

ERANID-IDPSO- Illicit Drug Policies and Social Outcomes
Indicators and new indicators for evaluation of drug policy
(WP4 - Developing key social indicators for drug policy analysis)

Summary

Authors	1
The general objective of the WP4	1
Methodology	2
Indicators of WP4 to be used in WP5	3
Specific essential references	9

Authors

The working group consisted of:

Carla Rossi, University of Rome “Tor Vergata”, President of Centro Studi Statistici e Sociali.

Fabio Massimo Lanzoni, Head of Consorzio per lo sviluppo delle metodologie e delle innovazioni nelle pubbliche amministrazioni;

Alessio Canzonetti, Consorzio per lo sviluppo delle metodologie e delle innovazioni nelle pubbliche amministrazioni;

Dario Cirillo, Consorzio per lo sviluppo delle metodologie e delle innovazioni nelle pubbliche amministrazioni;

Francesco Fabi, Centro Studi Statistici e Sociali and Consorzio per lo sviluppo delle metodologie e delle innovazioni nelle pubbliche amministrazioni;

Giada Minelli, Istituto Superiore di Sanità, Head of the Statistics Office;

Valerio Manno, Istituto Superiore di Sanità, Statistics Office;

The general objective of the WP4

WP4 includes the analysis of social outcome indicators measuring positive and negative consequences of drug policy. The official observation period of the project runs from 1996 to 2016. However, given the historical trend of drug laws and policies in Italy, both qualitative perception interviews and measures of consequences in Italy have been studied for the period 1991-2016, and also 2018 and 2019, when data are available.

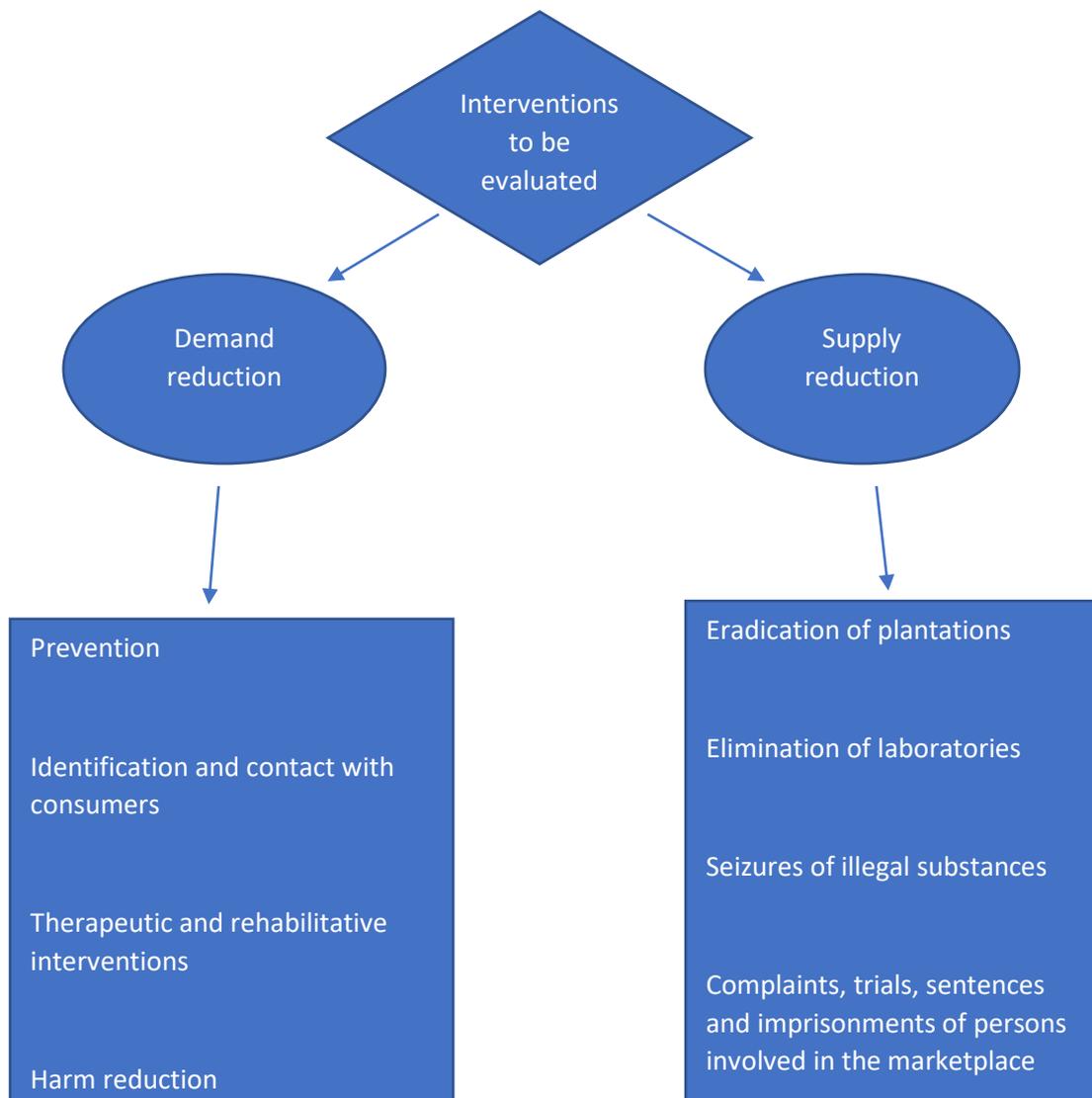
In order to introduce useful indicators for the evaluation of policies in WP5 it is important to consider the types of interventions for drug policies broken down:

