction. As each component will leave the column with the carrier, it passes through a detector system. There are a large number of detectors used in gas chromatography, among them *ionisation detectors* (FID), *thermal conductivity detectors* or *electron capture detectors* (ECD), to name but a few. All of them produce an electrical signal that varies with the amount of analyte leaving the chromatographic column.

Hybrid techniques, particularly using a mass spectrometer as a detector (GC-MS), have added a further dimension to GC analyses, enabling separated compounds to be readily identified.

Costs per analysis:	low, EU 1-3,-
Reliability of results:	discrimination of compounds is possible
Identification of substances:	indirect identification by comparison of retention times with reference substances
Availability of the instrument:	medium to low, used in biopharmaceutical & toxicological laboratories
Costs for one instrument:	EU 10.000-30.000.-
Duration of analysis:	medium to quick (minimum 15 mins)
Analytical questions:	no screening, only off-site identification
Staff requirements:	very high technical qualification
Suitable for on-site testing?:	no, laboratory bound
Benefits for pill testing:	high, very low sample demand
Disadvantages for pill testing:	instrumental availability and costs, not immediately available

3.6.1.4 Gas chromatography–Mass Spectrometry (GC-MS)

Analytical mechanisms

Mass Spectroscopy is an analytical technique by which chemical substances are identified by the sorting of the ionised analytes in electric and/or magnetic fields according to their mass-to-charge ratios. The instruments used in such studies are called mass spectrometers and mass spectrographs. They operate on the principle that moving ions may be deflected by electric and magnetic fields. The two types of instruments differ only in the way in which the sorted charged particles are detected.

Mass spectrometers consist of five basic parts: a high vacuum system; a sample handling system, through which the sample to be investigated can be introduced; an ion source, in which a beam of charged particles characteristic of the sample can be produced; an analyser, in which the beam can be separated into its components; and a detector by means of which the separated ion beams can be observed, collected or counted - usually this is a simple photomultiplier tube connected to a computer.

When connected to a chromatographic column in a manner similar to the other GC detectors the mass spectrometer itself is often referred to as the mass selective detector or more simply the mass detector. GC/MS interfaces have been developed that allow analyte molecules to be dynamically extracted from the carrier gas stream at the end of a gas-chromatographic column and thereby continuously enter the MS for analysis.

The power of this technique lies in the production of mass spectra from each of the analytes separated in the chromatogram instead of an electronic signal that does not give any information on its identity. These data can be used to determine the chemical identity as well as the quantity of unknown chromatographic components with a reliability simply unavailable by other techniques.

One general limitation of this technique in common with Gas Chromatography is the fact that only volatile substances or those which can be readily evaporated, are accessible to GC/MS analysis. Substances, which are thermolabile or are too polar and thus cannot be evaporated cannot undergo GC/MS analysis. In this case these compounds must first be chemically reacted to more volatile derivatives ('derivatisation'). This is a complex and time-consuming step, which generally can only be performed in a laboratory environment. Thus, GC/MS must be considered primarily a laboratory-bound technique.

Costs for one instrument:	EU 30.000-120.000.- High costs for the pump, ionisation source, mass filter or separator, ion detector, and computer instrumentation and software has limited the wide application of this system as compared to the less expensive GC-detectors
Analytical costs:	medium to low (EU 1-3.-)
Reliability of results:	very high, chemical & structural identification of compounds
Availability of the instrument:	not readily available (instrumental costs!)
Duration of analysis:	medium to quick (minimum 10 mins)
Analytical questions:	no screening, only off-site identification
Staff requirements:	very high technical qualification
Suitable for on-site testing?:	no, laboratory bound
Benefits for pill testing:	very high degree of samples identification, 'Gold Standard', very low sample demand
Disadvantages for pill testing:	costs, not immediately available

3.6.2 Pill identification

Analytical mechanisms

Pill-identification methods rely on the comparison of pills brought by potential consumers with lists of formerly analysed pills. Strictly speaking, pill identification is not a chemical analytical procedure. In general the pill to be tested is weighed, diameter and width are measured and these data, along with branding, score and colour are compared with listings of pills with known content and data on quantity of content.

In most cases, however, the comparison also includes a test of the pill by marquis reagents or other quick tests. This makes the results more reliable.

