European Monitoring Centre
for Drugs and Drug Addiction

2006 EU expert meetings (10-13 October) on Key Indicators 'Drug Related Infectious Diseases' and 'Problem Drug Use'

Final Meeting Report

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Author • Auteur

Lucas Wiessing, Danica Klempova

Recipients • Destinataires

EMCDDA expert networks on DRID and PDU

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Summary

DRID meeting

- Minimum reporting requirements as formulated in 2001 should be updated and if possible be more strongly formulated (see ST9, General Instructions)
- Draft DRID protocol needs to be finalised, however this requires decisions on recall periods, case definitions and some other issues to be taken which will require member states to agree (see also ST9)
- Few data have been received for the ST9 behavioural sheet, more time is needed to arrive at a final version. Countries are kindly requested to provide behavioural data if available.
- The HCV laboratory surveillance pilot project will be continued in order to obtain more data, all countries, especially those who agreed to participate in 2005, are kindly requested to provide data.
- The draft literature review on Protective Factors for HIV infection in IDUs was presented and will be finalised, comments and suggestions for additional literature would be accepted until 15 November 2006.
- A French initiative was presented for a European project to monitor users of low-threshold services, including testing for blood-borne infections.
- A working group of modellers has been formed around the EU action plan initiative 'HIV protective factors in low prevalence countries'. Analyses will be carried out on HIV and HCV in IDUs and including high prevalence countries.
- Some of the most frequently cited evidence of harm reduction effectiveness was challenged by a Norwegian expert. An expert from the Netherlands provided evidence for a strong effectiveness of combined use of methadone and needle exchange regarding HIV and HCV incidence.
- Different new methods for identifying recent HIV infections are being developed. The methods are being compared in a field trial led by EuroHIV.

PDU meeting

- Countries agreed on the need to strengthen capacity and quality of the PDU indicator. The EMCDDA should put forward stronger minimum requirements regarding PDU.
- Standard Tables 7&8 will be slightly updated with few new items that should result in a better understanding of the estimates.
- Most countries are OK with the EMCDDA definition of PDU, although it is not ideal the specific workshops could not come up with improvements. Some countries include other drugs (e.g. cannabis) – this has to be dealt with regard to comparability of PDU estimates.
- Multiple (poly) drug use needs to be addressed by better data collection on the specific drugs involved and including collecting data on frequencies of use and of drug-related problems.
- IDU estimates were seen as an important area to be strengthened. Recommendations were made regarding how to do this.

- There is a need for separate estimates of stimulant use within the EMCDDA definition of PDU (i.e. cocaine, crack, amphetamines). Studies, both quantitative and qualitative, should be encouraged.
- The number of recommended methods for PDU estimation can currently not yet be reduced, given the difficulty in producing estimates.
- In at least one country the PDU estimates are not developing because they are seen as a political risk. PDU experts in some cases feel isolated.
- Countries are invited to participate in the incidence working group and to stimulate more work on incidence estimates at the national or local level. The existing incidence guidelines are being updated.
- There is interest in more focused work on legislation and data protection issues that currently prevent work on the indicator to proceed in some countries. The Finnish expert is currently working on guidelines for data protection that might serve as an example for other countries.
- Geographic information systems (GIS) can be useful to represent and analyse drug use indicators. For this a more rigorous approach to geographic coding is needed.
- Waste water can be monitored for concentrations of metabolites of cocaine and other drugs. This is a highly promising method for aggregate monitoring of drug use in large population centres.

Detailed reports

Expert meeting on drug-related infectious diseases

Day 1

State of the key indicator drug-related infectious diseases – Lucas Wiessing
Overall data availability and quality is getting better, however key items are still often missing e.g. prevalence data for young and new injectors. Comparability needs still to be improved. For this end the 'minimum reporting requirements' as adopted in 2001 will be reviewed. Also, the DRID protocol is being developed that includes behavioural items and gives more guidance on primary data collection than the existing draft guidelines and standard table 9 (ST9). Several other projects will be discussed in the meeting including laboratory surveillance of HCV tests in young people, the HIV protective factors project, a French initiative for a sero-survey in low-threshold services (needle and syringe programmes).

Update on data quality and the 2005 data reporting to the EMCDDA – Sandrine Sleiman
An ongoing systematic quality assurance system is being developed through all EMCDDA data collection projects and focusing on compliance with guidelines and reliability of data. Both EMCDDA and focal points spend much effort in clarifying mistakes which can often be avoided. Commonly observed problems regarding the quantitative data (reported in the standard tables): 32% of all queries are related to missing values, errors of calculation, not understandable data, wrong data reported and/or reported in the wrong place. Regarding the qualitative information (reported in the national reports): 46% of all queries are related to clarifications of provided data, abbreviations used being unclear, using unclear terms/definitions, missing references, methodological info provided but unclear. Before submitting data these should be double checked on a number of points in order to avoid much extra work.

Progress on the EMCDDA DRID protocol – Katerina Kontogeorgiou
History of the project: The draft protocol and the overview of items were first presented at 2005 expert meeting. Experts replied with comments, the vast majority concerning the item list only. The comments were incorporated and the Protocol, and final item list, were sent to the EMCDDA. The ST9 was updated in December to include the core items. The EMCDDA commented on the Protocol and the item list and a further update followed which resulted in the current version of the Protocol, the overview of core and optional items and the full example questionnaire (available from the EMCDDA). Main issues to focus on are: recall periods for recent or current behaviour (last month, 6 months, 1 year), case definition in routine diagnostic settings, prevalence and/or incidence, section on Infectious Diseases Testing, section on items for imprisoned IDUs (take from ENDIPP), definition of treatment, anti-HBc (total) ≠ anti-HBc (IgM) and same for HAV, the item list, particularly agreement on and definition of core items.

Short comment on comparison with CODAR protocol – Maria Jose Bravo
The Codar protocol (in Spanish) is being developed by PAHO/WHO to improve comparability of sero-behavioural surveys in Latin America. It consists of three parts: a) designing the survey, adapting the questionnaire and choosing the indicators, b) interviewer's manual, c) questionnaire. Basic recruitment criteria are: age 15 – 49 AND [to be a current injector (to have injected drugs in the last 6 months) OR to be a regular drug user (to have used crack/base, pasta base of cocaine, amphetamine, methamphetamine, opiates at least 25 days in the last 6 months)]. A detailed comparison of the core items in the CODAR protocol and the ST9 was presented. It showed that at present there is a medium-high compatibility between the EMCDDA and PAHO tools. The current stage of both tools (EMCDDA and PAHO) suggests that a joint work should be developed. An effort to harmonise some of the indicators should be made in both protocols

Data received by 30 September on behavioural sheet in ST9 – Danica Klempova
So far 28 behavioural data sheets were received totalling data from 7 countries (EL, FR, LT, LU, LV, PO, UK) Data have not been cleaned yet, but in 27 cases also the corresponding Methods sheet and even Results (corresponding HIV/HCV/HBV prevalence data) sheet were provided. Various questions have been answered in various ways suggesting problems in comparability.

Short comment on using the new version ST9 behavioural sheet – Vivian Hope
The new sheet has been used with data from Glasgow (recall period usually 6 months) and from England and Wales (recall period usually 28 days). Main problems: methadone maintenance is asked as 'currently' and combined with detox, it is not possible to obtain those tested in last 12 months but only those tested in current or previous calendar year, injecting frequency is asked in categories and a mean can thus not be provided. Suggestions for ST9 could be to ask categories as sample proportions rather than as numbers, to ask median instead of mean in case of a skewed distribution.

Comparison of last month and 6 month recall periods in low-threshold service data in Switzerland – Françoise Dubois-Arber
Behavioural surveillance data was presented from drug users attending low threshold facilities (LTFs) with needle exchange programmes in Switzerland (1993-2006). Methods: Cross-sectional survey (1993, 1994, 1996, 2000, 2006), Attendees of all LTFs with NEP (= harm reduction as the main activity), systematic recruitment during five days, one to three trained interviewers in each LTF, recording of the number and characteristics of those refusing (sex, estimated age, reason for refusal). In case of existing local study at the same time: agreements on core questions and data collection. Questionnaire with items on socio-demographic characteristics, consumption, risk behaviour and protection, health and perceived health, history of testing and reported result of the test (HIV and hepatitis B and C), previous history of overdose. Selected results: prevalence of recent injecting was 56% based on last 6 months and 51% based on last month recall period (n=1083). Recall periods: comparison between 6 months and 1 month: Erratic proportion of reports on 1 month versus 6 months period: from 56% (injecting with used syringe) to 100% (sharing of cotton); no rule for conversion between 1 and 6 months. In case of (expected) decreasing prevalence of the risk measured, small samples when using the 1 month recall

period, also resulting in limited options for (multivariate) analysis. Conclusion, main trends: Age: up, Social dependance: up, Consumption: heroin down, cocaine up, Injection : current down, new injectors down, Majority on treatment, Risk / injection: low and stable, Risk injection preparation : down, Risk / sexual : good and stable protection with occasional partners and clients, insufficient protection with steady partner, Reported prevalence : HIV stable, HCV stable or down.

Discussion

a) 2005 Meetings report
The Netherlands delegate representative noted an inaccuracy in the report. It was agreed to circulate a new version after the meeting.

b) The DRID protocol
The near-final draft version of the DRID protocol was presented and well received by the participants. Agreement on a standard recall period seemed still not possible and the EMCDDA will continue to accept data based on different recall periods. Definitions of 'treatment' and 'prisons' will be taken from existing work on the EMCDDA treatment demand indicator and WHO health in prisons project (WHO to provide). 'aHBc' means total core antibodies and not only IgM-ab. The section on testing is too technical for the protocol and should be limited to only practical issues e.g. blood or saliva sampling, transport, storage etc. In routine diagnostic testing monitoring, 'prevalence' can be measured in all treated IDUs, in those entering treatment or in those entering their first treatment. The first option is problematic because not all people are being tested especially the known positives are not retested. The second option seems better but is not a real prevalence. Another option is carrying out a weighted sampling from the three groups and testing the whole sample. Sampling methods should be further developed. Further comments are still welcome.

c) New voluntary behavioural sheet in ST9
Behavioural data will be still accepted until 15 November 2006. The behavioural sheet will be updated according to countries' suggestions and results of the voluntary pilot data collection. The selection of core items was well received although some few improvements are needed and will be carried out by the EMCDDA.

d) Updating the minimum reporting standards for DRID
Minimum reporting standards as agreed in 2001 were again presented and there was agreement on the need for 'stronger requirements'. The changes would be mainly to change 'collect existing data…' into 'implement national prevalence monitoring in drug treatment, low threshold services and prisons' (prisons were seen as an important setting); to keep HIV and HCV as minimum viruses reported; to specify the importance of also reporting local data series (but the number of these per country should remain limited). Stronger requirements from the EMCDDA were seen as potentially very helpful for national implementation and stronger commitment from governments. Some elements could be 'stronger' (e.g. the need to implement routine national monitoring) and others 'softer' (e.g.

the importance of holding additional surveys in special problem areas). Care should be taken that countries currently already not being able to comply would not get further behind. Exact wording will be circulated for comments before implementation.

Pilot project on HCV data collection from public health laboratories – Fortune Ncube

Data have been received from only two countries despite that about 10 had indicated earlier being able and willing to provide data. Countries that may still send data are urged to contact as soon as possible Fortune Ncube <fortune.ncube@hpa.org.uk>. The data available suggested potentially important differences in HCV incidence trends and patterns between two countries in the EU (the countries were not specified). However data problems (e.g. underreporting of IDU risk) may be large and should be better understood. The project is seen as important and may still develop even if more slowly than anticipated.

European Low-threshold and Harm reduction agencies Users Reporting System – Agnès Cadet-Taïrou

A French initiative was presented for a European project to monitor users of low-threshold services, including testing for blood-borne infections. Currently participating are France, Norway and Ireland plus the Correlation harm reduction network. Other countries are invited to participate. Funding will be sought from the European Commission which may contribute up to 50% of the costs. Further details are still to be developed for example regarding the comparability of agencies in different countries and the exact target group of clients.

A French initiative was presented for a European project to conduct a survey of clients of low-threshold agencies. The project originated from the work on harm reduction monitoring, conducted in the framework of the joint EMCDDA-Correlation expert group, where an inventory for agencies that provide a needle and syringe programme (organisation, structure, range of service provision) is being developed. The client survey shall include questions on client characteristics, patterns of service use and of risk behaviour and shall be combined with anonymous screening for viral infections. Funding will be sought from the European Commission which may contribute up to 50% of the costs. Further details are still to be developed for example regarding sampling strategy. The EMCDDA will accompany the project as member of the steering committee. Several countries expressed their interested in the project, including Austria, Poland, Lithuania, Portugal, Hungary and Ireland. Other countries are invited to participate.