- **demand reduction;**

- **supply reduction**

summarized in Figure 1.

Figure 1 – Demand reduction and supply reduction interventions



Methodology

The indicators applied are largely developed and used by EMCDDA and partly proposed by Professor Kopp, both for demand reduction and supply reduction assessment. Some new indicators have been proposed in various international projects and are used also in the Eranid-IDPSO project. Particularly important is the two-dimensions indicator (FUS, PDS) of poly-drug use, introduced in 2014 (Fabi et al., 2014), which is the only one that currently allows to assess the level of harm of a user of several substances, as many are currently, and also the social harm.

Such indicator follow the literature on the evaluation of personal health harm and social harm according to the van Amsterdam and Nutt scores (Nutt et al., 2010; van Amsterdam et al., 2010 and 2015) and the 2019 report of the Global Commission on Drug Policy (<https://www.globalcommissionondrugs.org/reports/classification-psychoactive-substances>) and allow, in particular, to evaluate prevention (universal, secondary, indicative) interventions.

The application highlights how this indicator is more informative than all the indicators previously used to classify consumers, such as prevalence and incidence for each substance.

The social costs, in addition to the classical ones, also concern the durations of actions, above all of repression, such as the length of the processes, but also the durations relative to the therapies that delay the rehabilitation process and the period of imprisonment. All indicators are shown in the national report (about 200 pages).

The data, necessary for the evaluation of the classic and new indicators, have been made available and are included in a complete data set.

The indicators have been applied, as pilot study, to data from Italy for the evaluation of the different 3 laws in force during the period of interest, also using the pilot leximetric scale, proposed for Italy on the basis of natural numbers only so as to make it easily understandable to non-experts politicians, sociologists, to whom the evaluation of policies and the request for changes are directed.

It is easy to switch to different scales, as long as all the proposals are appropriate to represent the consequences of the different laws, as will be explained in the scientific paper in progress.

Mathematically the leximetric scale, applied to various policies, is a positive component vector and, as a length, it can be modified to an infinity level, i.e. it is only necessary to keep the ratios of the levels related to the different policies unchanged, once it has been adopted to represent the changes with social costs.

Indicators of WP4 to be used in WP5

The very general typology of the indicators was presented by the coordinator Prof. Ricardo Goncalves at the Addiction 2019 International Conference in Lisbon and they are summarized as follows:

Prevalence of drug use

Overdose deaths

Prevalence of infectious diseases

Demand for treatment

Seizures of drugs

Law offences

These are just titles without clear and defined meaning, which we have introduced everywhere in the final report in Italian, where indeed many indicators are used for each title, including various stratifications.

