Drug related harm reduction in the eu and candidate countries - success and gaps

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ABSTRACT

BACKGROUND: Evaluation of the state of play of the 2003 Council Recommendation on the prevention and reduction of healthrelated harms, associated with drug dependence, in the EU and candidate countries and elaboration of proposals for new recommendations.

METHODS: Analysis of epidemiological data available at the European Monitoring Center for Drugs and Drug Addiction (EMCDDA) using statistical modeling, a general literature review on harm reduction measures, four systematic literature reviews (one on peer naloxone pro-grams) and surveys among decision makers in the field of drug policy and among harm reduc-tion providers ("stakeholders") using online questionnaires and a gap survey among the na-tional focal points of EMCDDA in EU-countries and candidate countries.

RESULTS: It was possible to decrease the number of HIV-infections among drug users substantially in most EU countries and candidate countries during the last decade; unfortunately for the numbers of deaths due to overdoses this effect could not be reached. Stakeholders (harm reduction providers) name improvement of needle and syringe exchange and harm reduction in prison as main priorities in order to reduce drug related infectious diseases. Concerning re-duction of mortality they prioritise peer naloxone programs, drug consumption rooms and first aid training of drug users.

CONCLUSIONS: The increase of coverage of substitution treatment and of the availability of needle exchange programs in most countries can be seen as successes of harm reduction policy although the coverage especially of the latter still needs improvement. Peer naloxone pro-grams and improvement of harm reduction in (and after) prison are two of 13 recommended actions to improve the situation concerning mortality of opioid users. Continuous political strengthening of harm reduction is necessary.

Key words: Harm reduction, drug related death, HIV, opioid substitution treatment, naloxone

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INTRODUCTION

The Council Recommendation (CR) of 18 June 2003 on the prevention and reduction of health-related harm associated with drug dependence states the following main objectives:

- Member States should, in order to provide for a high level of health protection, set as a public health objective the prevention of drug dependence and the reduction of related risks, and develop and implement comprehensive strategies accordingly.
- Member States should, in order to reduce substantially the incidence of drug-related health damage (such as HIV, hepatitis B and C and tuberculosis) and the number of drug-induced deaths, make available, as an integral part of their overall drug prevention and treatment policies, a range of different services and facilities, particularly aiming at risk reduction; to this end, bearing in mind the general objective, in the first place, to prevent drug abuse.
- Member States should consider measures, in order to develop appropriate evaluation to increase the effectiveness and efficiency of drug prevention and the reduction of drug-related health risks.

This article refers to the 2nd progress report on the implementation of this Council Recommendation and covers all 27 EU countries, the acceding country Croatia and the candidate countries: The former Yugoslav Republic of Macedonia, Iceland, Montenegro and Turkey. The first evaluation report was done in 2006 by the Trimbos Institute [1].

METHODS

The **general literature review** on harm reduction measures presented in the previous report [1] has been updated using recent comprehensive reviews like the synthesis of literature concerning the prevention of infectious diseases conducted by the European Centre for Diseases Prevention and Control (ECDC) and the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) [2,3], the EMCDDA insights on new heroin assisted treatment [4] and the systematic review on the effectiveness of opioid substitution treatment in prison settings [5]. Significant recent studies, not covered by the above-mentioned reviews, have been added and the relevant websites have been searched for international guidelines. For areas not covered by recent reviews, **four systematic literature reviews** have been carried out: "peer naloxone programmes", "needle exchange programmes in prison", "prison release management" and "measures to influence the route of administration" [6].

As a first step of **analysis of data available at the EMCDDA,** all standard tables and structured questionnaires collected by the EMCDDA, via the national EMCDDA focal points (REITOX network), were scanned for information relevant for the description of the CR-implementation. For the analysis of epidemiological trends, data presented in the EMCDDA Statistical Bulletin [7] have been used, additionally. Data mainly refer to the time period 2003 to 2010 and have been updated for 2011 for countries with significant recent developments (HIV-outbreak in Greece and Romania) [8,9]. Based on the analysis of the information available at the EMCDDA, the national reports on the drug situation from 2003 to 2011 and the EMCDDA country overviews for each country, **country profiles focusing on drug-related harm (reduction)** were elaborated [10]. They were sent out to the REITOX Focal Points to carry out a **gap-survey** in the course of which they were asked to add information, if necessary, and to comment on the information presented.