(see also abstract 1)

EU policy agenda on drug-related infectious diseases – Danilo Ballotta

Current situation according to EMCDDA data: new rises in some countries or subgroups; UNAIDS : ‘now threat of a new epidemic’ , Parts of Europe very low prevalence (UK, FI, CZ, AT), Parts of Europe (Russia, Baltic states) have the fastest rate of new HIV/AIDS cases in the world, Prevention services are not

growing at the same rate, Access to harm reduction programmes uneven throughout the EU. EU policy guidelines: a) EC Working Paper: "Coordinated and Integrated Approach to Combat HIV/AIDS in the European Union and in its Neighbourhood" (2004), b) COM "Combating HIV/AIDS within the European Union and in the neighbouring countries, 2006-2009" (12/2005). Concrete steps are: EUR 1.2 billion in the fight against HIV/AIDS, malaria, TB (2003-2006), EUR 50 Million per year on research on HIV (Framework Programme (FP)6) FP7?), Eurohiv (since 1984), Think Tank on HIV/AIDS in Europe (Sanco) (Since 2004), HIV/AIDS Civil Society Forum (2005), The ECDC (2004). In the field of drugs: EU drug strategy 2005-2012, priority is improvement of access to services for the prevention and treatment of HIV/AIDS, hepatitis, other infections diseases, and the EU drugs action plan 2005-2008 which invites MS to ensure the implementation of national and/or regional programmes on HIV/AIDS, hepatitis C, other blood born diseases, into general health care. A recent progress review concluded that a large majority of EU countries (18) identify prevention of infectious diseases among drug users a priority, and that prevention of hepatitis C was mentioned in 1/3 of MS, however access for PDU into general health services remains limited in many countries. Some recent developments: a) release of the Eurobarometer on HIV/AIDS (2 October 2006) b) EU-Russia Expert Meeting on Drugs and Drug Addiction, 12-14 November, 2006, Warsaw; c) HIV/AIDS Conference, Bremen on 12-13 March 2007, German presidency of the EU d) The release of the 7 FP (DG Research) 2007-2013 e) The new health programme (DG Sanco) 2007-2013 f) The drugs prevention and information programme (2007-2013 EUR 21 Million) (DG JLS).

ECDC plans regarding HIV, STIs and hepatic infections – Magid Herida

An outline for the ECDC workplan for HIV/STI/Hepatitis was presented. The European Centre for Disease Prevention and Control (ECDC) is a New EU Agency, based in Stockholm, Sweden. Operational since May 2005, covering Member states EU25 plus EEA countries. ECDC is building up its HIV/STI/BBV programme, which includes consultation and ongoing communication with the Commission, WHO-EURO, EMCDDA, DSN…, meetings of ECDC Advisory Forum (AF) 2 x, constitution of a sub-group of ECDC Advisory Forum on HIV/STI, a survey on national HIV prevention strategies, activities and indicators and a workshop on HIV prevention in Europe. The Advisory Forum recommended that ECDC should focus on HIV prevention, while at the same time take over the responsibility for surveillance

The prevention of HIV and STI should be integrated with a focus first on few, good, priority projects in three priority areas: New approaches for prevention among MSM, Strengthen HIV prevention in the Baltic States, Increasing uptake of voluntary testing. At the HIV prevention workshop in Stockholm on 2-3 October 2006 the results of the survey were presented, which included a new priority area, namely HIV prevention among migrants, as well as the recommendation to develop a list of few but good prevention indicators for the EU countries. Regarding HIV surveillance: Harmonisation and standardisation of the HIV surveillance to allow comparability, Evaluation of EuroHIV and integration of the activities at the end 2007, and Specific activities: a) Promote the use of serological tests for recent infections b) Comparability of the tests (study on going) c) HIV incidence (long term basis) d) Antiretroviral drug resistance e) HIV mortality f) Behavioural surveillance. Regarding STI activities, these will be done

in close collaboration with the ESSTI network: Development of STI database (sentinel and enhanced surveillance), Production of EU guidelines on the management of outbreaks of acute STIs, Development of an alert system for detection of unexpected events, Review of HPV vaccine policies (VPD/HIV-STI). Regarding Hepatitis: Programme under development, No surveillance network at the European level, Review of past activities (Hepnet..), Define: the objectives, population under surveillance, the set of variables, the methods for different objectives and subgroups, future collaboration with EMCDDA (regarding IDU).

HCV, HBV and HIV seroprevalence study in a sample of drug users in treatment centres or prisons in Belgium, 2004-2005 – presented by Marc Roelands

See abstract 2.

Prevalence and spreading of viral hepatitis A,B,C and of HIV in the population of problematic users of illicitly acquired drugs. Early detection, vaccination against HAV and HBV, referral and reduction of risks and damages – Nathalie Removille, Alain Origer.

See abstract 3

Day 2

First results of the literature review on protective factors for HIV infection among injecting drug users – Markus Backmund

A first draft of the literature review was presented. The version distributed for the meeting had already been updated and will be made available again after the meeting. Further comments, references, articles, abstracts are still accepted until 15 November. In the discussion several important methodological suggestions were made that will be taken into account as far as possible. These included separating studies by design strength (ecological, prevalence, incidence), showing effect sizes (e.g. in tables), separating genetic factors into host infectivity factors, host susceptibility factors and viral factors, better specifying in/exclusion criteria, simplifying the structure to reduce overlap between sections and perhaps trying to analyse potential publication bias (funnel plots).

Mathematical and statistical models for analyses of protective factors for HIV infection among injecting drug users – Mirjam Kretzschmar

The second part of the Protective factors project consists of a set of preliminary mathematical and statistical modelling analyses on protective factors for HIV infection in IDUs. A working group of modelling experts presented a work plan and possible modelling approaches. The main question is to understand the differences in HIV prevalence between Western, Central and Eastern European countries. Initial example approaches presented included: 1) Analysis of 'spatial bridges' (individuals who may import a disease into a community via travelling) using data base linkage. 2) Modelling HCV spread in a cohort of IDUs with behavioural data and looking at the potential effects of interventions that result in

reduced needle sharing. 3) Modelling the potential effects of reinfection and partial immunity against HCV in IDUs including possible threshold effects that result in different stable endemic disease levels despite similar contact patterns and risk behaviour. 4) The potential use of multi-level modelling that can include both individual level and aggregate data within the same model and that could be applied to integrate existing aggregate monitoring data at the EMCDDA with individual data from studies. Final decisions on the analyses to be developed will be taken as soon as possible and five draft analysis papers plus a conceptual framework paper are planned to be available by end of March 2007 for discussion at a special workshop of this modelling project. Countries (both with high and low prevalence) will be requested for specific data if necessary or are otherwise invited to contribute with suggestions and/or national analyses (especially the countries that by end of 2005 expressed interest in participating in this project). The Swedish representative will investigate possibilities for funding data linkage analyses in a small group of countries – some countries stated such analyses are possible due to the existence of unique identifiers that permit linking databases. A concise document will be prepared summarising basic rules for any use and sharing of data and where possible referring to existing similar documents.

See also abstract 4.

Modelling the impact on Hepatitis C transmission of reducing syringe sharing in London Peter Vickerman, Matthew Hickman

See abstract 5.

The effect of reinfection on the epidemiology of Hepatitis C - Nico Stollenwerk

See abstract 6

Using population data bases to study the spread of STI in different regions - Monica K Nordvik

See abstract 7

Multilevel models: a tool to analyse contextual and individual variables jointly - Rafael Mikolajczyk

See abstract 8

Injecting drug users who fully participate in harm reduction programs are at decreased risk for HIV and HCV, evidence from the Amsterdam Cohort Studies - presented by Maria Prins

A presentation from the Amsterdam cohort studies showed that neither participating in only in methadone substitution or only in needle exchange resulted in decreased incidence of HIV or HCV, however the combination of both interventions showed a very strong protective effect. This is in line with other (e.g. modelling) studies that suggest that the combination of different harm reduction measures is very important as well as possibly explaining the negative results from some previous studies that attempted unsuccessfully to isolate the effects of the individual interventions on HIV or HCV incidence in IDUs.

See also abstract 9

Effectiveness of needle exchange, a closer look at the existing evidence - Ellen J. Amundsen

Ellen J. Amundsen criticised some of the key studies referenced in most of the harm reduction literature and suggested the need for a reanalysis of the ecological studies that have looked at effect of needle exchange on HIV prevalence and incidence taking into account the stage of the epidemic (most data points with no needle exchange were in the 1980s when HIV was rising anyway and most data points with needle exchange were in the 1990s when HIV was declining anyway in most parts of the world). Also a recent WHO review of needle exchange effectiveness would contain some misclassifications of studies into the category of positive findings on HIV incidence or prevalence. In the presentation it was concluded that NSPs have perhaps been too much regarded as the single superior intervention but that this still does not mean that NSPs do not work. In the discussion that followed there seemed to be consensus that critically looking at the available evidence and correcting any mistakes is important for moving forward but that care should be taken that this would not lead to misinterpretations and reducing support for NSPs. The evidence according to the WHO review that NSPs do reduce risk behaviour was not discussed. Further work is needed to clarify effectiveness in the context of other (simultaneous) interventions, including information on quality and implementation, and taking better account of potential confounding factors.

See also abstract 10

New methods for measuring incidence of HIV infection

Presentations from Germany and Portugal were given regarding the Avidity Test, one of a set of methods that can identify recent infections among the HIV positive infections and which depending on study design may yield estimates and analyses of incidence. The test is cheap and may be applied routinely even on dried blood spots however there are some problems with its reliability (the German comparison with cohort study seroconversion data showed a sensitivity of 77% and specificity of 80%, results for a second method (BED-CEIA) were slightly but not statistically significantly better with 82% and 85% respectively).

Application of the methods in Berlin had resulted in identifying 47% of cases among newly diagnosed patients as recent infections – higher than reported from other countries (around 30% in France and Austria). The Portuguese presentation illustrated that the method is very sensitive to the choice of cut-off point as in a 2001 Lisbon study changing the cut-off value from 0.9 to 0.8 changed the resulting incidence estimates from 7.2% to 2.2% per annum. Important analyses are possible showing that in Lisbon recent infections are associated with non-Caucasian ethnicity, not asking for treatment and current HBV infection but not associated with ever injection or syringe sharing thus suggesting sexual transmission. The Finnish representative noted that in Finland the avidity test seems to work well on different viral subtypes. In general the method and other similar approaches seem very promising but they seem to have to be regarded still as in development. The different methods are currently being compared in a field trial led by EuroHIV.

Human Immunodeficiency Virus type 1 seroincidence estimate among a group of drug users: a new approach – presented by Helena Cortes Martins

See also abstract 11

Expert meeting on problem drug use

Intro, guidelines, protocol, implementation

a) General introduction and discussion

In the introduction it was summarised that implementation of the EMCDDA indicator has progressed much but is still not satisfactory, with 20 out of 29 countries providing a national PDU estimate between 2000 and 2004, only 13 countries providing sub-national estimates of PDU, only 10 countries providing a national IDU estimate and only 5 countries providing a separate national estimate for problem stimulants use (However: 1. breakdown by main drug has been requested only recently and 2. the EMCDDA country range has greatly expanded recently, many of the 29 current countries were not Reitox members in 2000 therefore this picture is expected to improve soon). Current issues are a) to strengthen capacity and investment on the indicator b) develop better estimates for problem stimulants use, injecting drug use c) try to reach a conclusion on the revision of the EMCDDA PDU definition d) try to reduce the number of recommended methods e) decide how to deal with poly-problematic drug use. Minimum requirements might be formulated similar to those in the DRID indicator, these could be 1) to provide both national and sub-national estimates 2) provide estimates every three years at least, annually at best 3) provide estimates for total PDU, IDU, problem opioid use and problem stimulants use 4) provide estimates of incidence 5) stimulate additional local field studies of problem drug use 6) convene the national expert group at least annually

In the discussion interest arose for more focused work on legislation and data protection issues that currently prevent work on the indicator to proceed in some countries. The Finnish expert is currently working on guidelines for data protection that might serve as an example for other countries. It was felt that the EMCDDA should put stronger (minimum) requirements forward to the countries as this would help (to convince) policy makers to make resources available.
It was decided that reducing the number of recommended methods is not useful at present as countries are struggling to provide estimates and the availability of different methods is important to arrive at estimates as well as allowing cross-validation. It was mentioned that in at least one country the work is not a political priority because the resulting estimates form a political problem – this might explain why some countries are very slow in updating old estimates. It was felt that more guidance should be given to national experts who in some cases feel isolated and that the estimation work should become more strongly embedded in a monitoring system rather than remaining dependent on studies with ad hoc funding. Focal points in some cases need support to convince data holders that improvement of registries (TDI, police data) is a European standard and not only serves the focal point, perhaps an EU seminar on the topic might help. It was suggested that joint ownership of the results and developing trust in relationships among national experts and data holders are essential and might be achieved through the national expert group.
There was some discussion regarding the EMCDDA recommendation to use capture-recapture (CR) for sub-national (local) level estimates however it was concluded that multi-sample CR is indeed the best method and probably superior

to e.g. multiplier methods, provided that data registries and matching of individuals are of good quality. It was suggested that the current breakdown of 'current' and 'ever' IDUs should be expanded to 'current IDUs', 'ever IDUs among current PDUs', 'all ever IDUs in the general population' (each category including the previous one) and that estimates should be provided for all three categories.

b) Update of ST 7 and ST 8

The EMCDDA data collection instruments for problem drug use estimates ST7 and ST8 will be slightly updated by inclusion of few new items that should result in a better understanding of the estimates. It was agreed that asking sample sizes of the different data sources and overall multiplier and perhaps number of known points in the MIM would be useful but that there was no good reason for changing the current age breakdown. There was discussion if the multipliers and sample sizes could be misused but it was then concluded that they are not different from any other methodological information (e.g. sample size, setting in the DRID data) and there should be no problem in publishing them. IDU should be asked for three different groups: current IDUs, ever IDUs among current PDUs, ever IDUs in the general population.

c) Data quality control

The general EMCDDA data quality control system was presented including overviews of the total numbers of emails exchanged with countries and main problems encountered. The EMCDDA deals with a vast amount of information and keeping deadlines and standards is essential to reduce workload both at the focal point and at the EMCDDA. National reports are in general good in terms of providing sufficient detail and clarity of understanding, they are important as a background for the quantitative data provided in the standard reporting tables (STs). Most common problems in the STs relate to insufficient checking of consistency and completeness, not providing complete bibliographic references (they are important even in the case of unpublished data). Most of such problems can be avoided by careful (double) checking of data at the focal point before submission to the EMCDDA.

