

Ten Years of Monitoring Illicit Drug Use in Prison Populations in Europe: Issues and Challenges

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Abstract: The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) has been collecting aggregated data on illicit drug use among European prison populations for over a decade. Additional studies were identified in a literature search. Together, these sources yielded 53 studies reporting data during the period 2000 to 2008. Analysis of these studies reveals that the available data are scarce and patchy, with large variations in methodology. This diversity hampers comparison, and may, in part, account for the wide range of prevalence estimates for drug use and drug injecting, both prior to imprisonment and while in prison. This article concludes that a common instrument to measure drug use and its consequences in European prison populations is needed.

Keywords: illicit drug use; prison; monitoring; prevalence; Europe

Within the scope of its mission to provide the European Union (EU) and its member states with a factual overview of European drug problems and a solid evidence base to support the drugs debate, the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) has been collecting aggregated data on drug use in the prison population across Europe for over a decade. This article aims to review critically, based on the EMCDDA routine monitoring activities, how drug use is assessed and monitored in prison populations in Europe, both in terms of the methods used and the data available, and to identify possibilities for improvement.

The prison population of the EU was approximately 620, 000 persons (including pre-trial detainees) on 1 September 2008. Of these, the proportion incarcerated for offences against drug laws varies greatly between countries, ranging from 2.5% to 45% (Aebi and Delgrande 2010). Fifteen of the 26 countries for which information is available report proportions over 15%, indicating that drug-related crime is an important category of custodial offence in many European countries (*Table 1*).

TABLE 1
*Population and Sentenced Prisoners with Drug Offences as Main Offence in Penal Institutions on
 1 September 2008 in the European Union, Croatia, Turkey and Norway*

| Country | Situation of penal institutions on 1 September 2008 | | | Final sentence on 1 September 2008 (main offence) | | |
|----------------|---|---|--|---|-------------------|-------------------|
| | Population 2008 – annual estimates (thousands) | Total number of prisoners (including pre-trial detainees) | Prison population rate per 100,000 inhabitants | Total number of offences | Drug offences (n) | Drug offences (%) |
| Austria | 8205.5 | 7899 | 96.3 | : | : | : |
| Belgium | 10404.0 | 10234 | 98.4 | 15769 | 2189 | 13.9 |
| Bulgaria | 7262.7 | 10723 | 147.6 | 9066 | 503 | 5.5 |
| Croatia | 4491.5 | 4734 | 105.4 | 3104 | 642 | 20.7 |
| Cyprus | 796.9 | 831 | 104.3 | 512 | 106 | 20.7 |
| Czech Republic | 10220.9 | 20502 | 200.6 | 18100 | 2374 | 13.1 |
| Denmark | 5484.7 | 3451 | 62.9 | 2198 | 532 | 24.2 |
| Estonia | 1307.6 | 3656 | 279.6 | 2666 | 406 | 15.2 |
| Finland | 5244.7 | 3531 | 67.3 | 2865 | 461 | 16.1 |
| France | 64057.8 | 66712 | 104.1 | 49972 | 7085 | 14.2 |
| Germany | 82369.5 | 74706 | 90.7 | 61900 | 9540 | 15.4 |
| Greece | 10722.8 | 11798 | 110.0 | : | : | : |
| Hungary | 9930.9 | 15079 | 151.8 | 10432 | 259 | 2.5 |
| Ireland | 4156.1 | 3523 | 84.8 | 2919 | 563 | 19.3 |
| Italy | 58145.3 | 55831 | 96.0 | 24337 | 8796 | 36.1 |
| Latvia | 2245.4 | 6544 | 291.4 | 4865 | 582 | 12.0 |
| Lithuania | 3565.2 | 7744 | 217.2 | 6930 | 447 | 6.5 |
| Luxembourg | 486.0 | 673 | 138.5 | 399 | 178 | 44.6 |
| Malta | 403.5 | 577 | 143.0 | 893 | 180 | 20.2 |
| Netherlands | 16645.3 | 17113 | 102.8 | 6057 | 1199 | 19.8 |
| Norway | 4644.5 | 3278 | 70.6 | 2420 | 732 | 30.2 |
| Poland | 38500.7 | 83152 | 216.0 | : | : | : |
| Portugal | 10676.9 | 10807 | 101.2 | 8699 | 1849 | 21.3 |
| Romania | 22246.9 | 27262 | 122.5 | 24297 | 981 | 4.0 |
| Slovakia | 5455.4 | 8313 | 152.4 | : | : | : |
| Slovenia | 2007.7 | 1318 | 65.6 | 943 | 97 | 10.3 |
| Spain | 46157.8 | 71778 | 155.5 | 53321 | 14446 | 27.1 |
| Sweden | 9045.4 | 6853 | 75.8 | 5399 | 1649 | 30.5 |
| Turkey | 75793.8 | 99416 | 131.2 | 42054 | 5025 | 11.9 |
| United Kingdom | 61383.2 | 85605 | 139.5 | 75372 | 11863 | 15.7 |