Just to give an example, the Prevalence of drug use, which most implies social cost, is the prevalence of users of substances with high risk behaviours, as recently defined by EMCDDA, after the work of some years with the official experts of the focal points, as Carla Rossi for Italy, to modify the definition that before was "Problem Drug Use" no longer suitable to represent the current situation.

This is not the place to go into detail, some important indicators are reported following the 6 keywords above.

DEMAND REDUCTION

Prevalence of drug use (stratified for various user populations)

- 1) The HRDU (first PDU) prevalence from 1996 to 2018 have been estimated, with some missing values, in particular the total estimates for heroin (recent opioids) and for cocaine and crack, while the HRDU estimates for cannabis, which are transmitted annually to EMCDDA, are not considered here, due to the lack of reliability of the criteria used in the definition of HRDU for cannabis.

It has been verified, in various international projects, that the HRDU population, representing about 25% of the users of substances, consumes 90% of the substances on the market.

- 2) The second population studied is that of high school students (15-19 years of annual survey in Italy) on which, in addition to classical analysis, with the study of prevalence for different substances by age, the (FUS,PDS) indicator for poly-drug use was applied. The indicator was used also for comparison between 38 countries using ESPAD data (Mammone et. al, 2014) and further data of HRDU population (Fabi et al., 2014), night use population (Eraniid-Alama) recently and further sub-populations. The application in the Eraniid-IDPSO project showed that the heaviest and most risky use of various substances occurs among younger students of high school (15 years) and does not appear if only the prevalence of individual substances is studied, providing standard Tables to EMCDDA, and it provides suggestions to improve prevention indicative interventions (work is in progress to provide a scientific paper).
- 3) The general population, investigated periodically for EMCDDA (GPS indicator), was not investigated because the weakness of the survey was observed, which does not capture the intensive use in the populations to be investigated, specifically for social costs. In the national report there is an extensive account of GPS weakness with various examples.

Data are available and Figures and Tables appear in the national report and can be requested by Prof. Kopp or by the coordinator Prof. Goncalves.

Overdose deaths

In Italy there are two databases on drug deaths. The best known, but less accurate, which is the one used by EMCDDA for DRD indicator, is the DCSA data set, concerning overdoses freely communicated to the drug police services (DCSA).

The second data set is the national mortality register, kept by the National Institute of Statistics (ISTAT), more accurate, but available with greater delay.

The information of the two data sets is quite consistent, as shown in figures reported in the national report and in WP5 report.

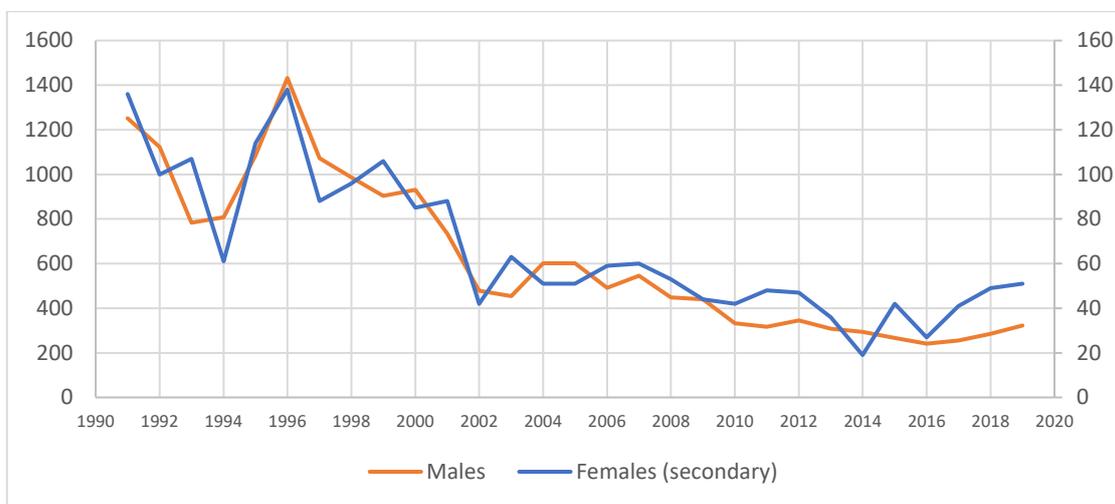
In Figure 2 DCSA data are shown.