Methodological aspects of recent UK studies - Gordon Hay
See abstract 12

Problem drug use in Croatia - Marina Kuzman
See abstract 13

Recent estimation of IDU prevalence in Estonia – Kristiina Rajaleid
Kristiina Rajaleid presented an estimation of injection drug use prevalence using state wide administrative data sources in Estonia, 2004. The 1st HIV positive person in Estonia was reported 1988. The reported incidence rate and prevalence of HIV (1.1%) is largest in the European region. The epidemic is in large part due to injection drug use. Between 2002 and 2004 the proportion under age 24 among new cases has declined, the proportion of female cases

strongly increased, and the proportion of new cases living in the region Ida-Virumaa has strongly declined. The current study is the first attempt at deriving estimates for IDU using multi-sample capture-recapture approach. An expert panel of key professionals held by the Estonian Foundation for the Prevention of Drug Addiction rendered an estimated number of 12 000 - 15 000 IDU-s. In a study conducted in 2003, using the multiplier and the direct two-sample capture-recapture method was considered; the methodology and techniques used did not provide reliable estimations of IDU population due to the lack of solid datasets, inconsistency of definitions and time frames. The aim of the present study was to a) evaluate the feasibility of IDU prevalence estimation based on routine nation/state wide data sources using the capture-recapture methodology, and b) provide estimates of IDU prevalence in Estonia in 2004. Capture recapture methodology was used with the following data sources: overdose cases and drug treatment data from the Estonian Health Insurance Fund, police arrest data (unlawful acquisition of small quantities of narcotic drugs) and HIV positive test results recorded among IDUs from the State Reference Laboratory of HIV-diagnostics. Data sources were matched, using a) initial of family name b) initial of first name c) gender d) full date of birth. Data were used for the year 2004 and for ages 15-44. Population prevalence was calculated using the official population as denominators. 6,704 records were identified as IDU from the four data sources - Police (N=5311) - EHIF drug treatment (N=1083) - EHIF overdose (N=216) - State HIV reference laboratory (N=94). Reasons for exclusion were - full identification information not available (N=176) - age outside the range 15-44 (N=208) - multiple records for an ID within one data base (N=3056). 3024 unique IDs were left after matching: - Police arrest data on individuals arrested for the possession of illegal drugs in small quantities (N= 2716) - EHIF drug treatment abstraction (N=360) - EHIF overdose data abstraction (N=111) - HIV positive test results recorded at the State HIV reference laboratory (N=85). 223 (7.37%) IDU were matched in more than one data source, 4 (0.13%) were matched in all four data sources, 2414 (93.13%) males and 387 (89.58%) females were present in only one data source. Main results: in the whole country there are an estimated 13 886 (8 132 - 34 443) IDUs or 2.4% (1.4 - 5.9%) of the population. On the basis of our IDU estimates, there are potentially 7 486 (4 392 – 18 575) HIV infections associated with IDU, representing 1.3% (0.8-3.2%) of the population aged 15-44 in Estonia. Conclusions: this is the first attempt at deriving estimates for Estonia using multi-sample capture-recapture approach. The number of IDUs identified on all four datasets was relatively small, compared to the resultant prevalence estimates. Estimates of the unobserved population are very sensitive to the number of overlaps, and consequently the potential for bias is great. However, police, EHIF and HIV reference laboratory records are reliable sources with high quality identifier information. Several possible entry points provide preferential access to one subset of IDUs as compared to another. A significant proportion of IDUs (54.7%) have virtually no chance at all to end up in the EHIF drug treatment dataset, as they are not covered by the health insurance. However, the chance of IDUs ending up in the EHIF ‘overdose’ dataset might be equally distributed. The estimate provided was in line with the estimate provided by the panel of experts in the country and estimates from the neighbouring countries experiencing similar societal and economic challenges.

Updated capture-recapture estimate for Austria – Martin Busch

Martin Busch presented the prevalence of problem opiate use and polydrug use including opiates in Austria 1999 – 2004. Activities in 2005/06 included a) a 2-sample capture-recapture estimates (CRC) based on opiate related police notifications and substitution treatment data, b) 3-Sample CRC based on opiate related police notifications and substitution treatment data and direct drug related deaths (opiates involved) c) Additional study concerning data quality of the substitution treatment database (investigation of „ghost cases" i.e. cases that may already have left treatment long ago but have never been deleted from the files), and d) developing corrected estimates using the results of c. All raw data show strong increases since 1998 or even before. The 2-sample CRC shows also a strong increase over time, however two errors may be involved 1) there is no notification of the start of substitution treatment (around 70 % of persons in substitution treatment are included in the database – regional differences), this does not bias CRC-estimates and 2) the start is notified but the end is not notified = cummulative ghost case error – leads to biased CRC overestimation. The study on ghost cases consisted of stratified (duration of substitution treatment) random sampling of 600 substitution clients from overall 6354 persons registered to be in substitution treatment on 15.10.2004; Five cohorts (n = 120) based on treatment duration; Questionnaires concerning these 600 selected clients were sent to 197 substituting doctors; Concerning 367 clients the treatment status on 15.10.2004 was verified – 240 were in treatment, 127 (35%) were ghost cases and this proportion strongly depended on time since first treatment. A logarithmic function was developed describing the probability of being a ghost case and this was then used to introduce weightings into the CRC to adjust for the ghost cases. The corrected CRC results showed still an increase 2001-2004, but not as steep and not as high (18000 in 2001 to 30000 in 2004). as the uncorrected results (25000 to 45000). Theses methods were similarly applied in the 3 sample CRC. Conclusions: strong impact of data quality on CRC-Estimations – 2004: uncorrected: 42,000; corrected 31,000; increase of corrected estimates is weaker. There is evidence of increasing problem opiate use also from corrected CRC-estimates (number and age distribution) which is supported by drug related deaths data and qualitative reports. Change of target group: increase of opiate use in poly-drug users? Opiate use more spread among less problematic drug users? New wave of drug epidemic?

Estimating the percentage of injecting drug users in the Netherlands - Guus Cruts, Margriet van Laar

See abstract 14

Workshops on 'problem drug use definition', 'injecting drug use' and 'problem stimulants use'

Five parallel workshops discussed the EMCDDA PDU definition (two groups), how to improve availability of IDU estimates (two groups) and how to obtain better estimates of problem stimulants use (one group).

a) PDU definition

The workshops on the PDU definition[1] resulted in several comments and conclusions such as: PDU estimates are important for different end users including politicians, policy makers (but there is a gap between the data and policy making), researchers, journalists, etc. they are used at national level but in some countries primarily at the regional level, they have to be easily understood. The PDU definition should be understood as relating to 'serious problems' (cf. Pompidou Group), which can be medical, legal or social in nature. The scope of the definition is wider than only 'dependence'. The timeframe of the definition is not very clear with 'regular /long duration..'. There is some unclearness regarding the word 'heroin' which is interpreted as including any other opioids such as legal methadone, and regarding 'amphetamines' that are understood to include methamphetamine but not ecstasy. Most countries in the workshops are OK with the EMCDDA definition but some countries include problematic cannabis users in their PDU estimates (they can provide adjusted estimates for the EMCDDA). It was mentioned that a recent EMCDDA expert meeting specifically on this issue concluded that it would be still difficult to include cannabis, because of the danger of counting large numbers of cannabis users with no 'serious problems' – at this previous expert meeting on the definition it had been suggested for the time being to count/estimate 'problem cannabis users' as a separate category ('frequent' or 'intensive' use of drugs), that is additional to PDU. Databases used to generate estimates should be specific on substances and allow polydrug users to be fitted in, perhaps by abolishing the concept of primary and secondary drug but registering frequency of use for all substances and perhaps some measure of 'serious problems'. National definitions perhaps should remain country specific as long as a common and comparable PDU indicator is agreed on. None of the workshops resulted in specific recommendations for modifying the existing EMCDDA definition and one group concluded that finding a better definition is not easy. Maps are an important added way to present and look at data (geographic clustering) but should not replace the current graphics. Poly drug use problem is not clarified yet perhaps a special session next year or even a special expert meeting (across indicators) would be useful. There will be a special chapter in the 2006 annual report on poly drug use. To obtain poly drug use estimates other sources than TDI need to collect data on poly use. 'Problem use' may not be linked to one drug, even combined use of 'non-problematic drugs' may lead to problems. The 'primary drug' concept is a proxy for dependence and problems because the latter are not recorded directly. One participant suggested to separate the conceptual problem from the practical problem, the first would mean to list substances and frequencies that define PDU, the second would relate to the real problems in the user's life; EMCDDA should provide a definition regarding the concept, but should leave it to the countries to decide what is a problem and what not. A need was felt to find out more about behavioural aspects of PDU (e.g. frequencies and patterns of use per substance and combinations).

[1] The EMCDDA definition of PDU is 'Injecting drug use or long duration/regular use of heroin, cocaine and/or amphetamines'. Heroin is usually understood as a proxy for inclusion of any other opioids such as prescribed or non-prescribed methadone, and amphetamines are meant to include methamphetamine but not ecstasy. Cannabis is not included.

b) IDU estimates

They are important to assess the size of the problem, assess impact and coverage of interventions e.g. substitution therapy (using it as a denominator), as a reference population e.g. for infectious diseases, for resource allocation and other policy decisions (deciding whether it is a priority area). Inventory of data sources is needed which contain injectors with knowledge of variables and data quality. Need to join experts on IDUs with experts on estimation methods. Time frame of 'IDU' is important to define and three groups should be distinguished: current IDUs (e.g. last month), ever IDUs among current PDUs, ever IDUs in the general population. Perhaps it would be useful to distinguish levels of severity (or frequency) of injecting. Potential data sources are: treatment data (self reports, monitoring), mortality data (observation coroner, third party reporting), police data (observation), low threshold services (self reports), proxi indicators (endocarditis, HIV, HCV), prison data, data on random testing for drugs among drivers, emergency units and general hospital data, HIV incidence data from relevant cohort studies. Estimation methods are the same as for other PDU categories (multipliers, capture recapture etc.) and results will depend much on the specificity regarding IDUs of the data – improvement of routine data sources is thus important by e.g. adding an item 'IDU' (ever but not current, current, never)[2]. Requirements for capture recapture are: three or more sources, variables to create an identifier for each source, injecting status, main problem drug, geographical descriptor, overlap between data sources. Regarding the multiplier method: identify close correlates of (last year) injecting so as to identify data sources, accurate estimate for multiplier (cohort studies), if experience differs in different cohorts may need to weight groups. Recommendations include improving technical support e.g. through country twinning projects, national Reitox training seminars, exchange of calculations of estimations for comments between different focal points (peer reviewing or commenting or even joint estimation work), improving the funding for this work, developing guidelines regarding ethical considerations and data protection laws.

c) Problem stimulants use and poly problem drug use

Estimates of problem cocaine or crack cocaine use are available in UK and Switzerland. Cocaine users are estimated in the UK; the tendency is that it is not a high class drug anymore, is becoming more popular in lower social classes. There are also some indications that this phenomenon might be appearing in Poland although the prevalence of cocaine use in Poland is still relatively low compared to other European countries. Problem amphetamine estimates exist in Slovakia, Latvia, Sweden, Czech Rep,. No estimates are available on problem ecstasy use or binge use of ecstasy (and they are not included in EMCDDA definition of PDU). Would it be useful to develop a special definition of stimulants and if so, what would be included: ecstasy, cocaine, amphetamine, pharmaceutial drugs? Should ecstasy be included? It is different from other stimulants, it is a weekend drug and method of intake. Or should problem stimulant use be limited to "injecting stimulants" ? Most national definitions are currently compatible with the EMCDDA definition of PDU (Poland uses the ICD-10 definition which is not substance specific). Poly-drug types may include:

[2] TDI definition (item 20): 'Ever injected/currently (last 30 days) injecting': 1. ever injected, but not currently 2. currently injecting 3. never injected 0. not known

heroin+stimulants, cocaine+heroin, opiates+sedatives, amphetamines+cannabis? Not clear what to do about poly use with alcohol or whether there is at all a need to do something about it. In poly drug use stimulants might be hidden "under" opiate as main drug. Should poly-drug use exclude/separate out special estimates for heroin users? Primary drug vs. secondary drug – need to define how to treat these in the estimates, but maybe cannot differentiate in other sources than treatment. No poly drug estimates are available but interesting topic. Not clear if treatment data are reliable on secondary drugs. Estimates can be done for substances and mode of use separately. In some countries capture recapture not possible but could use other methods like multiplier. In case of small numbers it does not make sense to come up with estimates. Data sources are treatment, police, harm reduction, mortality, studies, prison (but not sure), probation, emergency rooms (to be investigated). Improvements and recommendations: it is possible to do separate stimulant estimates; some groups of cocaine users are very well hidden; studies should be encouraged to be conducted; qualitative research is important for better understanding of the problem in general; need to ask for more information on stimulant use patterns at various sources; literature review on methodological work on estimates of stimulant use; maybe special chapter on stimulant use estimates in the guidelines; definition of poly-drug use to be improved. 'Primary drug' concept not always clear, tendency to record the 'most dangerous' drug, but could also use drug most used or most preferred (the TDI protocol defines it as the drug which causes the most problems)[3]. There is a great variation in how stimulants are used in different countries, in Czech republic and Sweden where amphetamine and methamphetamine are common it is common among treated drug users, but in many countries with other stimulants the hidden population may be large relative to the opiate users. A pilot data collection might be carried out at general psychiatric units in some countries to see whether their data are possible to use (especially to get an estimate of hidden population of stimulant users who will be captured this way because of psychotic disorders).