Costs for one instrument:	free of charge
Costs per analysis:	The mere comparison of pills with other pills with known content is of course free of charge.
Reliability of results:	Mere pill identification is a very risky and unsafe procedure. Due to the ever-changing market situation, pill characteristics such as brands, weight, dimensions and colours are in many cases not sufficient to find out about the content of the pill. For potential consumers of illicit psychoactive substances, pill identification may yield an inappropriate and – in the worst case - dangerous feeling of security.
Identification of substances:	Neither substances nor their quantity can be identified by mere pill-identification procedures. The probability that a given pill is from the same charge as a pill listed in a given document cannot be defined.
Availability of the instrument:	Pill listings can be found on the Internet.
Duration of analysis:	Quick – it only takes the time to find the appropriate pill on a list.
Analytical questions:	Pill identification cannot be used for any analytical questions.
Staff requirements:	Pill identification is done by many ecstasy-users. It does not need any special training.

Suitable for on-site testing?:	Given the debatable value and inaccuracy of this procedure, pill identification can be used for on-site "testing". It is cheap and does not need any additional instruments apart from a pair of scales and a measuring instrument.
Benefits for pill testing:	it is cheap
Disadvantages for pill testing:	see above

3.6.3 Marquis test (colour reaction test)

Analytical mechanisms

Ecstasy pill-testing kits are relatively simple, inexpensive products. The testing kits come in the form of a bottle of liquid. The test works by scraping a small quantity of powder off the side of a pill and onto a plate. A small drop of the testing-kit liquid is then dripped onto the powder scrapings.

A chemical reaction will occur between the liquid and some of the more common chemicals found in ecstasy pills. This reaction will cause the liquid to turn a variety of colours depending on what is in the powder. This colour change generally happens within a period of 10-15 seconds after combining the powder and liquid.

The kit can identify the presence of ecstasy-like substances (MDMA, MDA, MDE), but cannot differentiate between them nor tell how much of these substances a pill contains. It can also identify the presence of some non-ecstasy substances and/or the absence of ecstasy. There are, however, chemicals which do not cause a reaction with the ecstasy-testing kits and just because a pill tests positive for an ecstasy-like substance, this does not mean that the pills are pure or safe. They may contain a wide variety of other safe or dangerous chemicals, such as PMA that does not show any colour change.

Costs per analysis:	Testing kits can be obtained from different sources at varying costs. In general, one analysis does not cost more than 1 Euro.
Reliability of results:	low
Identification of substances:	Less than ten substances can be identified, no quantification, no information about possible additional substances.
Availability of the instrument:	Available through the Internet, in smart- or head-shops.
Costs for one instrument:	< 1 Euro
Duration of analysis:	< 1 min; 5-10 mins when also compared with pill listings
Analytical questions:	Cannot be used for scientific reasons.
Staff requirements:	Low, no training necessary

Suitable for on-site testing?	*G*iven the debatable value and inaccuracy of this procedure, quick tests can be used for on-site “testing”. They are cheap, quick and easy to perform.
Benefits for pill testing:	Cheap, quick and easy to perform.
Disadvantages for pill testing:	Very low accuracy (see above). The primary ingredient in the testing kit, sulphuric acid, is an acid which will burn skin if it comes in contact.

3.6.4 Immunological tests

Analytical mechanisms:

Immunological tests are based on the reaction of a (more or less) specific antibody against a substance (drug) and the visualisation of this reaction. In most cases, commercially available immunotest-systems for drug testing in urine are used. These immunotests must either be performed on an instrument or can be stand-alone ('on-site' tests) in the form of test cards or test strips.

Costs per analysis:	Variable. Less than EU 1,- per result for instrumental bound tests, up to EU 5,- for single on-site tests.
Reliability of results:	Very low, because tests depend on the specificity of antibodies used. If the specificity is high, then only single compounds are detected, when the cross-reactivity is high, then a number of compounds of a whole group cannot be discriminated. There is a high probability of interference by other substances, especially when the concentrations are high. Immunological tests are not useful for drug testing.
Identification of substances:	No identification of individual substances.
Availability:	easily available
Duration of analysis:	fast, approx. 5-10 mins
Analytical questions:	hardly any
Staff requirements:	low, no training necessary
Suitable for on-site testing?	no
Benefits for pill testing:	none, high probability of erroneous results
Disadvantages for pill testing:	see above