Based on the previous report [1] and on the results of the discussion process with the Executive Agency for Health and Consumers (EAHC), EMCDDA, European Commission (EC) and leading experts from Austrian harm reduction organisations, an **online-survey for policy makers** [11] and one for **stakeholders (harm reduction providers)** [12] were designed. Table 1 gives an overview concerning data availability and responses to the surveys.

RESULTS CONCERNING EPIDEMIOLOGY

In the European Union the number of new **human immunodeficiency virus** (HIV)

TABLE 1

DATA AVAILABILITY AND RESPONSES TO THE SURVEYS	
DATA SOURCES/SURVEY	**AVAILABILITY/RESPONSES**
EMCDDA statistical tables and structured questionnaires	29 countries; not available for the former Yugoslav Republic of Macedonia, Iceland, Montenegro
EMCDDA country overviews	31 countries; not available for Iceland
National reports	29 countries; not available for the former Yugoslav Republic of Macedonia, Iceland, Montenegro
Gap-survey	26 countries; not possible for the former Yugoslav Republic of Macedonia, Iceland, Montenegro, Turkey (no REITOX FP), no answers from Bulgaria and Romania
Policy maker survey	31 countries; no answer from Slovakia
Stakeholder survey	24 countries; no response from Cyprus, Lithuania, Sweden, Poland, the former Yugoslav Republic of Macedonia, Iceland, Montenegro and Turkey

Source: [16]

infections among injecting drug users is rather low compared to the United States and other European countries [13]. In the year 2010, the average rate of newly diagnosed HIV cases among injecting drug users (IDUs) was 2.54 per million (1,192 cases) [13]. Comparisons between countries are difficult due to differences in the study methodology and coverage. The rates of newly diagnosed HIV infections among injecting drug users vary significantly between countries. Very high rates are reported for the Baltic States (Estonia, Latvia and Lithuania) with up to 46.3 cases per million inhabitants and very low rates (less than one new infection per million inhabitants) e.g. in Czech Republic, Cyprus, Hungary, Malta, Netherlands and Croatia [14]. Table 2 shows decreasing rates of HIV infections via IDU in most countries. Local HIV-outbreaks have been observed in Greece and Romania. This rate increased from 9 to 16 cases per annum (2005-2010) to 256 cases in 2011 and 314 cases in 2012 (January to August) [8,14]. The percentage of IDU as route of infection increased from 2 to 3 % in 2010 up to 41 % in 2012. Possible explanations for this outbreak are increasing risk behaviour among IDUs in Athens (changing from sniffing to injecting heroin) and low coverage of prevention services and low uptake of antiretroviral therapy [8]. In Romania the numbers of newly diagnosed drug injectors infected with HIV increased from 0–14 per year (2005-2010) to 129 cases in 2011 and 102 cases in 2012 (January to June). The percentage of IDU as way of infection increased from 2 to 3 % to approximately one third in 2012 (9, 14). Possible explanations for this outbreak are increasing changes in drug use patterns (legal highs – new stimulants which lead to increased injection frequency) and low harm reduction service provision [9].

Hepatitis C (HCV) infection is highly prevalent among IDUs in most EU countries. Since high prevalence is found among young and new injectors [15] it can be assumed that the transmission rate is very high. Concerning trends due to lack of data an overall picture is not available. Between 2005 and 2010 declining HCV prevalence in injecting drug users at national or regional level have been observed in six countries while five others observed an increase (Austria, Bulgaria, Cyprus, Greece and Romania). Italy reported a decline at national level between 2005 and 2009 with increases in three of 21 regions [13]. It is important to note that it seems that there are huge regional differences in infection rates between countries as well as inside countries.

Deaths **due to overdoses (i.e. drug-induced deaths)** involving illegal drugs belong to the main causes of mortality among young people in Europe [13]. Country comparison in Europe should be made with caution, since there are still some differences between

TABLE 2

TRENDS IN DRD, HIV, NSP, OST (SIGNIFICANT DIFFERENCES 2003/2004 AND 2009/2010 DATA)