Incidence estimation project

Incidence estimation guidelines need to be improved, especially made more practical. The target group for these are researchers with some experience in statistics. More examples of data analysis need to be included, for researchers to test their methodology on them. Use of material in published studies was suggested.
The question whether incidence data should be reported within a standard table was discussed. There are some difficulties involved, but a pilot, voluntary data collection was suggested which will test whether it is feasible before making it standard reporting. This could be probably realised by adding another sheet to existing standard tables.

[3] TDI protocol, p28: 'The main drug is defined as the drug that causes the client the most problems. It should be noted that different systems may define this category differently. It can be based on problems as defined by clients (as in the Netherlands and the UK) or on short diagnoses based on the ICD 10 (as in Denmark). As empirical research is still lacking on this matter, it remains unclear if this really provides sufficient comparability between countries.

Development of software was suggested to facilitate the process. Also work within voluntary networks might facilitate more work being done to have material for reporting.

Possible topics for future PDU work

- Personal data protection – exchange of experience among countries on how to respect the legislation and at the same time be able to collect data. EU directive on personal data protection. Laws vs. unwillingness to share the data. Obligations of publicly funded institutions?
- Polydrug use – special session/activity to tackle this issue is needed. There will probably be another meeting outside of the expert meeting to look at this question from a cross-indicator perspective.

Incidence of heroin use and harm reduction policy in Switzerland – Carlos Nordt and Rudolf Stohler

See abstract 15

Current work on the EMCDDA incidence guidelines – Gianpaolo Scalia Tomba

Gianpaolo Scalia Tomba discussed the structure and contents of the current incidence guidelines. He proposed different options for improvement, such as to include more examples, to explain how to work with sparse data, to discuss how to deal with definition problems, to discuss how to fit truncated parametric models, to discuss what could be done by adding prevalence data, to give examples of more complicated designs (incidence, prevalence, time window), to discuss the effect of drop-out or death from the population and modelling effects of real time on latency period. More in general this could take the form of models (in formulae) with methods in appendix, or a verbal explanation, with calculated examples, of structure and limitations of solutions in main text and perhaps with more emphasis on types of available data and what the benefits of more data would be. Issues to be clarified include whether to write a separate additional report, or to try to put together parts of the existing guidelines with new material in one new report and how to deal with authorships of published work if used as examples. (The draft guidelines were made available at the meeting and can be obtained from the EMCDDA)

Brief overview of recent incidence estimations in Spain – Antonia Domingo

Antonia Domingo presented heroin use incidence estimates for Spain, taking into account information on region. Main source of information was the Treatment Demand Indicator (TDI), a protocol to collect data on new admissions to treatment (not all treatments in a point in time). The TDI considers as “new admission” if previous treatment more than 6 months previously. It asks subjects about that admission being their first approach to treatment for the stated principal drug of use (first treatment start). It covers all public treatment centres and those private with public financing. Spanish data were used regarding new admissions to first treatment for heroin use from 1991 to 2002. Restrictions were: year of first use known from 1978 onwards, age of first use: 10 – 44 years, age of first treatment: 15 – 54 years (N=152.319). Incidence was estimated according to the RDA method and using loglinear modelling. Although first treatment demand

peaked around 1996, the estimates suggest a peak of first heroin use around 1980 followed by a steady decline. The peaks of first use seem not to differ by region. Latency periods between regions seem to be similar except for Madrid where LP to first treatment seems longer. LP for route of administration seems similar for all routes except the oral route, which has a longer LP. Incidence of smoking seems to have peaked around 1988-90, thus later than the predominant route of injecting. LP by gender seems similar and with a similar peak year of incidence. Limitations are: we are estimating relative incidence (of those that may start treatment for their heroin use). Validity of information on year of 1st use and whether that admission is really the 1st treatment for that drug: information bias? Lack of stability in the LP because of change in treatment offer along the period and / or introduction of methadone treatment which varied by region.

Potential use of Geographic Information Systems (GIS) – Norbert Frost

The benefit of combining GIS and Spatial statistical methods is to bring epidemiology and disease-control efforts up to technical standard, permitting tracking of diseases as they move through the population - both spatially and temporally – disregarding country borders. Different types of maps were presented and the concept of data layers was discussed: In digital maps, spatial and thematic (e.g. ecological, demographic, environmental) data are combined with epidemiological information, to enable researchers to analyze variables that play significant roles in the “behavior” of diseases. Questions may include: are there any patterns of disease in space? Where are they and what do they look like? Why are diseases coming up? Will they happen again? How will they change if we intervene in a particular way? (Bailey, 2001). GIS models may also be used to predict the future, depending on their explanatory power. Examples were presented involving different levels of geographic aggregation (NUTS coding) and involving Empirical Bayes estimators for ‘neighbourhood adjustment’ (taking account of information in neighbouring cells). A basic principle of GIS analyses is “Everything is related to everything else, but near things are more related, than distant things." [Tobler, 1970]. These methods may well be used for spatial analysis of drugs data.

Monitoring consumption of illicit drugs by analysis of their environmental concentrations: An update - Roberto Fanelli

A very interesting presentation was given by Roberto Fanelli on the current state of the art of waste and river water monitoring. The topic will be discussed further (possibly with a special expert meeting) and a policy briefing document will be developed by the EMCDDA. These data may constitute an important addition to the existing monitoring structures after further development of the methodology and cross-analysis with existing indicators.

See also abstract 16

European Monitoring Centre
for Drugs and Drug Addiction

Final Agenda
EU expert meetings on the EMCDDA key epidemiological indicators Drug Related Infectious Diseases (10-11 October 2006) and Problem Drug Use (12-13 October 2006), EMCDDA, Lisbon

EMCDDA, Rua da Cruz de Santa Apolónia 23-25, Lisbon.

Tuesday 10 October

9.00-11.00 Intro, guidelines, protocol, implementation

- **Lucas Wiessing** – State of the key indicator drug-related infectious diseases
- **Sandrine Sleiman** – Update on data quality and the 2005 data reporting to the EMCDDA
- **Katerina Kontogeorgiou** – Progress on the EMCDDA DRID protocol
- **Maria Jose Bravo** – Short comment on comparison with CODAR protocol
- **Danica Klempova** – Data received by 30 September on behavioural sheet in ST9
- **Vivian Hope** – Short comment on using the new version ST9 behavioural sheet
- **Françoise Dubois-Arber –** Comparison of last month and 6 month recall periods in low-threshold service data in Switzerland

11.00-11.30 break

11.30-13.00 Intro, guidelines, protocol, implementation, continued

- Discussion on ST9 and protocol

13.00-14.30 lunch

14.30-15.00 Laboratory based surveillance of HCV in young people

- **Fortune Ncube** – Laboratory surveillance of HCV in young people in Europe
- Discussion

15.00-15.30 Proposal for surveillance of DRID in low-threshold settings

- **Agnès Cadet-Taïrou** – Proposal for an EU wide serological survey in needle and syringe programmes
- Discussion

15.30-16.00 EU policy framework and ECDC

- **Danilo Ballotta –** EU policy agenda on drug-related infectious diseases
- **Magid Herida –** ECDC plans regarding HIV, STIs and hepatic infections

16.00-16.30 break

16.30-17.30 Country examples

- **Marc Roelands** – HCV, HBV and HIV seroprevalence study in a sample of drug users in treatment centres or prisons in Belgium, 2004-2005
- **Nathalie Removille, Alain Origer –** Prevalence and spreading of viral hepatitis A,B,C and of HIV in the population of problematic users of illicitly acquired drugs. Early detection, vaccination against HAV and HBV, referral and reduction of risks and damages

20.00 Dinner

Wednesday 11 October

9.00-9.45 Protective factors for HIV/HCV: Literature review
- **Markus Backmund** – first results of the literature review
- Discussion

9.45-11.00 Protective factors for HIV/HCV: introduction of possible modelling approaches
- **Mirjam Kretzschmar** – Mathematical and statistical models for analyses of protective factors for HIV infection among injecting drug users
- **Peter Vickerman** – Modelling the impact on Hepatitis C transmission of reducing syringe sharing in London
- **Nico Stollenwerk** – The effect of reinfection on the epidemiology of Hepatitis C
- **Monica Nordvik** – Using population data bases to study the spread of STI in different regions
- **Rafael Mikolajczyk** – Multilevel models: a tool to analyse contextual and individual variables jointly
- Discussion

11.00-11.30 break

11.30-13.00 Protective factors for HIV/HCV: introduction of possible modelling approaches
- Discussion continued

13.00-14.30 lunch

14.30-16.00 Effectiveness of harm reduction measures
- **Maria Prins** – Injecting drug users who fully participate in harm reduction programs are at decreased risk for HIV and HCV, evidence from the Amsterdam Cohort Studies
- **Ellen Amundsen** – Effectiveness of needle exchange, a closer look at the existing evidence
- Discussion

16.00-16.30 break

16.30-17.30 New methods for measuring incidence of HIV infection
- **Stephan Loschen** – Pilot study to identify incident HIV infections via avidity testing of HIV antibodies in Germany
- **Helena Cortes Martins** – HIV incidence in the Lisbon area – the avidity test

Thursday 12 October (start of PDU meeting)

9.00-10.15 Intro, guidelines, protocol, implementation
- **Lucas Wiessing** – State of the key indicator problem drug use
- **Xavier Poos** – Update on data quality and the 2005 data reporting to the EMCDDA
- Discussion on ST7/8, guidelines, implementation and data quality/reporting

10.15-11.00 Estimating prevalence of problem and injecting drug use
- **Gordon Hay** – Methodological aspects of recent UK studies
- **Marina Kuzman** – Problem Drug Use in Croatia

11.00-11.30 break

11.30-13.00 Estimating prevalence of problem and injecting drug use (cont.)
- **Kristiina Rajaleid** – Recent estimation of IDU prevalence in Estonia
- **Martin Busch** – Updated capture-recapture estimate for Austria
- **Guus Cruts** – Estimating the percentage of injecting drug users in the Netherlands

13.00-14.30 lunch

14.30-16.00 Three parallel workshops:
- EMCDDA PDU definition
- Estimates of injecting drug use
- Estimates of problem stimulant use

16.00-16.30 break

16.30-17.30 Workshops continued

20.00 Dinner

Friday 13 October

9.00-11.00 Plenary reporting and discussion workshops

11.00-11.30 break

11.30-13.00 Incidence of heroin use and injecting
- **Carlos Nordt and Rudolf Stohler** – Incidence of heroin use and harm reduction policy in Switzerland
- **Gianpaolo Scalia Tomba** – Current work on the EMCDDA incidence guidelines

13.00-14.30 lunch

14.30-15.30 Incidence continued
- Discussion around working group, guidelines and stimulating more incidence work
- **Antonia Domingo** – Brief overview of recent incidence estimations in Spain

16.00-16.30 break

16.30-17.30 Novel methods and tools to monitoring problem drug use
- **Norbert Frost** – Potential use of Geographic Information Systems (GIS)
- **Roberto Fanelli** – Measuring metabolites of cocaine and other drugs in waste water
- Discussion

17.30 End of PDU meeting

EU Expert meeting on the EMCDDA key indicator Drug Related Infectious Diseases, 10-11 October 2006 - Santa Apolónia (Lisbon)

Final List of Participants

Experts Nominated by the National Focal Point

Austria
Ilonka Horvath
ÖBIG - Austrian Health Institute
Stubenring 6
AT -1010 Wien
T. +43 1 515 61 60
F. +43 1 513 84 72
horvath@oebig.at

Belgium
Marc Roelands
Scientific Institute of Public Health
Rue Juliette Wytsman, 14
BE - 1050 Brussels
T. +32 2 642 50 35
F. +32 2 642 57 49
marc.roelands@iph.fgov.be

Bulgaria
Violeta Bogdanova,
Raina Ilieva
National Centre for Addiction
Laboratory and Harm Reduction Department
117 Pirotska Str.
BG - 1303 Sofia
T. +359 2 931 81 14 / +359 2 832 61 36
F: +359 2 832 10 47
vbogdanova@dir.bg / raina.ilieva@gmail.com

Croatia
Ira Gjenero-Margan
Croatian National Public Health Institute
Epidemiology of Infectious Disease, service
Rockefellerova 7
HR - 10000 Zagreb
T. +358 14683005
ira.gienero-margan@hzjz.hr

Cyprus
Natasa Savvopoulou
Cyprus National Monitoring Center for Drugs and Drug Addiction
Magnolia Center - Offices 11-12
32, Strovolos Avenue
CY - Nicosia 2018
T. +357 22442973
F. +357 22305022
natasa@ektepn.org.cy