Table 7 Overview: analytical procedures

Method	used by	Analytical costs/analysis in Euro	Throughput (1 Person/ hour)	Reliability of results	Number of identifiable substances	Professional prerequisites	Costs per instrument in Euro	Time for one analysis	Suitable for on-site testing
High Pressure Liquid Chromatography (HPLC)	4 projects	0.5 - 1	3 - 10	high	medium - high	medium - high	20.000 - 40.000	medium - quick (10 - 20 min)	yes
Gas Chromatography (GC)	3 projects	1 - 3	2	medium	medium	high	10.000 - 30.000	medium - quick (min. of 15 min)	no
Thin Layer Chromatography (TLC)	1 project	1 - 2	ca. 10	medium (qualitative only)	low	medium	1.000 - 5.000	medium (30min)	yes
Gas Chromatography & Mass Spectrometry	2 projects	1 - 3	2	very high	very high	very high	30.000 - 120.000	medium - quick (min. of 10 min)	no
Liquid Chromatography (LC) & Mass Spectrometry		ca. 5	10 (?)	high	high	high	30.000 - 120.000	quick	?
Pill identification		0	10 - 20	very low		low	0	quick	yes
Marquis test	1 project	< 1	10 - 20	low	< 10	low	< 1	quick (5-10 min)	yes
Pill identification & Marquis test	4 projects	< 1	10- 20	low	?	low	< 1	quick	yes
Immunotests (Urin-test)		< 1 - 5	20	very low		low	< 1 - 5	quick (5-10 min)	yes
Capillar-Electrophoresis (CE)	1 project	< 5	5 (?)	?	medium - high	high	50.000 - 100.000	medium (< 30 min)	?

3.7 Evaluation: methodologies and results

3.7.1 EMCDDA guidelines

The EMCDDA published useful guidelines for the internal evaluation of programmes[25], in line with the EMCDDA priority and strategy that internal evaluation needs to be fostered primordially at programme level (thus internal) and has to involve all participating actors in order to assure acceptance and accuracy. In this chapter we describe evaluation possibilities for pill-testing projects and discuss whether the EMCDDA guidelines can be adapted to the specific needs and questions of pill-testing projects.

The projects were asked whether they knew the EMCDDA guidelines for the evaluation of drug prevention and whether they found them useful. The graph below shows that only 5 out of 11 projects actually knew of the guidelines.[26]

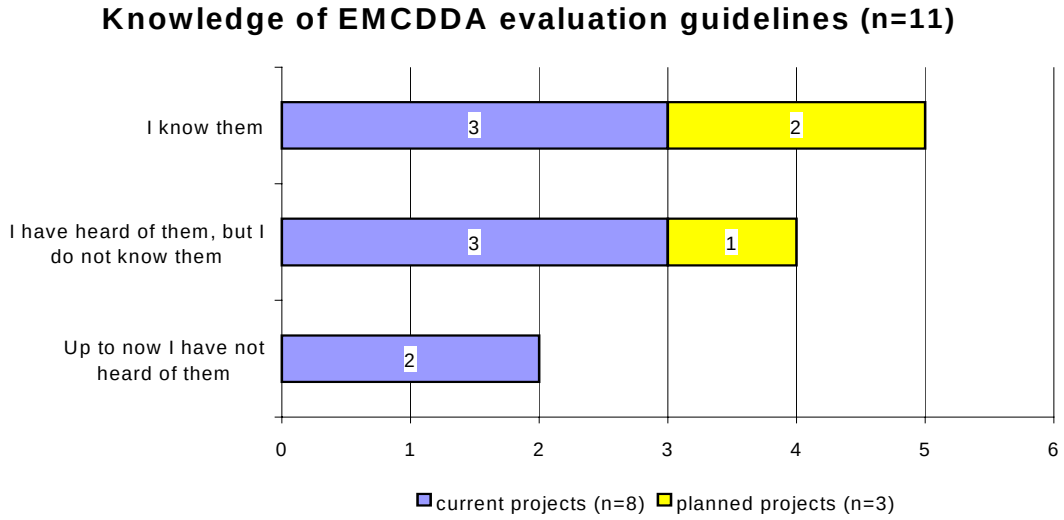


Figure 6 Knowledge about the EMCDDA guidelines.

Of the five projects that answered "I know them", four projects stated that the project was "partly guided", one project said that it was "not at all guided" by these guidelines. The current projects were additionally asked if they found the guidelines useful. We got two answers: "somehow useful" and "hardly useful".

We consider these results to be quite realistic. The guidelines can be useful, at least as a starting point for the development of guidelines for pill-testing interventions, but they cannot be applied as a whole.

---

[25] EMCDDA (1998), *Guidelines for the evaluation of drug prevention. A manual for programme-planners and evaluators*. Lisbon: EMCDDA; EMCDDA (1998), *Evaluating drug prevention in the European Union.* Lisbon: EMCDDA

[26] One organisation filled in two questionnaires – one for a current and one for a planned project. Since this project was counted only once (as a current project) in this section – we got 11 instead of 12 answers.