COUNTRY	DRD TREND [1]	DRD RATE [2]	HIV TREND [3]	HIV RATE [4]	NSP TREND [5]	IDU % [6]	OST TREND [7]	POU % OST [8]
AUSTRIA	↕	3.0	↓	0.3	n.a.	35	↑	58
BELGIUM	n.a.	1.4	↓	0.1	↑	21	↑	n.a.
BULGARIA	↑	0.7	↑	0.7	↑	82	↑	n.a.
CYPRUS	↕	1.9	n.a.	0.0	↑	64	n.a.	45
CZECH REP.	↕	0.7	↕	0.0	↑	79	↑	54
DENMARK	↓	5.5	↕	0.1	n.a.	16	↑	n.a.
ESTONIA	↑	11.1	↓	4.6	↑	87	↑	n.a.
FINLAND	↑	4.7	↕	0.2	↑	75	↑	43
FRANCE	↑	0.8	↓	0.1	↑	23	↑	n.a.
GERMANY	↕	2.3	↓	0.1	n.a.	36	↑	49
GREECE	↕	2.1	↑	2.2	↑	38	↑	28
HUNGARY	↕	0.2	n.a.	0.0	↑	69	↑	33
IRELAND	↑	6.5	↓	0.5	n.a.	32	↑	42
ITALY	↓	0.9	↓	0.3	n.a.	53	↑	47
LATVIA	↕	0.5	↓	3.8	↑	94	↑	2
LITHUANIA	↑	2.2	↑	3.1	↓	n.a.	n.a	17
LUXEMBOURG	↕	3.5	n.a.	0.2	↓	68	↕	66
MALTA	↕	2.1	n.a.	0.0	↑	61	↑	64
NETHERLANDS	↕	0.8	↓	0.0	n.a.	7	↓	57
POLAND	↑	0.7	↓	0.1	↓	66	↑	8
PORTUGAL	n.a.	0.7	↓	1.1	↓	15	↑	n.a.
ROMANIA	↑	0.2	↑	0.5	↑	91	↑	n.a.
SLOVAKIA	↕	0.5	n.a.	0.0	↑	78	↑	12
SLOVENIA	↕	1.8	n.a.	0.0	n.a.	52	n.a	n.a.
SPAIN	↓	1.4	↓	0.5	↓	16	↓	n.a.
SWEDEN	↑	4.1	↕	0.3	↓	59	n.a	n.a.
UNITED KINGDOM	↑	5.4	↕	0.2	n.a.	34	n.a	n.a.
CROATIA	↕	2.5	↕	0.0	↑	n.a.	↑	n.a.
THE FORMER YUGOSLAV REPUBLIC OF MACEDONIA	n.a.	n.a.	n.a.	n.a.	n.a.	73	n.a.	n.a.
ICELAND	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
MONTENEGRO	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
TURKEY	↑	0.3	n.a.	n.a.	n.a.	n.a.	n.a	n.a.

Remarks: n.a.=no data available, h=significant increase, o=no change, i=significant decrease; [1] Significant change of number of drug-induced death 2003-2010; [2] Number of drug-induced death per 100,000 inhabitants aged 15 to 64. Country comparison should be made with caution, since there are still some differences between countries in the capacity to ascertain the drug-induced death cases. For example Ireland has a thorough and extensive monitoring system for drug-induced deaths which might be one reason for the high rate; [3] Significant change of HIV infections (AIDS) newly diagnosed IDUs 2003-2010 – for Greece and Romania 2003-2011; [4] Number of HIV-infections (AIDS) via injecting drug use newly diagnosed in 2010 per 100,000 population – for Greece and Romania 2011 - rates > 1 are written bold, country comparison should be made with caution, since there are still some differences between countries in the monitoring systems; [5] Significant change of number of needles/syringes distributed through specialised programmes 2003-2010; [6] % of IDU as main route of administration of opioids among clients starting outpatient treatment -rates > 60 are written bold; [7] significant change of numbers of clients in opioid substitution treatment 2003-2010; [8] Rate of problem opioid users in opioid substitution treatment -rates below 30 are written bold]- for calculation of trends see [16]

Source: [1] (7), Table DRD-2, [2] (7), Table DRD-7, [3] (14), [4] (7), Table INF-104; [5] (7), Table HSR-3; [6] (7), Table TDI-17 part II; [7] (7), Table HSR-3; [8] (7), Figure HSR-1