Czech Rep.
Barbora Orlikova
Czech National Focal Point for Drugs and Drug Addiction
Office of the Government of the Czech Republic
Nabrezi Edvarda Benese 4
CZ - 118 01 Praha 1 - Mala Strana
T. +420 296 153 391 / 457
F. +420 296 153 264
orlikova.barbora@vlada.cz

Denmark	Susan Cowan Department of Epidemiology Statens Serum Institut Artillerivej 5 DK - 2300 Copenhagen S T. +45 32683444 F. +45 32683874 sco@ssi.dk
Estonia	(not attending)
Finland	Henrikki Brummer-Korvenkontio National Public Health Institute Mannerheimintie 166 FI - 00300 Helsinki T. +358 9 47448455 F. +358 9 47448461 henrikki.brummer@ktl.fi
France	Tiphaine Canarelli, Agnès Cadet-Taïrou Observatoire Français des Drogues et Toxicomanies (OFDT) Avenue du Stade de France, 3 FR - 93200 Saint Denis T. +33 1 41 62 77 06 / 16 F. +33 1 41 62 77 00 tican@ofdt.fr / agcad@ofdt.fr
Germany	Doris Radun Robert-Koch-Institut - Infektionsepidemiologie Stresemannstr. 90 - 102 DE - 0963 Berlin T. + 49 30 45473406 F. + 49 30 45473533 radund@rki.de
Greece	Katerina Kontogeorgiou University of Mental Health Research Institute - UMHRI Greek REITOX Focal Point Soranou Toy Efesiou, 2 (P.O. Box 665 17) GR - 15601 Papagou - Athens T. +302 10 6536 902 F. +302 10 6537 273 kkontogeorgiou@ektepn.gr
Hungary	(not attending)
Ireland	Jean Long Drugs Misuse Research Division Health Research Board 73 Lower Baggot St IE - Dublin 2 T. +353 1 6761176 F. +353 1 6611856 jlong@hrb.ie

Italy
Giuseppe Salamina
Osservatorio Epidemiologico Dipendenze e Aids
V. Sabaudia 164
IT - 10095 Grugliasco (TO)
T. +39 011 401 76 98
F. +39 011 401 76 87
giuseppe.salamina@unito.it

Latvia
Marcis Trapencieris
Institute of Philosophy and Sociology
University of Latvia
Akademijas laukums 1
LV – 1940 Riga
T. +371 73777 783
F. +371 721 0806
marcis.trapencieris@narko.gov.lv

Lithuania
Saulius Caplinskas
Lithuanian AIDS Centre
Nugaletoju St. 14D
LT - 2016 Vilnius
T. +3705 2300125
F. +3705 2300123
saulius@aids.li

Virginija Semsiene
Information Analysis Division
Drug Control Department under the Government of Lithuania
Sv. Stepono str. 27
LT - 03210 Vilnius
T. +370 5 213 8188
F. +370 5 215 9096
virginija.semsiene@nkd.lt

Luxembourg
Alain Origer
Direction de la Santé - EMCDDA Focal Point
Allée Marconi - Villa Louvigny
LU - 2120 Luxembourg
T. +352 47 85 625
F. +352 46 79 65
alain.origer@ms.etat.lu

Nathalie Removille
Point Focal Luxembourgeois de l'OEDT
CES di CRP Santé
18, rue Dicks
LU - 1417 Luxembourg
T. +352 45321349
F. +352 453219
nathalie.removille@crp-sante.healthnet.lu

Malta
George Grech
Agency Against Drug and Alcolhol Abuse
Braille Street 2-3
MT - Sta Venera HMR 11
T. +356 23885135
F. +356 21441029
george.d.grech@gov.mt

Netherlands

Esther Croes
Trimbos Institute
Da Costakade, 45 (PO Box 725)
NL - 3500 AS Utrecht
T. +31 30 297 11 00
F. +31 30 297 11 11
ecroes@trimbos.nl

Norway

Hans Blystad
Norwegian Institute of Public Health
Department of infectious Diseases Epidemiology
P.O. Box 4404 Nydalen
NO - 0403 Oslo
T. +47 22 04 24 04
F. +47 22 04 25 1
hans.blystad@fhi.no

Poland

Agnieszka Kolbowska
National Focal Point
National Bureau for Drug Prevention
Dereniowa St. 52/54
PL - 02-776 Warsaw
T. +48 22 641 15 01 ext. 114
F. +48 22 641 15 65
agnieszka.kolbowska@kbpn.gov.pl

Portugal

Susana Shirley
Instituto da Droga e Toxicodependência (IDT)
Praca de Alvalade, nº 7, 6º
PT - 1000-179 Lisboa
T. +351 21 310 41 00
F. +351 21 310 41 90
Susana.Shirley@idt.min-saude.pt

Romania

Lucian Suditu
Romanian Monitoring Center for Drugs and Drug Addiction
National Antidrug Agency
"37, ""Unirii"" blvd, BL. A4"
RO - Sector 3 Bucharest
T. +40 21 326 4787
F. +40 21 3264787
lutu7272@yahoo.com

Slovakia

Jozef Holoman
Institute of Pharmacology and Clinical Pharmacology
Slovak Health University Bratislava
Limbová 12
SK - 833 03 Bratislava
T. +421 2 5936 9505
F. +421 2 5936 9507
jozef.holoman@szu.sk

Eva Machova
National Focal Point
Cukrova 14
811 08 Bratislava, Slovakia
T. + 421 2 572 95 762
F. +421 2 52 49 67 59
eva.machova@vlada.gov.sk

Slovenia	(not attending)
Spain	(not attending)
Sweden	Teymur Noori National Board of Health and Welfare Ralumbsvägen 3 SE - 106 30 Stockholm T. +46 8 5555 3223 M. +46 70 4605129 teymur.noori@socialstyrelsen.se
Turkey	(not attending)
United Kingdom	Vivian Hope HIV/STI Department Centre for Infections Health Protection Agency 61 Colindale Avenue UK - London NW9 5EQ T. +44 20 8327 7930 F. +44 20 8200 7868 vivian.hope@hpa.org.uk or Centre for Research on Drugs & Health Behaviour London School of Hygiene & Tropical Medicine, Keppel Street UK - London WC1E 7HT T. +44 20 7927 2193 vivian.hope@lshtm.ac.uk

Invited Experts

Belgium	Catharina Matheï ACHG - Katholieke Universiteit Leuven Kapucijnenvoer 33 Blok J BE - 3000 Leuven or Free Clinic Van Arteveldestraat 64 BE - 2060 Antwerpen T. +32 475571675 F. +32 32160327 catharina.mathei@pandora.be
Germany	Markus Backmund Leiter Bereich Suchtmedizin Städtisches Klinikum München GmbH Krankenhaus München Schwabing Koelner Platz 1 DE - 80804 München T. +49 89 30683366 F. +49 89 30683934 markus.backmund@kms.mhn.de Mirjam Kretzschmar, Rafael Mikolajczyk Department of Public Health Medicine School of Public Health University of Bielefeld

PO Box 100131
DE - 33501 Bielefeld
T. +49 521 106 3879 (direct) / 6889 (secr.)
F. +49 521 106 2968
mirjam.kretzschmar@uni-bielefeld.de
rafael.mikolajczyk@uni-bielefeld.de

Stephan Loschen
Robert Koch-Institut
HIV Variabilität und molekulare Epidemiologie/P11
Nordufer 20
DE - 13353 Berlin
T. +49 3018754 2566
loschenS@rki.de

Netherlands Maria Prins
Department of Research
Cluster Infectious Diseases
Health Service of Amsterdam
Nieuwe Achtergracht 100
NL - 1018 WT Amsterdam
T. +31 20 5555 243
F. +31 20 5555 533
m.prins@ggd.amsterdam.nl

Norway Ellen Amundsen
Norwegian Institute for Alcohol and Drug Research (SIRUS)
P.O. Box 565 Sentrum
NO - 0105 Oslo
T. +47 22 34 04 32
F. +47 22 34 04 01
eja@sirus.no

Portugal Nico Stollenwerk
Universidade do Porto
Faculdade de ciências
Departamento de Matematica Pura
Gabinete 3.29
Rua do Campo Alegre, 687
PT - 4169-007 Porto
T. +351 220100757
F. +351 220100708
nks22@cam.ac.uk

Jose Lourenço
Gulbenkian Institute of Science
Theoretical Epidemiology Group
Apartado 14, Edificio Amerigo Vespucci, Gabinete 11
PT - 2781-901 Oeiras
T. +351 214464518
F. +351 214407973
jagl@igc.gulbenkian.pt

Gabriela Gomes
Instituto Gulbenkian de Ciência
Apartado 14
PT - 2781-901 Oeiras
T. +351 21 446 46 26
F. +351 21 440 79 70
ggomes@igc.gulbenkian.pt

Helena Cortes Martins
Instituto Nacional de Saúde Dr. Ricardo Jorge
Centro de Virologia
Unidade de Retrovirus/Laboratório de Referência da SIDA
Av. Padre Cruz
PT - 1649-016 Lisboa
T. + 351 217 519 205 (directo)
F. +351 217 526 498
helena.cortes-martins@insa.min-saude.pt

Spain
Maria José Bravo
Observatorio Español sobre Drogas
Delegación Gobierno Plan Nacional sobre Drogas
Ministerio de Sanidad y Consumo
C/ Recoletos, n° 22, 5a planta
ES - 28001 Madrid
T. +34 91 8226173
F. +34 918226108
mbravo@msc.es / bravomar@telefonica.net

Sweden
Monica Nordvik
Department of Sociology
Stockholm University
SE - 106 91 Stockholm
M. +46739377462
monica.nordvik@sociology.su.se

Switzerland
Françoise Dubois-Arber
Evaluation Unit
University Institute for Social and Preventive Medicine
Bugnon, 17
CH - 1005 Lausanne
T. +41 21 314 72 90
F. +41 21 314 72 44
fdubois@inst.hospvd.ch / francoise.dubois-arber@chuv.ch

United Kingdom
Fortune Ncube
HIV/STI Department Communicable
Disease Surveillance Centre
Health Protection Agency
61 Colindale Avenue
UK - London NW9 5EQ
T. +44 208 327 6423
F. +44 208 200 7868
fortune.ncube@hpa.org.uk

Peter Vickerman
Health Policy Unit
Department of Public Health and Policy
London School of Hygiene and Tropical Medicine
Keppel Street
UK - WC1E 7HT London
T. +44 20 7612 7886
F. +44 20 7637 5391
peter.vickerman@lshtm.ac.uk

Gordon Hay
Centre for Drug Misuse Research
University of Glasgow
89 Dumbarton Road
UK - G11 6PW Glasgow
T. +44 141 3305413
F. +44 141 3302820
g.hay@socsci.gla.ac.uk

ECDC Magid Herida
Unit of Surveillance and Communication
European Centre for Disease Prevention and Control (ECDC)
SE - 171 83 Stockholm
Visiting address: Tomtebodavagen 11A
T. +46 8 59 78 18
F. +46 8 30 00 57
Magid.Herida@ecdc.eu.int

WHO Martin Donoghoe
World Health Organisation
STIs / HIV / AIDS Programme
Regional Office for Europe
Schergisvej 8
DK- 2100 Copenhagen
T. +45 39 17 13 33
F. +45 39 17 18 75
mdo@euro.who.int

EMCDDA Rua da Cruz de Santa Apolónia, 23-25
1149-045 Lisboa

Lucas Wiessing T. +351 21 811 30 16
F. +351 21 358 44 41
lucas.wiessing@emcdda.europa.eu

Paul Griffiths T. +351 21 811 30 06
F. +351 21 358 44 41
Paul.griffiths@emcdda.europa.eu

Julian Vicente T. +351 21 811 30 23
F. +351 21 358 44 41
Julian.vicente@emcdda.europa.eu

Norbert Frost T. +351 21 811 30 53
F. +351 21 358 44 41
Norbert.frost@emcdda.europa.eu

Colin Taylor T. +351 21 811 30 72
F. +351 21 358 44 41
colin.taylor@emcdda.europa.eu

Linda Montanari T. +351 21 811 30 81
F. +351 21 358 44 41
linda.montanari@emcdda.europa.eu

Frank Zobel T. +351 21 811 30 59
F. +351 21 358 44 40
frank.zobel@emcdda.europa.eu

Danica Klempova T. +351 21 811 30 74
F. +351 21 358 44 41
danica.klempova@emcdda.europa.eu

Bruno Guarita T. +351 21 811 30 47
F. +351 21 358 44 41
bruno.guarita@emcdda.europa.eu

Jennifer Hillebrand T. +351 21 811 30 13
F. +351 21 358 44 40
jennifer.hillebrand@emcdda.europa.eu

Dagmar Hedrich T. +351 21 811 30 67
F. +351 21 358 44 40
dagmar.hedrich@emcdda.europa.eu

Dominique Lopez T. +351 21 811 30 97
F. +351 21 358 44 41
dominique.lopez@emcdda.europa.eu

EU Expert meeting on the EMCDDA key indicator Problem Drug Use 12-13 October 2006 - Santa Apolónia (Lisbon)

Final List of Participants

Experts Nominated by the National Focal Point

Austria

Martin Busch
ÖBIG - Austrian Health Institute
Stubenring 6
AT -1010 Wien
T. +43 1 515 61 124
F. +43 1 513 84 72
busch@oebig.at

Belgium

Marc Roelands
Scientific Institute of Public Health
Rue Juliette Wytsman, 14
BE - 1050 Brussels
T. +32 2 642 50 35
F. +32 2 642 57 49
marc.roelands@iph.fgov.be