3.7.2 Status of evaluation

Due to a lack of financial or personnel resources most projects could not carry out a comprehensive evaluation while other projects felt that an evaluation was not necessary yet. Still, at least six out of eight projects have analysed some questions of evaluation. The only project having carried out a full evaluation was DIMS Utrecht.

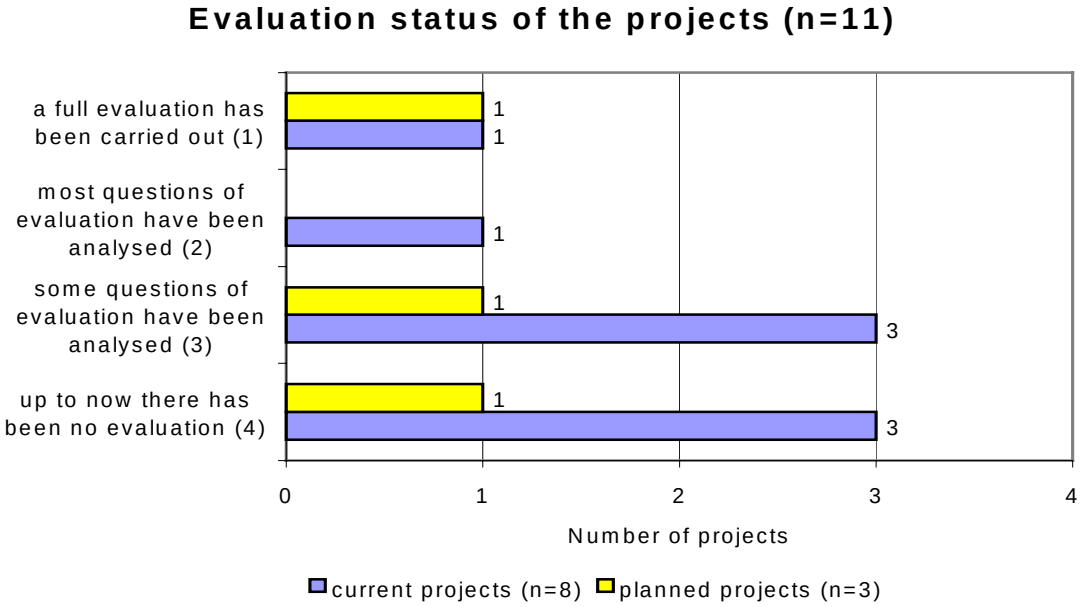


Figure 7 Evaluation status of the projects.

The graph shows that five out of eight current projects have analysed at least some questions of evaluation, but only two of them claim to have analysed "most questions" or to have carried out a full evaluation[27]. As for the four projects in planning stage the only relevant topic was the question of programme-planning evaluation. One of the projects has carried out a full evaluation, one project analysed some questions and one project did not tackle an evaluation of the planning stage. In terms of future plans, five out of eight current projects and all of the four upcoming projects are planning further evaluations.

3.7.2.1 Why were not more evaluations carried out?

All four projects that stated that there had not been an evaluation specify that a lack of financial respectively personnel resources were the reasons for this. Even two of the other projects, which have carried out an evaluation at least to some extent and, therefore, were not asked about lacking resources, crossed these categories of their own accord. Two other projects believed that an evaluation was not necessary.

[27] Originally we had provided the opportunity to answer this question separately for programme planning, process and outcome evaluation. Since the project representatives answered each category in the same way the graph is related to "evaluation in general". One project classified the evaluation of the programme planning with 3, the other two with 2. It was classified as a whole with 3.

3.7.2.2 Variables, indicators, methods

The projects were asked very precisely about variables, indicators and results concerning each specific activity (process evaluation) and each specific goal (outcome evaluation). This section was, however, filled in only by one project (*ChEck iT!*).

The conclusions one can draw from that fact remain ambiguous. We do not believe that this section was omitted because the projects did not evaluate their project at all. From personal communications we understand that most projects document certain data, which one could call "variables" or "indicators" and that these projects employ certain evaluation methods.

The problem with evaluation is that one needs a scientific background to describe "what one is doing" in terms of a scientific system of definitions. To that we add the fact that most of the projects lack financial and personnel resources. For a thorough discussion on this issue see chapter 3.7.3. (below).