The initial period from 1991 to 1996 shows an unexpected big decreasing trend, which is due only to the competitive risk of death due to AIDS and the fact that 70% of heroin users (very widespread in those years) in Italy then were infected with HIV and died soon, therefore did not appear in overdoses.

During the study period of the current project (1996-2016) the trend is substantially decreasing, except for a slight increase in deaths for females from 2014. If we go on until 2019, we can see an important increasing trend, first for females and then for males and this is related to the second epidemic wave of heroin and opioids use, treated by OECD in a volume of 2019, available online and reported extensively in Italian national report for the 7 partner countries of the Eraniid-IDPSO project

(<https://books.google.it/books?id=LsSYDwAAQBAJ&pg=PA14&lpg=PA14&dq=OECE+heroin+epidemic&source=bl&ots=BzcYCI-DYA&sig=ACfU3U35i1h2wCY9bfDJLyPjZjCN5vBITA&hl=it&sa=X&ved=2ahUKewiyxK-wwsDgAhWvtYsKHXnsD60Q6AEwAHoECAoQAQ#v=onepage&q=OECE%20heroin%20epidemic&f=false>).

Figure 2. Overdose deaths of males and females (1991-2019).



A specific section on demand reduction in the national report is dedicated to the trend of the death indicator in correspondence to the second epidemic wave of heroin and opioids, using official data available both on the OECD website and on official websites, to assess the value of the OECD indicator for the 7 Eravid-IDPSO countries: indicator= modification of opioid deaths (2011-2016).

The average value for the OECD countries, providing data to OECD, is +26.4% and for the 7 countries:

France: +4.3%

Australia: +17.5%

Canada: +20%

Portugal: +26%

Italy: +28.6

England and Wales: 43.8%

The Netherlands: +154.3%.

France, Italy and England and Wales allow general use of naloxone, as reported by EMCDDA in the Italian final Eravid-IDPSO meeting in Rome. But it is not enough.

The increase in deaths in all 7 countries, mainly due to the growth in the use of heroin and opioids linked to criminal interests in the market, was predicted by an open-population mathematical model (Rossi, 2001 and 2004), if the national therapeutic policy for serious heroin addicts, similar to that applied in Switzerland, had not been adopted. Punctually it is observed, except in Switzerland. This has recently led to the application of therapy at national level in Denmark as well. I believe that it should be included among the recommendations.

The other important indicator is related to the average age of death (Figure 3) and average life loss (Figure 4) that, even better, illustrate the second wave of the epidemic of heroin and opioids. It is essential to remember that most deaths are related to these substances.

It is essential to remember that lost life is a social cost and is, at least, for Italy equal to life lived until death and even greater for females.

Figure 3. Average age of death for males and females.