(Source: Aebi and Delgrande 2010.)

Statistics collected for 2006 in the European Sourcebook of Crime and Criminal Justice (Aebi and Delgrande 2010) show that for six out of seven European countries where data were available, drug trafficking offences made up the large majority of the drug law offences for which inmates were convicted.

Studies in Europe have shown that experience of drug use is more widespread in the prison population than in the general community (European Monitoring Centre for Drugs and Drug Addiction 2008). Illicit drugs are less accessible in prisons than they are outside, and incarceration often results in users ceasing their drug use or using less frequently. Drug use in prison can involve drug injecting and the sharing of injecting equipment (Jürgens, Ball and Verster 2009). This raises concerns about the efficacy of the prison system, and the health of those in the care of that system, particularly in relation to the spread of blood-borne viruses caused by the sharing of injecting equipment (Farrell, Strang and Stöver 2010).

For many individuals, a stay in prison may represent an opportunity for addressing their problems, whether social, psychological or health-related, and in particular, drug behaviours. Assessing the needs of the incarcerated population, both in terms of drug use and of related risk behaviours, is, therefore, a prerequisite for providing assistance to drug users in prison and planning the most appropriate interventions (Moller *et al.* 2007).

Drug use in prisons has long been the subject of EU political attention, as evidenced by the 2002 Council draft resolution on the treatment of drug users in prison (Council of the European Union 2002), the 2003 Council recommendation on the prevention and reduction of health-related harm associated with drug dependence, which calls for equivalence of services in prison (Council of the European Union 2003), and the EU Drugs Action Plan 2009–2012, which asks for the development of a methodological framework for monitoring drug use, drug-related health problems and drug services delivery in prison (Council of the European Union 2008). In addition, several European networks aiming at stimulating exchanges of best practices among professionals acting in the field of drugs and infectious diseases in prison have been funded by the European Commission (EC) over the last decade. Lastly, a recent EC-funded study by Stöver *et al.* (2008), provides an inventory of both drug demand reduction services in prison and reintegration services upon release, and reviews methods to monitor drug use among prisoners.

Despite this apparent political will, obtaining an overview of drug use in the prison population in Europe remains a challenge. A review of the published literature uncovered the following studies and reviews. A multi-centre survey of six prisons in six European countries, carried out in 1996/97 by Rotily *et al.* (2001) provides a comparative analysis of drug injecting and drug-related risk behaviours in prison in Europe. In an international review of the scientific literature on drug use in prisoners, Fazel, Bains and Doll (2006) report primarily non-European studies, including only three reception studies from England and Ireland, and two cross-sectional studies from England and Wales, all carried out in the 1990s. A recent review by Vandam (2009) covers a higher number of studies across Europe, often recent ones, and reviews both the methods used and the data available on drug use before, during and after imprisonment. Vandam (2009) notes that methodological differences make comparison between studies difficult.

Methods

There is no commonly-accepted protocol across Europe for the primary collection of data on drug use in the prison population. The EMCDDA has been collecting aggregated data on drug use in the prison population through a common reporting instrument – Standard Table 12 (ST 12) – since 1999. It is a flexible instrument which allows the EMCDDA reporting countries (EU member states, Croatia, Turkey and Norway), via their Reitox National Focal Point (NFP), to submit annually any data they may have, regardless of the methodology adopted, whether local or national, on the prevalence¹ of drug use in any prison population.