3.7.2.3 Process evaluation

ChEck iT! specifies variables, indicators and methods concerning the activities "on-site testing", "on-site information talks" and "running a web page":

Table 8 Process evaluation: variables, indicators, and methods

Process evaluation concerning ...	Variables and indicators	Methods
On-site testing	• number of people reached • age and sex of the persons • number of analysed pills • several variables concerning pill description • does the person consume the pill before the testing result is ready? • questions about testing motivation, drug consumption and risk behaviour	• short interview with the persons concerning the pill (questionnaire)
On-site "information talks"	• number of people reached • age and sex of the persons • topics of information talks • problems that occur and suggestions for improvements	• *rapid documentation sheet* (a sheet that staff members can take with them to document contacts and topics of information talks easily)

Running a web page	• number of visitors • number of visitors participating in the "Talkbase" • number of personal questions transmitted through the net • assessments of the "quality" of personal questions	• webcounter

ChEck iT! highlights an area of conflict concerning process evaluation. On the one hand, process evaluation gets easier the more one knows and documents what is going on, on the other hand this objective meets serious restraints by the type of work the social workers and psychologists have to carry out at raves – only easy and quick documentation is possible in this specific setting. The challenge is to find the right balance.

3.7.2.4 Outcome evaluation

Concerning "special results and effects of the project", *ChEck iT!* points out that several instances of media coverage helped to transport risk-reduction messages and to support factual and realistic discussions on effects and dangers of psychoactive substances in the general population. *Eve & Rave Berlin* and *Eve & Rave Switzerland* point out that over the years, their continuous drug checking had the effect that the actual ingredients of tested pills corresponded more and more to the expected ones. Besides, the visitors' knowledge about risks and "safer use" increased and "self perception" of the scene was supported by their pill-testing activities.

Table 9 Outcome evaluation: variables, indicators, and methods

Outcome evaluation concerning the goals ...	Variables and indicators	Methods
"We do not want our clients to use especially dangerous or contaminated substances."	• number of persons who do not consume the substance after they are informed about dangerous ingredients • items in a questionnaire, that ask if one will use the substance if one knows that it contains dangerous ingredients	• questionnaire with factual and hypothetical questions
We want to collect data for scientific purposes (e.g. monitoring of substances, trends; epidemiological data about users)	• reports containing new information on consumers, substances and ingredients of pills	• documenting data about visitors and substances

3.7.3 Evaluation problems for pill-testing projects

Assessment of project processes and project goals are characteristics of professional projects and – in most cases – a prerequisite for public funding (e.g. for projects being subsidised by the EU or the EMCDDA). There are, however, a couple of reasons why up to now an evaluation culture in the field of drug checking has not been established.

Foremost, pill testing is a relatively new concept for the fields of public health or prevention, so there is hardly any knowledge or experience with useful and scientifically based evaluation instruments. Secondly, many organisations in the field of pill testing do not have financial resources and/or scientific know-how to design suitable evaluation instruments for pill-testing projects. Thirdly, this type of work meets serious methodological restraints both concerning process evaluation and even more so concerning outcome evaluation.

As already mentioned, process evaluation gets easier the more one knows and documents what is going on. However, when looking at the circumstances of working at raves, only easy and quick documentation is possible. Outcome evaluation is, from a methodological point of view, very difficult, if not impossible to design in this specific setting. Just to give an example: many projects see their visitors only once or twice, therefore it would be very tricky to find out whether the information the project participants give out finally leads to a more health-oriented consumption of illicit drugs in comparison with a group of people who did not receive that information.

Fourthly, again due to a lack of financial and personnel resources, it is difficult to carry out a scientifically-based evaluation project *as well as* pursuing the actual project goals.

It has to be concluded that up to now there is no "state of the art" concerning pill-testing evaluation. It has to be noted, furthermore, that there will not be an "evaluation culture" in this field as long as most of the projects report lack of financial and personnel resources.

3.7.4 Steps towards evaluation guidelines for pill-testing projects

The EMCDDA guidelines for the evaluation of drug prevention[28] are a suitable departure point for the evaluation of on-site pill-testing interventions, as they describe step by step the process of evaluation and questions one has to deal with. However, the guidelines proceed from a prevention measure with a defined starting and end point. This enables project designers to compare a beginning status with a well-defined end status.

For pill testing, the fields of evaluation are more varied. Here, persons that accept and consume services and activities of a particular project are often seen only once. It is, therefore, impossible to measure the effects of the project concerning individual persons. So the whole area of outcome evaluation meets serious restraints and up to now there has not been a thorough discussion about what should be done and is possible in the field of outcome evaluation.