Bulgaria

Momtchil Vassilev
Sonya Chipeva
National Focal Point on Drugs and Drug Addictions
117 Pirotska Str.
BU - 1303 Sofia
T. +359 2 831 30 79 / 832 61 37/36
F. +359 2 831 30 79 / 832 10 47
mvassilev@infotel.bg / soniachipeva@hotmail.com

Croatia

Marina Kuzman
Youth Health Care and Drug Abuse Prevention Department
Croatian National Institute of Public Health
Rockefellerova 7
HR - 10000 Zagreb
T. +38514683012
F. +38514683011
marina.kuzman@hzjz.hr

Cyprus

Ioanna Yiasemi
Neoklis Georgiades
Cyprus National Monitoring Center for Drugs and Drug Addiction
Magnolia Center - Offices 11-12
32, Strovolos Avenue
CY - Nicosia 2018
T. +357 22442973
F. +357 22305022
ioanna@ektepn.org.cy / neoklis@ektepn.org.cy

Stelios Stylianou
Department of Social Sciences - Intercollege
46, Makedonitissas Ave.
PO Box 24005
CY - 1700 Nicosia
T. +357 22352563 ext. 117
F. +357 22305022
stelios@u.wahsington.edu

Czech Republic Barbora Orlikova
Czech National Focal Point for Drugs and Drug Addiction
Office of the Government of the Czech Republic
Nabrezi Edvarda Benese 4
CZ - 118 01 Praha 1 - Mala Strana
T. +420 296 153 457
F. +420 296 153 264
orlikova.barbora@vlada.cz

Denmark Mette Thorup Eriksen
Morten Hjulsager
The National Board of Health
Division for Health Statistics
Islands Brygge 67
DK - 2300 Copenhagen
T. +45 7222 7712 / 7826
F. +45 7222 7404
mee@sst.dk / mhj@sst.dk

Estonia Kristiina Rajaleid
University of Tartu
Liivi 2
EE - 50409 Tartu
T. +372 7 376 403
F. +372 7 375 898
rajaleid@ut.ee

Finland Päivi Partanen
University of Joensuu
Tuurentie 8
FI - 41230 Uurainen
T. +358 40 575 0001
paivi.partanen@pp.inet.fi

France Laure Vaissade
Observatoire Français des Drogues et Toxicomanies (OFDT)
Avenue du Stade de France, 3
FR - 93200 Saint Denis
T. +33 1 41 62 77 16
F. +33 1 41 62 77 00
lavai@ofdt.fr

Germany Ludwig Kraus
IFT - Institute for Therapy Research
Parzivalstrasse 25
DE - 80804 Munchen
T. + 49 89 36080430
F. + 49 89 36080449
kraus@ift.de

Greece Clive Richardson
University Mental Health Research Institute - UMHRI
Greek REITOX Focal Point
Soranou Toy Efesiou, 2
P.O. Box 665 17
GR - 15601 Papagou - Athens
T. +30 210 6536 902
F. +30 210 6537 273
crichard@panteion.gr

Hungary	Adrienn Nyirady National Center for Epidemiology Gyáli ùt 2-6 HU - 1097 Budapest T. +36 1 476 11 00 ext. 2510 F. +36 1 476 2635 nyiradya@oek.antsz.hu
Ireland	Jean Long Drugs Misuse Research Division Health Research Board 73 Lower Baggot St IE - Dublin 2 T. +353 1 6761176 F. +353 1 6611856 jlong@hrb.ie
Italy	Stefano Salvadori CNR - Consiglio Nazionale delle Ricerche Istituto di Fisiologia Clinica Sezione di Epidemiologia e Ricerca sui Servizi Sanitari Via Moruzzi 1 IT - 56124 Pisa T. +39 050 315 33 13 F. +39 050 315 20 95 stefano.salvadori@ifc.cnr.it
Latvia	Marcis Trapencieris Institute of Philosophy and Sociology University of Latvia Akademijas laukums 1 LV – 1940 Riga T. +371 73777 783 F. +371 721 0806 marcis.trapencieris@narko.gov.lv
Lithuania	Saulius Caplinskas Lithuanian AIDS Centre Nugaletoju St. 14D LT - 2016 Vilnius T. +3705 2300125 F. +3705 2300123 saulius@aids.li Virginija Semsiene Information Analysis Division Drug Control Department under the Government of Lithuania Sv. Stepono str. 27 LT - 03210 Vilnius T. +370 5 213 8188 F. +370 5 215 9096 virginija.semsiene@nkd.lt
Luxembourg	(not attending)
Malta	(not attending)

Netherlands	Guus Cruts Trimbos-instituut Da Costakade 45 Postbus 725 NL - 3500 AS Utrecht T.+ 30 297 11 00 (general) T. +30 295 93 35 (direct) F. +30 297 11 11 gcruts@trimbos.nl
Norway	Ellen J. Amundsen Norwegian Institute for Alcohol and Drug Research (SIRUS) P.O. Box 565 Sentrum NO - 0105 Oslo T. +47 22 34 04 32 F. +47 22 34 04 01 eja@sirus.no
Poland	Janusz Sieroslawski Michal Kidawa Polish National Focal Point National Bureau for Drugs Prevention Dereniowa 52/54 PL - 02776 Warsaw T. +48 22 641 15 01 F. +48 22 641 15 65 sierosla@ipin.edu.pl / michal.kidawa@kbpn.gov.pl
Portugal	Jorge Negreiros Faculdade de Psicologia e Ciências da Educação Universidade do Porto Rua do Campo Alegre, 1021/1055 PT - 4169-004 Porto T. +351 22 607 97 21 F. +351 22 607 97 25 jorgeneg@psi.up.pt
Romania	Ruxanda Iliescu National Anti-Drug Agency 37th Unirii Boulevard, Bl. A4 RO - Sector 3 Bucharest T. +4021 316 47 97 / 318 44 00 ruxanda_iliescu@yahoo.com
Slovakia	Lucia Kissova National Monitoring centre for drugs General Secretariat of the Board of Ministers for Drug Dependencies and Drug Control Slovak Republic Government Office Namestie slobody 1 SK - 81370 Bratislava T. +421 2 57 295 732 F. +421 2 57 496 759 / 295 753 lucia.kissova@vlada.gov.sk Imrich Steliar Centre for the Treatment for Drug Dependencies Hranicna 2 SK - 81370 Bratislava steliar@cpldz.sk

Slovenia	(not attending)
Spain	Antonia Domingo-Salvany Unitat de Recerca en Serveis Sanitaris Institut Municipal d'Investigació Mèdica-IMIM Parc de Recerca Biomèdica-PRBB Dr Aiguader 88 ES - 08003 Barcelona T. +34 933160400 ext. 1757 F. +34 933160410 adomingo@imim.es
Sweden	Jenny Sandgren National Institute of Public Health Olof Palmes gata, 17 SE - 103 52 Stockholm T. +46 8 5661 35 04 F. +46 8 5661 35 05 jenny.sandgren@fhi.se
Turkey	(not attending)
United Kingdom	Gordon Hay Centre for Drug Misuse Research University of Glasgow 89 Dumbarton Road UK - G11 6PW Glasgow T. +44 141 3305413 F. +44 141 3302820 g.hay@socsci.gla.ac.uk

Invited Experts

Italy	Gianpaolo Scalia Tomba Direzione Generale Prevenzione Ministerio della Salute Viale Civilta Romana 7 IT - 00100 roma T. +39 06 59943288 F. +39 06 59943975 gianpi@mat.uniroma2.it
	Roberto Fanelli Mario Negri Department of Environmental Health and Sciences Institute for Pharmacological Research Via Eritrea, 62 IT - 20157 Milano T. +390239014498 F. +390239001916 fanelli@marionegri.it

Portugal

Nico Stollenwerk
Universidade do Porto - Faculdade de Ciências
Departamento de Matematica Pura
Gabinete 3,29
Rua do Campo Alegre, 687
PT - 4169-007 Porto
T. +351 22 0100757
F. +351 22 0100708
nks22@cam.ac.uk

Jose Lourenço
Gulbenkian Institute of Science
Theoretical Epidemiology Group
Apartado 14, Edificio Amerigo Vespucci, Gabinete 11
PT - 2781-901 Oeiras
T. +351 214464518
F. +351 214407973
jagl@igc.gulbenkian.pt

Switzerland

Carlos Nordt
SUD Unit
Psychiatric University Hospital
Militärstr. 8
CH - 8004 Zurich
T. +41 44 296 74 28
F. +41 44 296 74 09
cnordt@bli.unizh.ch

Rudolf Stohler
SUD Unit
Psychiatric University Hospital
Selnaustr. 9
CH - 8002 Zurich
T. +41 44 205 58 10
F. +41 44 205 58 12
rudolf.stohler@puk.zh.ch

WHO

Martin Donoghoe
World Health Organisation
Programme on Substance Abuse
20 Avenue Appia
CH - 1211 Geneva
T. +41 227914307
F. +41 227914851
mdo@euro.who.int

EMCDDA

Rua da Cruz de Santa Apolónia, 23-25
1149-045 Lisboa

Lucas Wiessing T. +351 21 811 30 16
F. +351 21 358 44 41
lucas.wiessing@emcdda.europa.eu

Paul Griffiths T. +351 21 811 30 06
F. +351 21 358 44 41
Paul.griffiths@emcdda.europa.eu

Margareta Nilson T. +351 21 811 30 07

F. +351 21 811 3055
margareta.nilson@emcdda.europa.eu

Julian Vicente T. +351 21 811 30 23
F. +351 21 358 44 41
Julian.vicente@emcdda.europa.eu

Norbert Frost T. +351 21 811 30 53
F. +351 21 358 44 41
Norbert.frost@emcdda.europa.eu

Colin Taylor T. +351 21 811 30 72
F. +351 21 358 44 41
colin.taylor@emcdda.europa.eu

Linda Montanari T. +351 21 811 30 81
F. +351 21 358 44 41
linda.montanari@emcdda.europa.eu

Frank Zobel T. +351 21 811 30 59
F. +351 21 358 44 40
frank.zobel@emcdda.europa.eu

Danica Klempova T. +351 21 811 30 74
F. +351 21 358 44 41
danica.klempova@emcdda.europa.eu

Bruno Guarita T. +351 21 811 30 47
F. +351 21 358 44 41
bruno.guarita@emcdda.europa.eu

Jennifer Hillebrand T. +351 21 811 30 13
F. +351 21 358 44 40
jennifer.hillebrand@emcdda.europa.eu

Dagmar Hedrich T. +351 21 811 30 67
F. +351 21 358 44 40
dagmar.hedrich@emcdda.europa.eu

Dominique Lopez T. +351 21 811 30 97
F. +351 21 358 44 41
dominique.lopez@emcdda.europa.eu

Abstracts

Abstract 1

Euro-LHURS (European Low-Threshold and Harm reduction Service's Users Reporting System©)
Cross-sectional survey coupled with serological tests

Project presented by JM Costes, Director of the French Monitoring Center for Drugs and Drug addiction, A.Toufik, coordinator, A. Cadet-Taïrou, coordinator, P. Griffiths, EMCDDA referent.

The EMCDDA-Correlation project working group has recently achieved the methodological development of an annual standardized report intended for the follow-up of activities of low threshold services (LTS). The survey proposed here is the complement since its aim is to monitor the users attending these services.

LTS are mainly attended by active drugs users, many of them not inserted in a care process and not recorded in treatment centres. A systematic visibility on consumed drugs, risk practices and health status of their clients, allows the identification of the most recent evolutions related to drug use.

Main objectives: These objectives can be applied both at European and Member States level.

- To complete existing information systems (e.g. treatment data) and ensure a better coverage of drug users populations to reach a better knowledge of the phenomenon of drug use in the European Union;
- To harmonize harm reduction indicators, both within and between the Members States.

Specific objectives of biological sample collection

- To monitor HCV, HBV and HIV prevalences among LTS users, resorting to a single method across Europe and, if serum samples are collected :
- To estimate incidence of HCV infection among low threshold facilities users ;
- To estimate the proportion of immune users because of hepatitis B vaccination; of chronically infected users and of users susceptible of being infected.

Participating countries: Participation in the study is opened to all Member States of the European Union (including Bulgaria and Romania) and Norway.

Funding : Answering European Council call for application : early 2007.

Contributions and piloting

- European steering committee: participating countries, EMCDDA Contributions

- Coordination will be assumed by OFDT in collaboration with EMCDDA

Methodology

- Multi-centric cross-sectional survey among clients of services and facilities for injecting drug users.
- Two sections: a “face to face” questionnaire and a biological sample collection, anonymous
- Exhaustive collection realised by staff members
- All technical decisions will be taken by the steering committee.

“Sample” size and study duration

The estimation of the number of users by country must ensure representativity at European level and allow at the same time a segmented analysis of users characteristics at national level. Therefore it will be possible to use data from a same period for the European analysis (e.g. 2 weeks) while authorizing longer data collection period for any further analysis at national levels.

Questionnaire

The new device should be designed to be complementary to existing ones and lean on tools developed by them to facilitate data comparability. Mainly two national and European devices should be considered:

- “Treatment demand indicator, Standard protocol 2.0” (EMCDDA/2000) focusing on user’s socio-demographic characteristics, illicit drug consumption and their routes of administration.
- DRID in conformity with “Draft overview of optional and core items for surveys and routine monitoring V.29/09/06” focusing on blood born infectious diseases risk practices and prevalence.