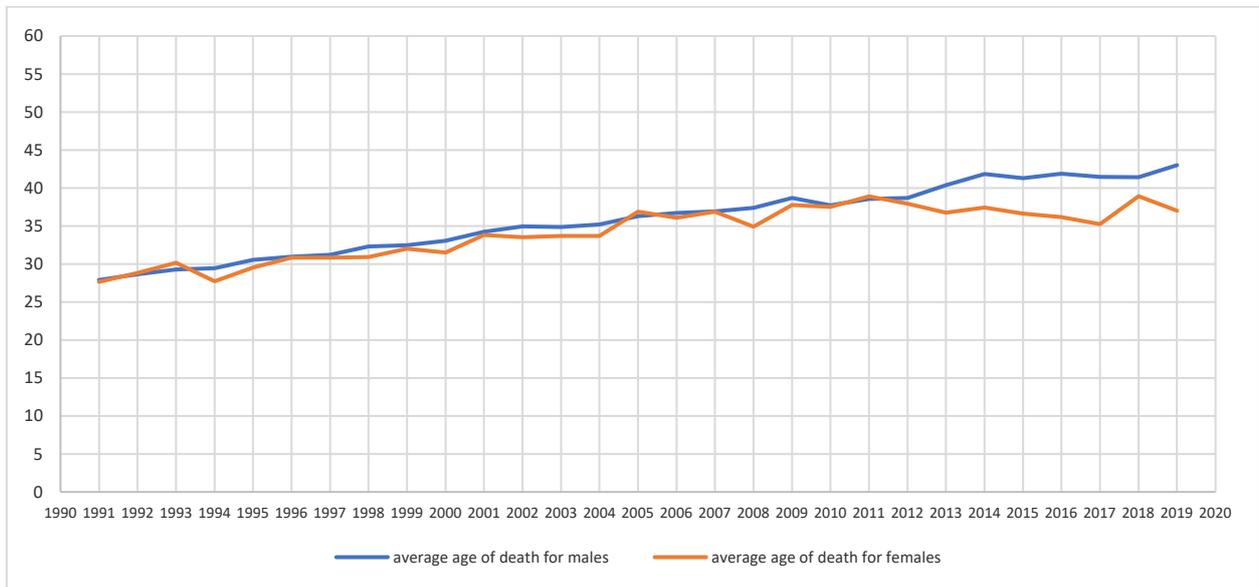
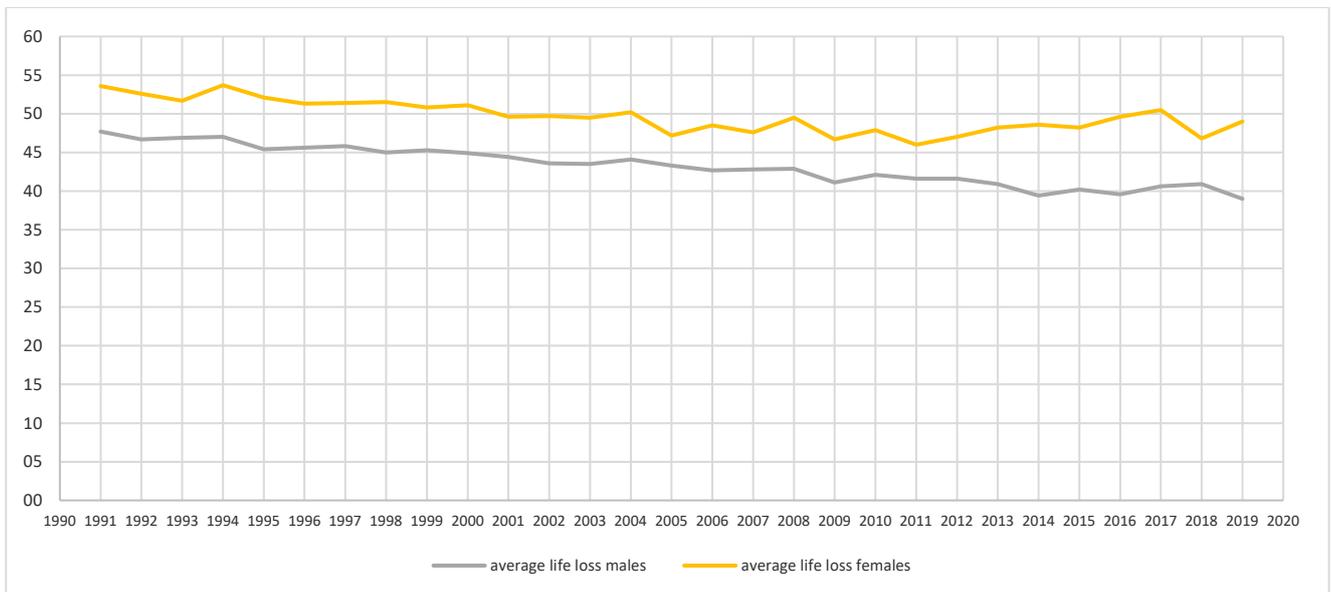


Figure 4. Average life loss (males and females).



In the Italian report many other results are shown, considering deaths by age and by substances, with figures and table that are available. In addition, data from the other source (Istat) are also analysed and provide further information about substances. Such results can be sent if needed for the general report by the coordinator of WP4 or of the project.