The EMCDDA guidelines point out at which stage of the evaluation one has to deal with variables, indicators and methods, but they do not discuss the suitability of certain evaluation instruments and tools concerning prevention measures. We tried to fill in this gap, proceeding from the questionnaire. However, since the relevant questions were hardly ever answered – and because of a general lack of methodological scientific literature in the field of pill-testing interventions – we feel incapable of coming up with proposals for when to use which instruments.

To provide suitable instruments for the evaluation of pill-testing projects creative and thorough scientific discussions have to be held. We suggest starting with process evaluation as a first step because outcome evaluations seem to be very difficult, and because there are already some promising activities in terms of process evaluation. *ChEck iT!*, for example, describes variables and methods for "on-site pill testing", "on-site information talks" and "running a web page" and employing questionnaires, interviews, and documentation sheets. An external evaluation of "Pilot E"[29] describes similar methods and approaches and also deals with the topic of "giving out information material".

---

[28] EMCDDA (1998), *Guidelines for the evaluation of drug prevention. A manual for programme-planners and evaluators*. Lisbon: EMCDDA

[29] Thomas, Ralph (2000), *Evaluation Projekt "Pilot-e" der Stiftung Contact Bern*, Bern: Contact Bern. unpublished report.

[30] In 1991 Alexander Shulgin reports several deaths after the consumption of PMA (4-MA) that was sold as *chicken power*, *chicken yellow*, and MDA. In: Shulgin, Alexander & Ann Shulgin (1991), *PIHKAL. A chemical love story*. Berkeley: Transform Press; pp.707

[31] EMCDDA (1999), *Report on the risk assessment of MBDB in the framework of the joint action on new synthetic drugs*. Lisbon: EMCDDA; p.24 (suggestions made by the meeting on the risk assessment of MBDB concerning measures for improving the risk assessment of new synthetic drugs in the future)

3.8 Goals, plans, and future projects

To provide an overview of the directions in which pill-testing interventions are trying and planning to head, the projects were asked about future goals and plans.

3.8.1 Main topics

The main topics are:

- to improve pill-testing procedures
- to establish new services and activities
- to professionalise the project
- to work out new research studies and analysis
- to receive more funding
- to improve networking and international cooperation
- to influence and alter drug policy

3.8.2 Specific future goals and plans

3.8.2.1 Improvement of pill-testing procedures

- DIAM & CC analysis (Mission XBT)
- to improve the rapid availability of test results (modus vivendi)
- to set up a large database to make fewer GC-MS tests necessary (modus vivendi)
- to improve the availability of reference material for analysis by cooperation with other laboratories or coordinating organisations (modus vivendi)
- to build up a computer-based online determination system (DIMS)
- to introduce a system of good-testing practice (DIMS)

3.8.2.2 Establishing new services and activities

- to build up an information and counselling centre (*ChEck iT!*, Energy control)
- to set up a "safer-rave" project (*ChEck iT!*)
- to introduce a web page (Drogenhilfe Munster)
- to start a music project (Drogenhilfe Munster)
- to set up a "chill-out cafe" offering drug-information talks (Eclipse)
- to publish new information booklets (Energy control)

---

[32] All casualties seem to have consumed pills that presumably came from one particular laboratory in Poland. This assumption is supported by information from a couple of users as well as international criminal investigations. All pills had a very characteristic form – small and thick, with very unprofessional branding but different brands.

3.8.2.3 Professionalisation of the project

- to offer training courses in crisis intervention for first aid staff operating at raves (Eclipse)
- to carry out process evaluation more scientifically and to work out an additional questionnaire for people who do not allow their pills to be tested (Pilot E)
- improved staff training

3.8.2.4 New research studies and analysis

- cannabis analysis (Mission XBT)
- patients follow up (Mission XBT)
- to set up a pill-testing and monitoring project (Drogenhilfe Munster)

3.8.2.5 Efforts to get more funding

- to improve the practical and financial conditions of the project (Modus vivendi)
- to increase the duration of the project from one to three years and to have more capacity for counselling (Pilot E)
- to get more funding to be able to offer pill testing in other Austrian provinces as well and to be present more often at raves and clubs (*ChEck iT!*)
- to convince the government that our type of work is worth being financially supported (Eclipse)

3.8.2.6 Improvements in networking and cooperation

- to improve and expand the cooperation and integration with other organisations for prevention (e.g. sexual health, legal drugs, AIDS, gambling addiction) (Pilot E)
- to set up an international network (DIMS)

3.8.2.7 Influence and alter drug policy

- to convince the government, that drug checking (including the public availability of test results is one of the most important services contributing towards a safer life for drug users (Eclipse)
- to overcome drug prohibition (Eve & Rave Berlin)
- to support "Drogenmündigkeit" (Eve & Rave Berlin and Switzerland)
- to support an "accepting drug policy" (Eve & Rave Switzerland)

4 Conclusions

- Pill testing interventions are important measures to enter into contact with hard-to-reach populations and to raise their interest in preventive and harm reduction messages.