countries in the capacity to ascertain the drug-induced death cases. Another major limitation is the remaining differences in coding, recording and extracting cases. Most national reporting systems have been stable over time, which allows, in the majority of countries, an analysis of the trend over time. Nonetheless, caution is needed here as well, as data collection procedures in some countries have changed over time. In 2010, the average EU mortality rate of drug-induced deaths is estimated to be about 20 deaths per million inhabitants aged 15-64 years. Around 7,000 drug-induced deaths (overdoses) occurred in the EU Member States in 2010 [13]. Drug-induced deaths in the EU are mainly caused by opioids (in particular heroin). 11 % of the drug-induced deaths in Europe are reported among people aged under 25 years, 32 % from 25 to 35 years and 57 % aged 35 years or older. By far, most of the drug-induced deaths are male (80 %), and the majority of cases are related to poly drug use – in most cases opioids in combination with other drugs [7]. Due to the limitations stated above the trend of drug-induced deaths are analysed instead of rates. Only Spain, Italy and Denmark experienced a significant decrease of drug-induced deaths from 2003/2004 to 2009/2010. 13 of the Member States and candidates countries didn't experience significant changes; eleven countries reported a significant increase in the number of drug-induced death. This may partly be due to the rather low starting points 2003/2004 in some countries (trends see table 2).

RESULTS CONCERNING HARM REDUCTION MEASURES

The situation concerning harm reduction measures improved a lot in most countries covered by the study since 2003 [16]. The coverage of opioid substitution treatment (OST) and needle and syringe exchange programs (NSP) has considerably increased but especially NSP is still far away from full coverage in all countries (see table 2). While OST is now available in many prisons, NSP is not (see table 3). Therefore, prisons are still a high risk environment for infections with HIV or Hepatitis C (HCV) and a driving factor for infectious diseases among injecting drug users (IDUs). Therefore, improvements in the prison setting are very urgent. Heroin assisted treatment as a second line intervention, Drug Checking, peer naloxone programmes and drug consumption rooms are implemented in a few countries, only (see table 3). In times of economic crises, the financing of the status quo and the expansion of harm reduction is an important issue in all countries. In some of the countries which joined the EU in 2004 or later (e. g. Bulgaria and Romania) harm reduction projects were initially funded by the "Global Fund to Fight AIDS, Tuberculosis, and Malaria". Policy makers and stakeholders expressed concern to ensure national follow-up funding [16].

Stakeholders (harm reduction providers) estimate the current coverage of harm reduction measures lower than policy makers (see figure 1). Asked for harm reduction measures whose implementation/expansion

TABLE 3

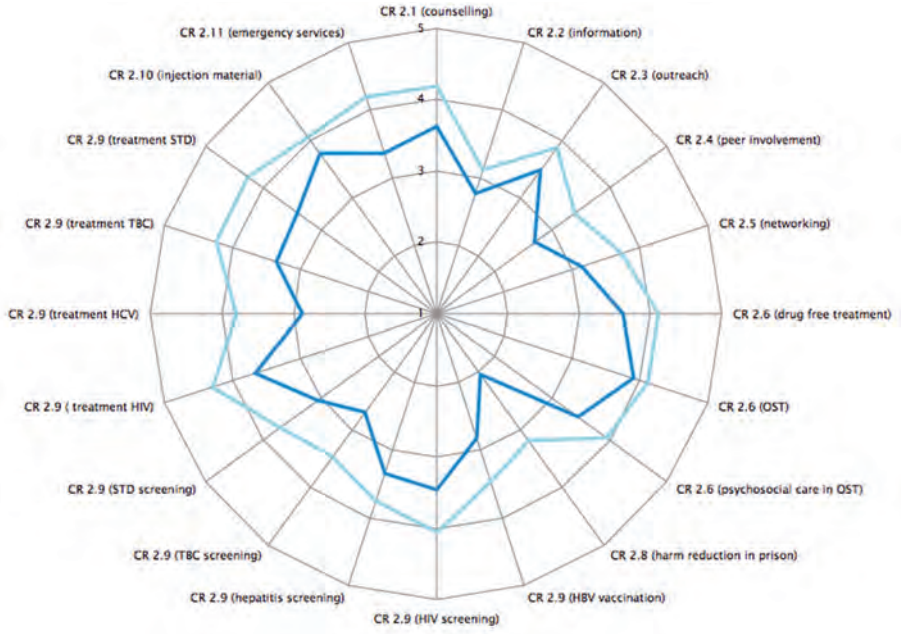
HARM REDUCTION MEASURES AVAILABLE IN JUST A FEW COUNTRIES

HARM REDUCTION MEASURE	AVAILABILITY
Drug consumption room [1]	Germany, Luxembourg, Netherlands, Spain, Denmark
Peer naloxone programme [2]	Italy, Germany, Spain, Lithuania, United Kingdom (England, Wales, Scotland), Bulgaria, Denmark, Portugal
Heroin assisted treatment [3]	Belgium, Denmark, Germany, Netherlands, Spain, UK
NSP in prison [4]	Germany, Spain, Luxembourg, Portugal, Romania
Pill testing [5]	Austria, Belgium, France, Netherlands, Portugal, Spain