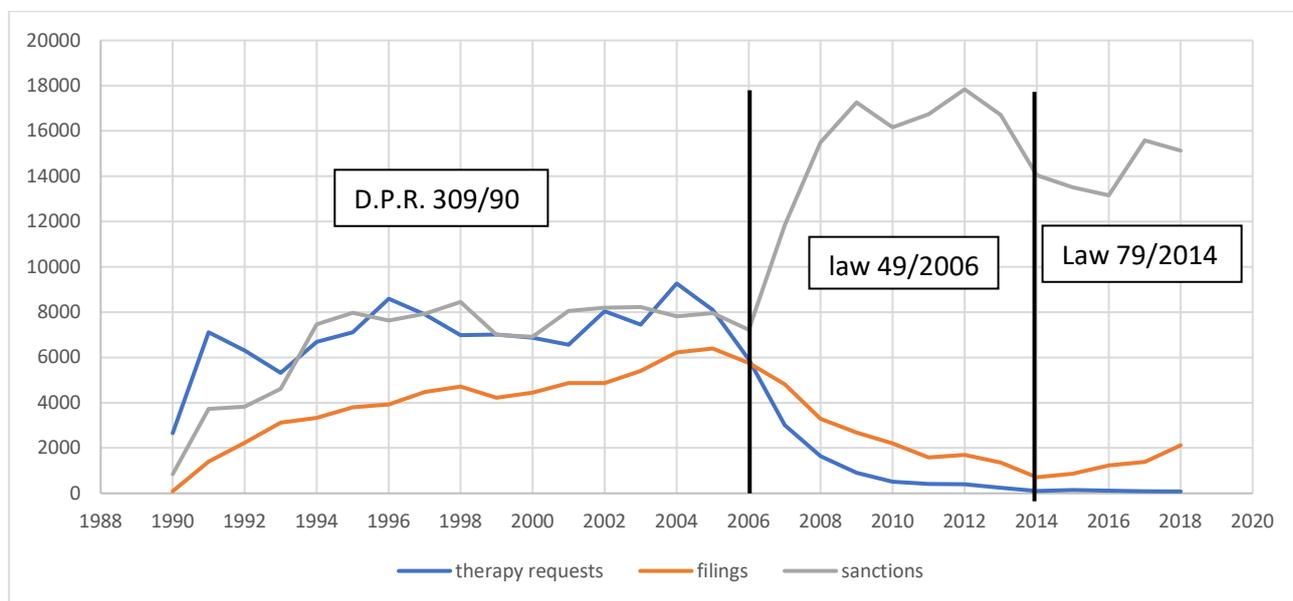
Demand for treatment and infectious diseases

Many data are available regarding treatments and rehabilitation and are included in the Italian data set and report. Both the incidences related to the different substances, stratified for gender and age, as historical

series; and also the prevalence and expected durations of therapy have been analysed. We could observe the influence of Law 49/2006 on hindering the entry into therapy for the subjects identified as users, which remained in place even after 2013 with the amended law but not on that point.

Figure 5 shows the trends in sanctions, therapy requests and filings of individuals, identified as users of substances, that constitute the consequences of the identification. The different trends of the curves before and after 2006 are evident and we identify the percentage of sanctions as a social cost, consistent with the pilot leximetric scale. As a result, the incidence in public therapeutic services decreased, in the period since 2006, by 20% and the prevalence increased by 2%, compared to an increase of 73% in the previous period. As for the period from 2014 with the new law, equal to the previous one as repression with respect to users, there is still a decrease in the incidence of 34% and in the prevalence of 19%. As a result, the risk of death increases, as known from international projects, which is only moderated by the growth of free use of naloxone over the same period in Italy, as death is mainly related to use of heroin and opioids.

Figure 5. Trends in the numbers of sanctions, filings and start of treatment during the period of interest.



The Table with the values of the indicators related to the different laws is reported in WP5.

In the Italian report appear numerous figures and tables and correlation analyses with other variables, that can be discussed together with the other partners and requested to be included in the final report of the project.