- On-site pill testing interventions should closely be linked to information provision with preventive and safer-use messages, through a wide range of information supports.

- Cooperation with local authorities and especially with the police is essential.

- Investment in high-quality analysis methods (quantitative and qualitative detection) which can be transported to the intervention sites is a relevant element.

- The information talks with potential consumers should not only focus on the substances but also on their consumption and related behaviours at raves and in clubs (legal, sexual, social aspects).

- Despite the lack of empirical data – for health systems in general and information and prevention projects in particular – it is crucial to know about new substances and consumption trends, otherwise there is a high risk of loosing credibility with well-informed users of psychoactive substances. Pill-testing projects can be an important source of information on new substances and consumption trends as they are in closest possible contact with the relevant scenes, more so than other organisations within the prevention system. They have, furthermore, an insight into most substances that are actually being consumed, and know who and where, in which manner, and why these substances are being consumed.

- Pill-testing interventions have to be part of a global strategy for prevention and harm reduction in recreational settings.

- By using the information from on-site pill-testing interventions, a national warning system could deepen its data pool in terms of social contexts: who are the people consuming these substances, how, where and why are they consuming these substances in this and that particular way and which information can be passed on to potential consumers in a meaningful and successful manner?

- Due to the lack and difficulties of evaluation, on one hand there is still no strict scientific proof for the protective impact of on-site pill testing interventions, but on the other hand there is also no scientific evidence to conclude that such interventions would rather

promote drug use or might be used by dealers for marketing purposes. Bringing together pieces of evidence is however often a first step for deciding on new intervention models.

- There is a need for more research and evaluation studies on the whole range of effects of on-site pill testing interventions. This appears to be a prerequisite in policy making when completing the range of strategies to respond to drug issues in recreational settings.

Table 11 Overview: EU pill-testing and monitoring projects

	CheCk iT! Vienna	DIMS Utrecht (stationary)	DROBS Hanover	EnergyControl Barcelona	Eve & Rave Berlin	Eve & Rave Switzerland	Mission XBT Paris	Pilot E Bern	Techno Plus Paris	DIMS Utrecht (on-site)	Drogenhilfe Munster	Eclipse Berlin	Modus Vivendi Brussels
Country	A	NL	D	E	D	CH	F	CH	F	NL	D	D	B
Status	running	running	running	running	running	running	running	running	running	planned	planned	planned	planned
Starting date	Apr.97	Jän.92	Aug.93	Jul.97	Okt.94	Dez.95	Jun.97	Sep-98 - Okt-99	1999	spring 2001	?	?	spring 2001
On-site tesing	yes	no	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Stationary testing	no	yes	yes	yes	yes	yes	yes	no	yes	no (running)	yes	yes	no
Annual Budget in Euro	145.000	507.000	-	50.000	15.000	25.000	380.000	71.000	400.000	-	-	-	-
Analytical procedure	HPLC	pill identification + quick-test, TLC, GC; GC-MS	pill identification + quick-test (Marquis)	colour reaction (on-site), GC (stationary)	on-site: pill identification + quick-test (Marquis) stationary: HPLC, GC, MS, capillar-electrophotesis	on-site: pill identification + quick-test (Marquis), HPLC, immuniological reaction	quick-test (Marquis), CCM, Merck Kit	HPLC	quick-test (Marquis), alert in case of dangerous pills (tested by SINTES-project)	pill identification + quick-test (Marquis)	-	GC	quick-test (Marquis), GC-MS
Average Analyses per event	70	-	30	75	40	30	-	7	40	-	-	-	-
Average Analyses per year	350	6000	234	1800	720	480	-	119	600	-	-	-	-
Expenses per analysis (Euro)	18	40	1,5	not much	5 (on-site) / 30 (stationary)	5	-	16	-	-	-	-	-
Time lapse before giving out results	25 min		few minutes	3 min	2 min	30 min	5 min (Marquis and Merck) / 30-120 min (CCM)	30	few minutes	-	-	-	-
Persons contacted per event	250	-	75	-	267	100	-	75	40	-	-	-	-
Persons contacted per year	1250	6000	375	>1800	4000	1100	-	1275	600	-	-	-	-
Production of information material	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	no
Distribution of information material	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Running a web-page	yes	no	yes	yes	yes	yes	yes	no	yes	no	yes	yes	no
Evaluation of programme planning	partially	yes	-	partially	no	no	partially	partially	no	-	yes	no	partially
Process-evaluation	partially	yes	-	partially	no	no	-	partially	no	-	-	-	-
Outcome-evaluation	partially	yes	-	partially	no	no	-	partially	no	-	-	-	-
Further evaluations planned	yes	-	no		no	yes	yes	no	yes	yes	yes	yes	yes