Remark: Data from NFPs have been amended by other information. The data partly refer to (pilot-) projects which are very small and which might be closed again. There may well be other, local, un-official initiatives in some countries.
Source: [1] (34) + country profile Denmark (10); [2] (6); [3] (7), Table HSR-1; [4] (6); [5] (35)

FIGURE 1

COVERAGE OF HARM REDUCTION MEASURES, ESTIMATED BY STAKEHOLDERS AND POLICY MAKERS



HBV=hepatitis B virus, HCV=hepatitis C virus, HIV=human immunodeficiency virus, OST=opioid substitution treatment, STD=sexually transmitted diseases, TBC=tuberculosis

Remark: data refer to Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Luxembourg, Malta, Netherlands, Portugal, Romania, Slovakia, Slovenia, Spain, United Kingdom.

Coverage: 1=not available, 2=rare, 3=limited, 4=extensive, 5=full coverage

Source: [16]

would have the biggest effect in reduction of prevalence of infectious diseases among injecting drug users (IDUs) in the respective country/region, needle and syringe exchange and harm reduction measures in prison were quoted most often, followed by paraphernalia distribution for injecting drug users and safer injection training (see figure 2). Asked for measures whose implementation/expansion would have the biggest effect in reducing drug-induced deaths (due to overdoses) in the respective country/region, first aid training for drug users and naloxone "take-home" programmes are quoted most often followed by information and counselling services to drug users focusing on harm reduction and followed by prison release management. The measures naloxone "take-home" programmes, drug consumption rooms and first aid training for drug users were quoted most often on rank 1 to 3 (see figure 3).

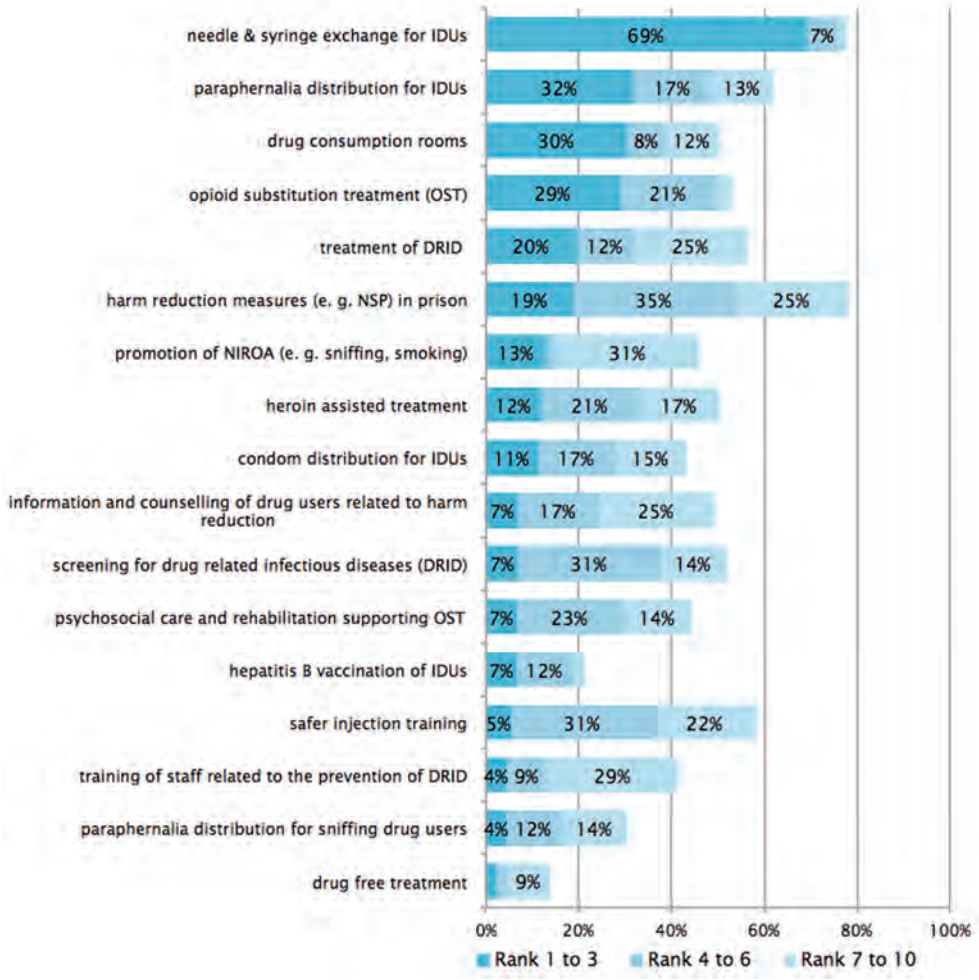
DISCUSSION

Based on the literature review and the analysis of the situation concerning harm reduction, the following recommendations have been elaborated. These recommendations implicate activities on different levels: EU-policy-level, national-policy-level and the level of practical implementation in the field.