Biological sample collection : Dried blood spot if possible.

- Requires to take into account legislation, culture (ethics) and care systems local disparities.
- Coupling the study with delivery of information on prevention, screening and caring facilities (flyers), and/or with a real facilitation of access to screening during survey time could respond to European and national ethical standard. They can be facilitating factors for investigation acceptability.

Provisional time table of the experimental exercise : 2006-2009

Abstract 2

HCV, HBV and HIV seroprevalence study in a sample of drug users in treatment centres or prisons in Belgium, 2004-2005

Plasschaert S, Ameye L, De Clercq T, Walckiers D, Sartor F, Micalessi I, Jossels G, Todts S, Goubau P, Plum J, Vranckx R, Van Oyen H

Introduction
The Scientific Institute of Public Health - Unit of Epidemiology (Brussels) held a survey on Hepatitis C (HCV), Hepatitis B (HBV) and the Human Immunodeficiency Virus (HIV) among drug users (DUs) in treatment centres or prisons. These drug related infectious diseases have a major impact on the drug user's health status. The main aim of the study was to estimate, at national level, the prevalence of HCV, HBV and HIV among DUs and to investigate the related risk behaviours.

Methods
Between September 2004 and June 2005, 1134 DUs in treatment centres or prisons all over the country have been interviewed and tested: 1017 in treatment centres and 117 in prisons.

Results
The HCV prevalence in DUs in the sample of treatment centres is 30%. The most important transmission route for HCV is injecting drug use. One in two injecting drug users (IDUs) is HCV positive, while the prevalence among the non-IDUs is only 3%. The prevalence reaches 61% among IDUs sharing their injecting equipment. Sharing of sniffing equipment could not be determined as transmission route. Only 17% of the HCV positive DUs have ever received medical treatment for HCV.
The HBV prevalence in this sample is 11%; 18% of the IDUs are HBV positive in contrast to 4% of the non-IDUs. The prevalence reaches 22% among IDUs sharing their injecting equipment. HBV among IDUs who never shared equipment remains high, i.e. 13%, and is probably due to sexual transmission. Only one in ten DUs is effectively HBV vaccinated and aware of it.
2% of the DUs in contact with treatment centres are HIV positive. The prevalence is 3% among IDUs and 1% among non-IDUs. HIV transmission by injecting drug use is relatively limited compared to the two other viruses.
The prevalences registered in prisons are more pronounced. 53% of the DUs in prison are HCV positive, 17% are HBV positive and 4% are HIV positive. Among the IDUs the figures become even higher: 76% are HCV positive and 23% HBV positive. The HIV positive DUs in the prisons sample were all IDUs.

Conclusion
Despite limitations related to the estimation of the sample's representativeness (no inventory of treatment centres is available at national level) and consequent extrapolation of the findings to all DUs in treatment centres and prisons, the results of this study provide useful information for public health. This study clearly shows the high prevalence of drug related infectious diseases among DUs,

especially HCV. It suggests that more actions should be targeted on implementing public health strategies for HCV prevention and control. Because injecting drug use is responsible for the majority of new infections, reducing the number of people who inject drugs is an important way to prevent the spread of HCV. Efforts must be made to reduce HCV transmission by systematic screening and counselling, access to sterile injecting equipment and information campaigns. Furthermore, HBV vaccination should be done more frequently. Vaccinating IDUs against HBV may avoid co-infections and help constructing a stronger pro-health attitude that may lead to reduction in their risk behaviour.

Abstract 3

Prevalence and spreading of viral hepatitis A,B,C and of HIV in the population of problematic users of illicitly acquired drugs. Early detection, vaccination against HAV and HBV, referral and reduction of risks and damages.

Nathalie Removille, Alain Origer.
Centre de Recherche Public-Santé – Centre d'Etude en Santé- Point focal OEDT Luxembourg.

The aim of the present "research-action" is to assess the national prevalence of blood borne viruses HIV, HCV, HAV and HBV in the population of problematic users of illicitly acquired drugs, to perform a cross sectional analysis of the relation between the studied infections and selected observable factors, to increase the national vaccination coverage and to refer infected persons towards appropriated medical treatment centres.

Eight month data collection in 2005 have allowed to establish 1167 contacts , of which 397 were conclusive and numerous new cases of infection have been identified. It is the first study of this type ever conducted at national level.

The study shows that the self reported data do not mirror validly the prevalence (both furnished by the study) but the latter support with a satisfactory match the self reported rates provided by the national drug monitoring system (RELIS).

The HCV prevalence rate of the total study sample is 71.4% and reaches 81% for the ever injectors[4]. The highest prevalence rate (86.3%) was observed in in-prison respondents, followed by those in in-patient treatment centres (75.4%) and those in out-patient treatment centres (58.2%). The study have aloud us to determine the proportion of active chronic hepatitis[5].

The HBV prevalence (comprising acute/chronic infection and past cured infection) in the G.-D. of Luxemburg among PDUs is 21.6% and figures 24.7% in ever injectors. HBV prevalence in out-patient treatment centres is 16.4%, 15.1% in the in-patient treatment centres and up to 31.8% in prison. 32% of the PDUs could benefit from the vaccination against hepatitis B and 46% are immune due to vaccination.

Concerning HAV prevalence, no case has been identified in the present study. It should be stressed, however, that 43% of the participating PDUs are not protected against hepatitis A.

The overall HIV prevalence among the PDUs provided by the study figures 2.9% and 2.5% if exclusively referred to ever injectors. The HIV prevalence rate is 1.9% in the out-patient treatment centres, 7.7% in the prison centres and is null in the in-patient treatment centres.

[4] Ever injector: injection of drug for non therapeutical purpose at least once.
[5] Active chronic hepatitis: Infection for more than six months with liver inflammation.

One has to bear in mind that among persons infected by HCV, HBV and HIV, respectively 96%, 95.2% and 71.4% are ever injectors. It is important to note that the highest prevalence rates are observed among the prison population. This has to be confronted to the fact that half of the respondents declare having consumed illicit drugs in prison whereof half report intravenous use during detention.

The study also refers to a series of determinants such as, inefficient disinfection methods, inadequate syringe elimination, a high proportion of problematic Drug Users (PDUs) not using condoms during sexual intercourse, especially with new partners or irregular partners, the lack of or false knowledge of serological status and finally, protection strategies based on subjective criteria rather than on established knowledge.

Although strategies for risk reduction in the population of problematic drug users in the G.- D. of Luxemburg exist, this study points out the high prevalence of certain infectious diseases in the target group and in particular hepatitis C (HCV).

The existing prevention efforts have to be completed putting particular emphasis on young and new drug users. Although the study confirms a low compliance of the target population, screening and vaccination facilities have to be further developed. In this context the authors put forward a series of approaches that may contribute to reduce incidence of infectious diseases and related risks in drug users.

Abstract 4

Mathematical and statistical models for analyses of protective factors for HIV infection among injecting drug users

Mirjam Kretzschmar
School of Public Health, Bielefeld University, Germany

Mathematical modeling provides a natural framework for the analysis and interpretation of data from a combination of sources. Using a mathematical model one can gain insight into the behavioral mechanisms that lead to differences in HIV prevalence in different populations and one can test the effectiveness of different intervention strategies. Therefore, the data collected in second generation surveillance can be the ideal starting point for an integral analysis of the transmission dynamics of HIV and HCV in populations of injecting drug users. Various modeling approaches have been used in the past to describe and analyze the spread of infectious diseases in IDU, e.g. compartmental models, individual based models, and statistical approaches to estimate the force of infection. I will give an overview of the plans for the newly formed expert group on mathematical modelling of DRID and discuss the research questions that can be adressed with various modelling approaches.

Abstract 5

Modelling the impact on Hepatitis C transmission of reducing syringe sharing in London

Peter Vickerman, Matthew Hickman

Background: HCV prevalence and incidence among injecting drug users (IDUs) has increased in London and rest of UK. To inform public health action, mathematical modeling is used to explore the possible impact of strategies to decrease syringe sharing.

Methods: A mathematical model was developed to simulate HCV transmission amongst IDUs in London. Because of parameter uncertainty, numerical search algorithms were used to obtain different model fits to HCV sero-prevalence data from London for 2002-2003. These simulations were used to explore the likely impact of HCV prevention activities that reduce syringe sharing amongst all IDUs, IDUs that have injected for greater than one year, or core-group IDUs.

Results: Key differences between model fits centred on how they simulated the high HCV incidence amongst new injectors, either through assuming increased HCV infectivity during acute infection, a large core-group effect, or increased sharing among new IDUs. Despite parameter uncertainty, the model projections suggest that modest reductions in syringe sharing frequency (<25%) will reduce the HCV sero-prevalence in newly initiated IDUs (injecting less than four years) but much larger and sustained reductions (>50%) are required to reduce the HCV sero-prevalence in long-term IDUs (injecting more than eight years). Critically the model also suggested that large reductions in HCV sero-prevalence will be achieved only if interventions target *all* IDUs and reach IDUs within twelve months of injecting.

Discussion: Public health interventions must reduce syringe sharing amongst all IDUs, including newly initated IDUs, and be sustained for many years to reduce HCV infection. More accurate data on key behavioural (sharing frequency) *and* biological (percentage of infected IDUs that clear infection) parameters is required to improve model projections.

Keywords: hepatitis C, modeling, injecting drug use, UK

Abstract 6

The effect of reinfection on the epidemiology of Hepatitis C

Nico Stollenwerk

From a presentation during the EU-meeting, 18./19.10.2005, it has become clear that reinfection changes the R_0 estimates for HCV (Catharina Mathei, Belgium).

The strength of the force of infection for the primary infection versus the strength for following reinfections is under investigation (Aitken, C.J., et al., 2004, 74, 543, Herring, B.L. et al. J. Infect. Disease, 190, 1396), and reinfection might be less likely than first infection (personal communication, Sam Friedman: there are already first longitudinal studies to check such scenarios, after more recent presentations from Campbell Aitken, Mellbourne).

Gomes, M.G.M, et al. have recently studied the consequences of a lower reinfection than the first infection in extenso (see e.g. Gomes, White, Medley, 2005, The reinfection threshold, JTB, 236,111, and references therein). They consider an SIRI model, which links the classical SIS model with the as well classical SIR model.

Such a link between SIS and SIR has been studied earlier in statistical physics in respect to critical fluctuations (Grassberger, P. et al., 1997, Phys. Rev. E, 55,2488, and since then many publications, for a recent overview see e.g. Dammer and Hinrichsen (2004) Spreading with immunization in high dimensions, cond-mat/0405577). These critical fluctuations play an important role in modelling multi strain dynamics (Stollenwerk et al, 2004, PNAS, 101,10229), being modelled directly as stochastic process, in order to also make parameter estimation possible (Stollenwerk, Briggs, 2004, Phys. Lett. A, 274,84)

We propose to investigate the infection/reinfection process in HCV with the tools and ideas mentioned above, taking into account that HCV can from an accute to a chronicle disease, where the probability of transition from first accute infection is reported to be higher that the one from accute reinfections (Mehta, 2003, Lancet). For significantly lower accute reinfection one would expect a shaddowing effect, similar to the one for decreased transition to cronicle disease. Can the notion of the reinfection threshold, can the consideration of critical fluctuations along the threshold provide new understanding of the epidemiological HCV data (estimates of R_0 e.g.)? Are more studies needed to provide sufficient data for a clear understanding of HCV?

Abstract 7

Using population data bases to study the spread of STI in different regions

Monica K Nordvik
Department of Sociology, Stockholm University, Sweden

Sweden has a long history of collecting information about it's population. The fact that a unique identifier, the "person nummer" is used in most data bases makes it possible to merge different data bases for different research purposes (given that ethical permission is granted and that the datasets are de-identified). In this presentation we will show how databases have been used for studying the local spread of sexually transmitted infections in different regions, and discuss how it can be used for studying the spread of HIV and HCV among injecting drug users.

Abstract 8

Multilevel models: a tool to analyse contextual and individual variables jointly

Rafael Mikolajczyk
School of Public Health, Bielefeld University, Germany

Multilevel models were originally developed and applied in the organizational research with a main focus on educational systems. In contrast to earlier models where contextual variables (e.g. country characteristics) and individual characteristics were modelled separately, multilevel models allow to combine the different levels. Such approach reduces the risk of ecological fallacy in the one side, and allows investigating interactions between contextual variables and individual risk behaviour on the other. Potentially such methods could be used to investigate causes of different spread of infections among drug users, when individual data obtained from surveys would be combined with country or regional characteristics.

Abstract 9

Injecting drug users who fully participate in harm reduction programs are at decreased risk for HIV and HCV, evidence from the Amsterdam Cohort Studies

Charlotte van den Berg[1 2], Colette Smit[2 3], Giel van Brussel[2], Roel Coutinho[1 2 4], Maria Prins[1 2]
[1] Department of human retrovirology, Academic Medical Center, Amsterdam, The Netherlands; [2] Health Service Amsterdam, The Netherlands; [3] HIV Monitoring Foundation, Amsterdam, The Netherlands; and [4] Center for infectious disease control, National Institute of Public Health and the Environment, Bitlhoven, The Netherlands.

In Amsterdam, The Netherlands, methadone programs are implemented according to the harm reduction approach, in which illicit drug use is tolerated. The main goal is to keep in contact with as many drug users (DU) as possible, combining methadone provision with social-medical care and needle-exchange programs (NEP). We investigated whether harm reduction has an impact on the incidence of HIV and HCV.