5 Annex

The following is a questionnaire from *ChEck iT!* being used to evaluate the impact of drug checking for harm reduction and safer use.

DrugcheckingEvaluation *ChEck iT!*

date..... time..... ☐ female ☐ male .....age

How did you get to know about *today's* project?

When did you buy the tested substance?

Why did you test your substance?

.....

same question: Which of the following possibilities is the one with which you can agree best? (one answer only).

☐ worries about my health / health of my friends

concerning your substance, what does "physically dangerous" mean for you?

.....

☐ worries about quality / purity

what does "quality / purity" mean for you?

.....

☐ pure curiosity about the content

☐ explanation about effects to be expected

which effects are you looking for?

.....

What did you consume within the last 6 hours? How much?

☐ alcohol	.....
☐ cannabis	.....joints
☐ ecstasy	.....pills
☐ speed	.....pills / lines
☐ cocaine	.....lines
☐ lsd	.....trips
☐	.....

What do you think you are still going to consume tonight? How much?

☐ alcohol	.....
☐ cannabis	.....joints
☐ ecstasy	.....pills
☐ speed	.....pills / lines
☐ cocaine	.....lines
☐ lsd	.....trips
☐	.....

Do you think the result of the test is going to influence your choice in taking the substance and the quantity?

☐ yes
☐ no
☐ don't know

What should your sample contain in order to satisfy you?

kind of substance:.....
amount of respective substance:.....

What are you going to do, if you are satisfied with your substance?

.....

I consume it surely more likely unlikely definitely not

How much?.....

I buy more of it surely more likely unlikely definitely not

What are you going to do if you are not satisfied with the substance?

.....

I consume it surely more likely unlikely definitely not

How much?.....

I warn friends surely more likely unlikely definitely not

I buy more of it surely more likely unlikely definitely not

I get back to my dealer surely more likely unlikely definitely not

I change my dealer surely more likely unlikely definitely not

I throw the substance away surely more likely unlikely definitely not

I sell it to somebody else surely more likely unlikely definitely not

If there is no possibility to test your substance, how do you usually proceed? (one answer only)

☐
.....
☐ I just consume it
☐ I ask friends
☐ I ask the dealer
☐ I just take a little bit and wait for the effects

How often have you been testing with *ChEck iT!* ?
.....

If the possibility is provided, are you going to test again?

☐ yes
☐ no Why?
.....
☐ don't know

Are you going to tell friends about our service?

☐ yes
☐ no
☐ don't know

Would you make use of the service if you had to pay for the analysis?

☐ yes How much?.....
☐ no
☐ don't know

Do you prefer consuming Ecstasy or Speed?
(Imagine: the analysis of your *ecstasy / speed* shows one of the following results)

Ecstasy pill

- it contains 110mg MDMA. What are you going to do?
- it contains 30mg MDMA. What are you going to do?
- it contains 30mg *Speed*. What are you going to do?
- it contains 110mg MDMA and some "Chinidin".
  What are you going to do?
- it contains 30mg MDMA and some "Chinidin".
  What are you going to do?
- it only contains physically harmless filling substances.
  What are you going to do?

Speed pill

- it contains 50mg Speed. What are you going to do?
- it contains 15mg Speed. What are you going to do?
- it contains 70mg *MDMA*. What are you going to do?
- it contains 50mg Speed and some "Chinidin".
  What are you going to do?
- it contains 15mg Speed and some "Chinidin".
  What are you going to do?
- it only contains physically harmless filling substances.
  What are you going to do?

Have you taken "Ketamine" yet?

☐ yes
☐ no
☐ I don’t know

Have you taken "GHB" yet?

☐ yes
☐ no
☐ I don’t know