Political strengthening of harm reduction: Harm reduction is still politically not undisputed. While in many countries harm reduction measures became well implemented in the last decade, in some countries steps backwards can be observed or are feared. Moral barriers and the prioritisation of abstinence orientated services by some decision makers remain major obstacles for harm reduction services. Many stakeholders express concerns regarding the financing of harm reduction measures in the future due to

FIGURE 2

HARM REDUCTION MEASURES WHOSE IMPLEMENTATION / EXPANSION WOULD HAVE THE BIGGEST EFFECT IN REDUCTION OF PREVALENCE OF DRID AMONG IDUS (OPINION OF STAKEHOLDERS)



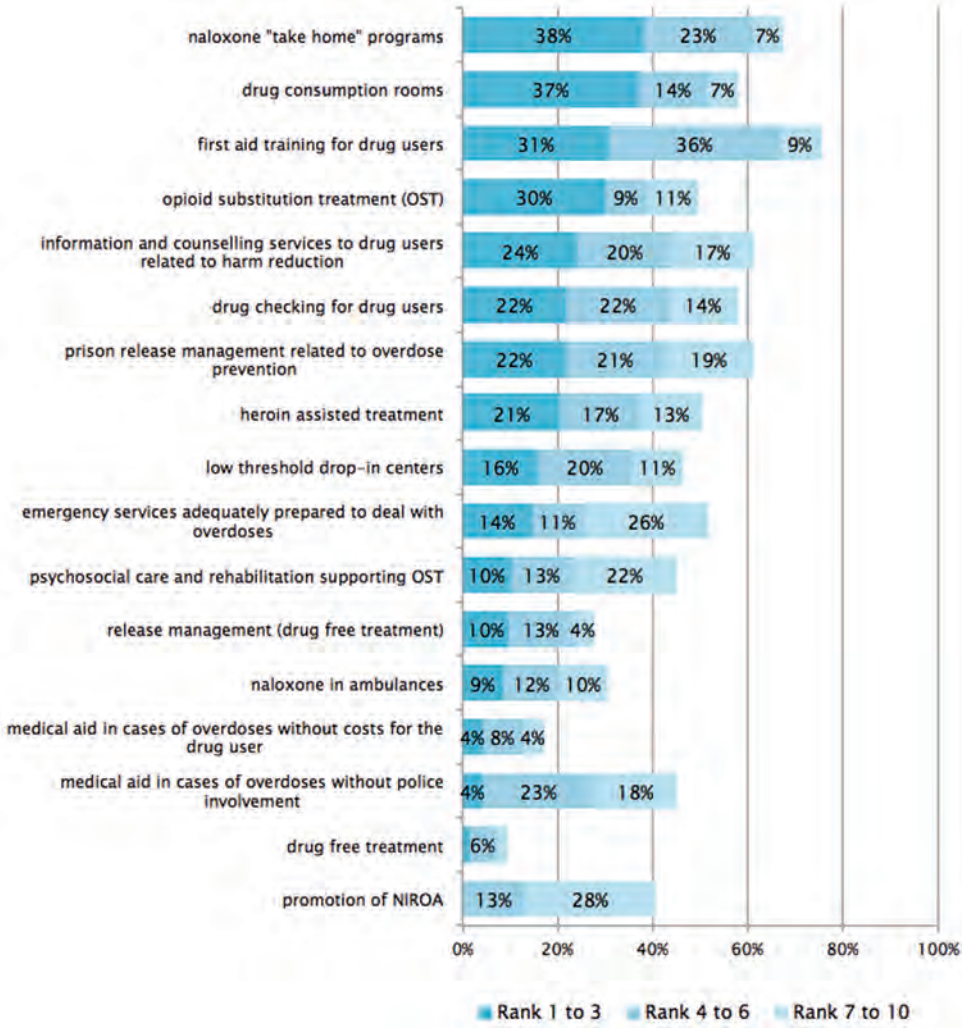
DRID=drug-related infectious diseases, IDU=injecting drug user, NIROA=non injecting route of administration, NSP=needle and syringe exchange programme, OST=opioid substitution treatment,
STD=sexually transmitted diseases;
The exact formulation of the question was: "Please indicate the harm reduction measures whose implementation / expansion - to your opinion - would have the biggest effect in reduction of prevalence of infectious diseases among injecting drug users in your country/region. Please indicate 10 measures at maximum!"
Remark: data refer to 23 countries from the 24 countries covered by the stakeholder survey. Latvia is missing.
Source: [12]