The indicators corresponding to infectious diseases show important decreasing behaviour in the period considered both for incidence and prevalence of males and females. This trend is mainly due to harm reduction measures, as will be explained in WP5.

We also included a specific part on indicators of substance-related morbidity and analysed a lot of data on hospital admissions and discharges that showed, even more clearly, the second epidemic wave of heroin use and other issues, for example related to the very young age of HRDU consumers in recent years. This shows the ineffectiveness of prevention intervention. Further analyses regard also specific diseases associated with the use of different substances suggesting new indicators to evaluate drug policies.

SUPPLY REDUCTION

The other two key words regard law enforcement.

Seizures of drugs and Law offences

We have complete data about law enforcement in the period 1991-2018 in Italy.

Considering all the data related to the repression and the estimate of the population of medium-low level workers in the sale of substances, we have been able to calculate the effectiveness of police operations, which fluctuates about 6.5%, that has been confirmed by the recidivism reported in the data related to trials and convictions. It is important to note that this effectiveness is reasonably similar, as an order of magnitude, to the assessment of probability of complaints and imprisonments for cannabis supply, expressed by the subjects of the survey, conducted by Prof. Dirk Korf, which is around 2%.

Analysing the duration of the processes, we observed the increase in the period studied and the significant differences with respect to gender and citizenship. The duration is a social cost.

Then we studied the trend in prisons, linked to drug law offences, and verified that it follows the pilot lexicometric scale with respect to the various laws. Comparing incidence and prevalence, we verified that the imprisonment duration is increasing since 2000.

We also looked at incidence and prevalence in prison for drug addicts. Using data from a variety of sources and surveys, we found that about half of drug addicts enter and are in prison for drug law offences, while the rest are in prison mainly for illegal acquisition offences. This trend is always maintained and should be studied separately because significant social costs are linked to these actions and are not currently evaluated in EraniD-IDPSO.

Using a suitable methodological approach and data of seizures, we obtain the estimation of the market for each substance (market estimation by supply side data). Then we compared such estimate with the market estimate, by Eurostat method, on the basis of demand side data (prevalence of drug use): quite interesting similar results. The annual growth of the market, having previously verified constant retail prices for substances, has been used to measure the effectiveness of supply reduction under different laws. Worse it results under the most repressive law.

The cost of reducing the supply was also evaluated using the method developed for the Alice-rap project and reported in the national report.

Many results have been presented in various international conferences and in the final online conference of the EraniD-IDPSO project for Italy, with the presence of an EMCDDA representative

Many other details are available and, if Prof. Kopp or Prof. Goncalves sends a request for specific indicators, in a specific form, they can be sent in tabular or graphic form, as they are ready in Italian and all the necessary data are available.

Work is in progress to finalize scientific papers.

Specific essential references

Fabi F., Mammone A., Rossi C., New indicators of illegal drug use to compare drug user populations for policy evaluation, *Epidemiology, Biostatistics and Public Health*, 2014, 11-2, 8891-1/8891-7.

Mammone A., Fabi F., Colasante E., Siciliano V., Molinaro S., Kraus L., Rossi C., New indicators to evaluate and to compare harmful drug use among adolescents in 38 European countries, *NORDIC STUDIES ON ALCOHOL AND DRUGS VOL 31*, 2014, 243-258.

Rossi C. "A Mover-Stayer type model for epidemics of problematic drug use", *UN Bulletin on Narcotics*, Vol. LIII, Nos 1-2, 2001, 39-64;

Rossi C. "Operational models for epidemic of problematic drug use: the Mover-Stayer approach to heterogeneity.", *Socio-Economic Planning Sciences*, 2004, 38, 73-90;

van Amsterdam, J., Opperhuizen, A., Koeter, M., van den Brink, W., Ranking the Harm of Alcohol, Tobacco and Illicit Drugs for the Individual and the Population. *European Addiction Research*, 2010, 16, 202-207;

van Amsterdam J., Nutt D. J., Phillips L. D., van den Brink W.. European rating of drug harms, *J. Psychopharmacol*, 2015, 29(6), 655-660.