The study population comprised 714 HIV and/or HCV negative ever-injecting DU from the open and ongoing Amsterdam Cohort Studies (ACS) that started in 1985. DU participating in the ongoing ACS return every 4–6 months. At every visit blood is drawn for HIV testing and stored serum was retrospectively tested for HCV antibodies.

The association between harm reduction and HIV and HCV seroconversion was evaluated using poisson regression. Harm reduction was measured by combining the two most important components: participation in a methadone program and the use of NEP, resulting in 5 categories ranging from no participation to full participation (defined as: no current injecting and ≥60 mg methadone/day, or current injecting but all needles exchanged and ≥60 mg methadone/day). Information on current harm reduction refers to the period between the present and the preceding visit.

During follow-up, 91 DU seroconverted for HIV and 58 for HCV. Methadone use or use of NEP alone was not associated with HIV or HCV seroconversion. However, when combining these variables as previously described, we found an HIV incidence rate of 1.2/100 person years (PY) in DU who fully participated in the harm reductions program versus 3.8/100 PY in DU who did not participate. For HCV these figures are 3.5/100 PY and 23.2/100 PY respectively. The corresponding relative risks were 0.32 (95% CI 0.17-0.62) for HIV and 0.15 (95% CI 0.06-0.40) for HCV. These results did not substantially change after correcting for potential confounders.

In conclusion, ever-injecting DU who fully participate in harm reduction programs are at decreased risk of both HIV and HCV infection, indicating that combining prevention measures, in stead of only supplying NEP or methadone, can reduce the spread of these infections.

Abstract 10

Effectiveness of needle exchange, a closer look at the existing evidence

Ellen J. Amundsen, SIRUS/Norwegian Institute of Alcohol and Drug Research, PObox 365 Sentrum, 0105 Oslo, Norway, E-mail: eja@sirus.no

Background: Needle and syringe exchange programmes (NSPs) has been adopted as a major component in harm reduction. Systematic reviews on the topic conclude in favour of NSPs as effective tools to reduce HIV transmission (Wodak & Cooney 2005 and 2006).

Content: The 11 studies in Wodak and Cooney with HIV incidence or change in HIV sero prevalence as outcome is rated partly incorrect and should partly be rated as much weaker than concluded. Six have been rated as showing a positive outcome, three as inconclusive and two as negative. We argue that two of the six in favour is erroneously rated and should be classified as inconclusive (Monterossi et al. 2000, Ljungberg et al. 1991) and two others should be reanalyzed to control for important confounders (Hurley et al 1997, HOI Report 2002/ Macdonald et al. 2003). This leaves two studies in favour, seven as inconclusive and two as negative. Other aspects of NSP will be considered, among them the notion that NSP can be studied as a uniform intervention.

Conclusion: The status of NSP as the superior tool in HIV prevention among IDUs may be questioned. Better study designs should be established for both NSP interventions and how social practice/group norms for risk reduction can be created and strengthened.

Abstract 11

Human Immunodeficiency Virus type 1 seroincidence estimate among a group of drug users: a new approach.

S. Bio Fernandes[1], H. Cortes Martins[1], H.Trigo[2], E. Leitão[2], R. Coutinho[2], M.T.Paixão[1]
[1] Centro de Virologia, Instituto Nacional de Saúde
[2] Plano Integrado de Prevenção das Toxicodependências de Lisboa (PIPT-Lisboa)

Introduction:
Estimating Human Immunodeficiency Virus type 1 (HIV-1) infection remains one of the great challenges of the epidemiologic surveillance of HIV-1 epidemics. WHO has recently approved a laboratory based strategy that enables the identification of recent infections.

Objectives:
To identify the number of recent (incident) infections and estimate the seroincidence of HIV-1, using for the first time in Portugal, a new methodology based on the Avidity Index of HIV-1 antibodies.

Methods:
Cross-sectional study of a HIV-1 positive group selected within drug users admitted in a Low Threshold Methadone Program in Lisbon during a one-year period. Avidity Index is calculated by testing a sample from each participant on the automated AxSYM HIV 1/2gO assay (Abbott) following a specific protocol. HIV-1 infections are classified as recent or established according to the Avidity Index value.

Results:
The Low Threshold Methadone Program admitted 714 drug users and 175 were HIV-1 infected at admission (proportion of 24.5%; 95% confidence interval (CI): 21.3-27.7). Twenty recent infections were identified and the seroincidence of HIV-1 estimated as 3.58% (IC 95%, 2.0-5.1) (six-month value), which corresponds to an annual projection of 7.16% (IC 95%, 5.0-9.3). Comparative analysis between groups identified independent associations between incident HIV-1 infections and race/ethnicity (p=0.047), educational level (p=0.006) and presence of HBsAg (p=0.028). No association was found between incident HIV-1 infections and ever injected or syringe sharing. Independent determinants were found in logistic regression associated to HIV-1 incident infection: presence of HBsAg (odds-ratio (OR)=5.0; 95% CI 1.3-19.1) and race/ethnicity other than Caucasian (OR=4.0; 95% CI 1.1-14.7).

Conclusion:
The avidity index methodology is simple and rapid, allowing the identification of recent infections. So far, there are no published national or international studies, allowing us to assess our annual projection of HIV-1 seroincidence, due to the recent introduction of this methodology.

Abstract 12

Methodological aspects of recent UK studies

Gordon Hay
Centre for Drug Misuse Research, University of Glasgow (UK)

Prevalence studies in the United Kingdom are carried out at the devolved administration level. In this presentation I will discuss four methodological issues we faced during a study to estimate the prevalence of problem drug use in Northern Ireland (at the local and national level) and within an ongoing study to estimate the prevalence of problem drug use (including crack cocaine use) and drug injecting in England, again at the local and national level. The four methodological aspects are:

1) The use of weighted estimates in a capture-recapture analysis
2) The use of stepwise regression instead of principal component analysis in the multivariate indicator model analysis
3) Confidence intervals, particularly for multivariate indicator model estimates
4) The use of bootstrap methods for summing confidence intervals.

Abstract 13

Problem drug use in Croatia

Croatian National Institute of Public Health
Pr Marina Kuzman, MD, PhD

Drug abuse is a today's civilization challenge. It interferes in the development of the developing countries and is responsible for the money drain and money loundry in the developed world. It poses a great risk for the health of the country, especially related to some communicable diseases (HIV infection, hepatitis C, hepatitis B, sexually transmitted infections). the mortality rate is higher among drug abusers than in the general population of the same age. Drug abuse and drug addiction is connected to the social factors as unemployment, poverty, sex-trade, delinquency, homelessness etc. Money engaged in narco-criminal could have a significant role in the country's market (di)stability.

According to the today scientific knowledge, addiction is not considered as socially induced behavior, than chronic recurrent brain disease, with possible social and health consequences. This makes the health system's responsibility even greater, although drug addiction remains the concern of the whole society.

The drug use and abuse in Croatia

The drug abuse surveillance system has been in Croatia established in the Croatian national Institute of Public Health more than twenty years ago. Data on the hospital admissions because of drug abuse had been collected, and gradually the Drug Abuse Registry has been established. There are more than 24.000 persons in the Register up to now, 70% of them being heroin addicts. Data are collected from the comprehensive health system, not only from hospitals, but form out-patients Centres for drug abuse prevention, from the GP's offices and from the mortality database. Since 2002 the compulsory form has been adapted Pompidou questionnaire of the Council of Europe.

The treatment system in Croatia is based on the in- and out-patient treatment facilities network There are more than 6,000 persons treated in the health system annually. In 2005 in total 6.664 persons were treated (224/100.000 population aged 15-64), among them 4.866 being heroin addicts. First treatment demand for heroin abuse was registered for 784 persons, which reflects slight stabilisation in the new heroin addicts trend.

According to the self-report, 47.6% of the drug users were hepatitis C positive, 17.6% hepatitis B positive. The percentage of HIV positive among drug users is very low (0.7%). This is supported by the information on the HIV positive persons whose means of transmission was estimated as i.v. drug use (11% out of total HIV/AIDS patients in Croatia are infected through i.v.mode). It is assumed that so low prevalence and incidence is due to the available information, appropriate education, methadone program and existing harm-reduction programs. In the past month 42% of the heroin users have had drug injected. Although 70% of i.v. drug users have had at least once shared needles and syringes in the lifetime,

the percentage of those who reported sharing in the last month is steadily decreasing (in the year 2002 38.6% of them and in 2004 23.2%).

The court problems were registered among 24% of the heroin drug addicts, 74% of them having repeatedly court problems.

In the year 2004 108 of the drug addicts have died, for 81 (78%) of them the cause of death was overdose.

Abstract 14

Estimating the percentage of injecting drug users in the Netherlands

Guus Cruts, Margriet van Laar
Trimbos Institute,
Netherlands Institute of Mental Health and Addiction

In the Netherlands, a national registration system and various local researches are available that can be applied to estimate the percentage of injecting drug users. With regard to the national registration of problem drug users that are in treatment, the question is to what extent the problem drug users that are in treatment resemble the problem drug users that are not in treatment, a complication which may lead to an over- or underestimation of the percentage of injecting drug users. With regard to local researches, the question is to what extent the local findings represent the national situation. A method will be discussed to find a national estimate of the percentage of injecting drug users by combining information from both sources, that is the national treatment registration and local researches.

Abstract 15

Incidence of heroin use and harm reduction policy in Switzerland
Nordt C, Stohler R.

Presentation based on: Nordt C, Stohler R. Incidence of heroin use in Zurich, Switzerland: a treatment case register analysis. Lancet. 2006 Jun 3;367(9525):1830-4. Erratum in: Lancet. 2006 Jul 8;368(9530):118. Comment in: Lancet. 2006 Jun 3;367(9525):1797-8.

Background: Switzerland has been criticised for its liberal drug policy, which could attract new users and lengthen periods of heroin addiction. We sought to estimate incidence trends and prevalence of problem heroin use in Switzerland.

Methods: We obtained information about first year of regular heroin use from the case register of substitution treatments in the canton of Zurich for 7256 patients (76% of those treated between 1991 and March, 2005). We estimated the proportion of heroin users not yet in substitution treatment programmes using the conditional lag-time distribution. Cessation rate was the proportion of individuals leaving substitution treatment programmes and not re-entering within the subsequent 10 years. Overall prevalence of problematic heroin use was modelled as a function of incidence and cessation rate.

Findings: Every second person began their first substitution treatment within 2 years of starting to use heroin regularly. Incidence of heroin use rose steeply, starting with about 80 people in 1975, culminating in 1990 with 850 new users, and declining substantially to about 150 users in 2002. Two-thirds of those who had left substitution treatment programmes re-entered within the next 10 years. The population of problematic heroin users declined by 4% a year. The cessation rate in Switzerland was low, and therefore, the prevalence rate declined slowly. Our prevalence model accords with data generated by different approaches.

Interpretation: The harm reduction policy of Switzerland and its emphasis on the medicalisation of the heroin problem seems to have contributed to the image of heroin as unattractive for young people. Our model could enable the study of incidence trends across different countries and thus urgently needed assessments of the effect of different drug policies.

Abstract 16

Monitoring consumption of illicit drugs by analysis of their environmental concentrations: An update.

Roberto Fanelli
Department of Environmental Health Sciences
Mario Negri Institute for Pharmacological Research
Milano, August 27 2006

Following our first report where cocaine and its major urinary metabolite were identified and measured in municipal sewage and surface waters in Italy, research activities continued with the following aims:

- Confirmation of findings in other countries
- Extension of the methodological approach used for cocaine to other major illicit drugs
- Evaluation of the effect of sewage treatment on the degradation of drugs and their metabolites
- Observation of the day-by-day variations of illicit drug concentration in sewage water in a well-controlled experimental setting, to test whether these may be used to monitor local drug consumption over time

Confirmation of findings in other countries

The results found in Italy were confirmed by those obtained in Switzerland and UK, where we examined wastewaters entering the municipal treatment works of London and Lugano. Moreover, we know that colleagues from other countries have been able to measure cocaine and metabolite in surface waters.

Extension to other major illicit drugs

We have extended our analytical methodology to other major illicit drugs and metabolites including: opioids (morphine, 6-acetyl morphine), amphetamines (amphetamine, methamphetamine, 3,4-MDA, 3,4-MDMA), cannabinoids (11-nor-9-carboxy-delta9-tetrahydrocannabinol). So far, all the compounds have been identified and measured in wastewaters.

Effect of sewage treatment

We have evaluated the extent of degradation of the measured compounds in sewage treatment plants analysing wastewaters at the entrance and exit of the plants. We have found that degradation can be extensive or partial, depending on the plant and the drug considered. This suggests that while there can be an environmental interest in measuring these compounds in surface waters, the best

point of measure is at the entrance of the plants if the aim is an evaluation of drug consumption.

Evaluation of day-by-day variation

We evaluated in a preliminary experiment whether our methodology could reveal reproducible drug concentration patterns over time in sewage water at a given plant, so as to possibly allow detection of significant changes in local drug consumption. We chose to study the day-by-day variation on different occasions, focusing our attention on the ability to detect an increase in drug consumption during the weekend. We analyzed daily concentrations of cocaine and metabolite at the entrance of the major sewage treatment plant in Milano (1.2 million inhabitants) during three non-consecutive weeks. These preliminary results show a very small day-by-day variation in drug concentration during workdays and a 20-30 % increase during the weekends. These results support the possibility of monitoring local drug consumption in real time by this approach.