the financial crisis. They also report objections by uninformed or despondent decision makers [12]. The harm reduction approach should further be strengthened in follow-up policy work at EU level.

Syringe provision through specialised programmes: Syringe provision through specialised programmes (needle exchange programmes - NSP) have proven their effectiveness in a range of high quality studies [1,2]. They are an integral part of drug policies in all EU Member States and candidate countries, with the exception of Turkey [16]. But nearly all countries where respective data are available miss the WHO, UNODC, UNAIDS criteria of 200 syringes per IDU per year for good coverage [17] concerning HIV prevention . This is a major obstacle taking into account that the levels required for the prevention of hepatitis C (HCV) are likely to be much higher. Activities

FIGURE 3

HARM REDUCTION MEASURES WHOSE IMPLEMENTATION / EXPANSION WOULD HAVE THE BIGGEST EFFECT IN REDUCTION OF DRUG-INDUCED DEATHS ACCORDING THE OPINION OF STAKEHOLDERS



OST=opioid substitution treatment, NIROA=non injecting route of administration;
The exact text of the question was: "Please indicate the harm reduction measures whose implementation / expansion - to your opinion - would have the biggest effect in reduction of drug-related deaths (deaths due to overdoses) in your country/region. Please indicate 10 measures at maximum!"
Remark: data refer to 23 countries from the 24 countries covered by the stakeholder survey. Latvia is missing.
Source: [12]

to improve the coverage of the availability of sterile needles and syringes especially in rural areas are needed. Especially countries with an increase of HCV prevalence (Austria, Bulgaria, Cyprus, Greece and Romania) or of newly diagnosed HIV or high HIV rates among IDUs (Bulgaria, Estonia, Latvia, Lithuania, Greece, Portugal, Romania) are called upon to take some actions.

Opioid substitution treatment (OST) improvement of coverage and organisation: The coverage of OST has increased significantly since 2003 (see table 2). However, coverage is not regarded as full or extensive in all countries, and waiting lists for OST are common. Another challenge for practice and research to meet the needs of different groups of clients is the diversification of OST: substances used, routes of administration and regimes (e. g. OST via drug treatment centres versus OST via general

practitioners). The main purpose should be to avoid interruptions which are a risk factor, especially concerning drug-induced deaths [18]. Clear indications for the change from OST to drug-free treatment are needed because failed attempts to become drug free might increase the risk of drug-induced deaths. Parallel consumption of other drugs should not be an exclusion criterion from OST. Only Spain, Italy and Denmark experienced a significant decrease in drug-induced deaths during the last decade. Thus, in almost all countries improvements in this field seem to be necessary. In addition heroin assisted treatment should be expanded as a second line intervention [19].

Harm reduction in prison: While OST is now available in many prisons, syringe provision through specialised programmes (NSP) is not. The coverage of harm reduction in prison is estimated to be very low in general [12]. Therefore, prisons are still a high risk environment for infection with HIV or HCV and a driving factor for infectious diseases among IDUs. There is a high risk of fatal overdoses (drug-induced deaths) after prison release [20] which points out the importance of adequate prison release management (throughcare). It can be concluded that action is needed in this area. The implementation of NSP (which is possible and effective see Spain for example [21]), the improvement of OST coverage and adequate throughcare including prison release management (assuring continuation of OST in prison and after prison release) are necessary. To speed up the full implementation of harm reduction measures in prison, this issue should be especially highlighted in follow-up policy work at EU level.

Naloxone "take-home" programmes: Asked which implementation/expansion of harm reduction measures would have the biggest effect on reducing the numbers of drug-induced deaths (overdoses) in the respective country/region, first aid training for drug users and naloxone "take-home" programmes were quoted most often by civil society organisations. Based on the results from the evaluation studies [22-25], the recommendations from experts [26-28] and the analysis of the objections against naloxone, it can be concluded that naloxone is a safe drug to use and peer naloxone programmes - in combination with emergency training - should be expanded in Europe to decrease the number of drug-induced deaths [6].

Facilitate the use of emergency-services: The use of emergency services is an important aspect in preventing drug-induced deaths. However, the use of emergency services and its impact on harm reduction is

hardly studied. One major aspect is the (perceived) risks of police arrests associated with calling emergency services or the fear of violating conditions of probation. As a possible measure in this field, for example in Luxembourg [29], a law exempts drug users who call for assistance in case another user is in need of medical help, from prison sentences and from fines in certain circumstances. In general, witnesses meeting these conditions are not prosecuted. As an accompanying measure, an information flyer has been elaborated jointly with field agencies and the Ministry of Health and broadly distributed. The flyer contains useful information on safer injection and advice in case of overdose events. More research is needed to identify and overcome obstacles (e. g. legal implications) when calling ambulance services during an overdose in Europe. Furthermore it is important that expenses for the hospital stay as well as for the rescue effort are paid by the health insurance and not by the patient.

Drug consumption rooms: It was not possible to reduce the number of drug-induced deaths in most of the countries from 2003 to 2009. Additional measures focusing on preventing drug-induced deaths are necessary. According to the stakeholders, the implementation of drug consumption rooms would be the second most effective measure to reduce drug-induced deaths after peer naloxone programmes. Based on evidence from recent literature [30] on the effectiveness to reduce mortality and on the absence of negative consequences of consumption rooms, this measure can be recommended. Implementation should be accompanied by adequate monitoring and evaluation to strengthen the scientific base.

Counselling, outreach and peer involvement: Counselling and outreach are mainly part of other interventions and proved to be effective when the setting is appropriate and messages are provided by trustable persons [2]. Especially peer delivered counselling including outreach fulfils these criteria. The coverage of outreach is estimated to be at least extensive in roughly half of the countries and peer

involvement in just one third of the countries. The coverage of outreach and peer involvement in counselling should be improved.

Access to HCV treatment: Only 31 % of the countries in the stakeholder survey rate the coverage of medical treatment of HCV for injecting drug users as full or extensive. Many stakeholders state that nowadays, increasing the coverage of HCV screening and treatment is a great challenge. Scientific studies show that an integrated approach using needle exchange as well as HCV treatment is needed to reduce the prevalence of HCV [31], especially in high prevalence countries. The expansion of the coverage of HCV screening and treatment should be improved.

HBV vaccination: HBV vaccination is effective for IDUs [32] and especially important if there is already a HCV infection, as this leads to additional complications. Taking into account the high rates of HCV infections among IDUs in most countries the low coverage of HBV vaccination is very critical [33]. Measures to improve the HBV vaccination coverage are necessary.

Housing: Housing was not covered by the Council Recommendation but is a relevant issue for improving the quality of life and stabilisation. Housing seems to be a field of harm reduction where still a lot of improvement is necessary, as all measures (night shelters, assisted living, "housing first" approach) are described to have a rather low coverage [12]. For night shelters, which is the measure with the highest coverage only 24 % report full or extensive coverage. The problem of housing should be considered in follow-up policy work.

Integration of services: The integration of services between health, social care and risk reduction is reported to be fully or extensively covered in most countries [12]. However, countries that have experienced significant increases in drug-induced deaths report limited or less coverage. Integration of services such as hospital release management (integrating health and social care) and treatment release management should be considered a priority to reduce the number of drug-induced deaths. Through care and prison release management are also very important issues [6].

Research and Evaluation: The following priority areas, where measures for improvement and targeted research related to harm reduction are necessary, have been identified:

- Improvement of the coverage of estimates for prevalence of problem drug use, especially injecting drug use.
- The mortality rates directly related to overdoses (drug-induced deaths) differ to a large extent between countries. Research is needed to get insight if these differences are real (important information for policy evaluation) or due to different quality of data collection systems.
- More standardised data and longitudinal research to follow the development of HCV epidemics are needed.
- The proportion of injecting as route of administration of opioids differs a lot between countries. Research is needed to get insight into the reasons behind this and based on the results measures to shift away from injection or to avoid shifting to injection from other routes of administration should be developed – if possible.
- Implementation of adequate evaluation protocols for all drug prevention and risk reduction programmes that involve all actors and stakeholders in evaluation is needed.

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