Reporting countries complete a table for each study or reporting system generating data on drug use in the prison population. Data providers can report illicit drug use by substance (cannabis, heroin, cocaine, ecstasy, amphetamines) or by the generic category of ‘all illicit drugs’. In addition to lifetime, last year and last month prevalence measures, it is possible to report – provided an exact definition is specified – regular drug use, injecting drug use or any other pattern of drug use.

Data collected are identified as referring to drug use either prior to, or during, imprisonment; but in some cases they may refer to both. ‘Prison’ and ‘prisoners’ are defined in a broad sense, covering all closed institutions such as youth detention centres and establishments where remanded and convicted adults are detained.

Countries are requested to include a brief description of the type of survey or monitoring system from which the data are extracted, together with information on the population covered, the sampling strategy, and the method used to assess drug use. Reports that do not provide information on the sample size or a reference (either a source or a bibliographic reference) were deemed incomplete and, therefore, excluded.

As a complementary strategy, the EMCDDA carries out regular searches of the literature – both that published in scientific journals (via PubMed using a combination of the following key words: drug(s), prison, imprisonment, prisoners), and grey literature (via Internet searches) – to check for additional studies that may go unreported by the NFPs.

Although data collected via ST 12 may refer to the early 1990s, the present review is limited to studies from 2000 onwards. However, while the description of the current situation refers to prevalence data since 2000, earlier data are reported if they come from repeated surveys that were initiated before 2000. One study from 2002 in Norway, two studies from 2000 in Finland and several others from 2004, 2006, 2007 and 2008 in Bulgaria were excluded from the analysis because some methodological aspects could not be clarified or bibliographic references could not be provided.

Results

Review of Methodologies

In all EU member states except three (Austria, Estonia and Cyprus) and in Norway, since 2000, there has been an assessment of illicit drug use in the

prison population. The wide range of methodologies employed in the 53 studies that meet the inclusion criteria prevents any simple synthesis of results. Research in prison settings is particularly affected by clustering, self-selection, and self-reporting biases. In addition, the use of drugs within prison may result in further sanctions or penalties which would discourage disclosure (see *Table 2*).

In most of the countries, data refer to those in prison on a specific date or during a short period of time. They come mainly from cross-sectional surveys carried out at national level, a small number of which were repeated at least once (Todts *et al.* 2007; Zabransky *et al.* 2002; Danish Reitox National Focal Point 2003; Lithuanian Reitox National Focal Point 2005; Sieroslowski 2007; Torres *et al.* 2008), and only one is currently carried out on an annual basis (Scottish Prison Service 2008). In addition, five countries report data from cross-sectional surveys carried out at local or regional level (Germany, Greece, the Netherlands, Spain and Northern Ireland).

Data on prison entrants are available from either ad-hoc surveys (Sahajian, Lamothe and Fabry 2006; Tielking, Becker and Stöver 2003; Rezza *et al.* 2005; Hildebrand 2004) or routine monitoring systems (Italian Presidency of the Council of Ministers 2009; Maltese Reitox National Focal Point 2007; Carli *et al.* 2009; Slovenian Institute of Public Health 2009; Krantz and Elmby 2009) that record drug use at prison admission either on a continuous basis or at one or several times during the year (*Table 2*).

Coverage and sampling strategies vary considerably between studies. Although most purport to be 'national', this often refers to the intended geographical coverage and does not guarantee that the sample is representative of the national prison population, which would depend on the sampling procedure adopted. Variations in the approach to sampling include: surveying the entire population of all prisons in a country, reported by a few studies (Italian Presidency of the Council of Ministers 2009; Krantz and Elmby 2009); sampling from all prisons; surveying the entire population of selected prisons; and applying a two-stage sampling strategy, whereby prisons are selected in the first stage, and the population to be sampled is then chosen. Random sampling is reported for a number of studies (Todts *et al.* 2007; Sieroslowski 2007; Torres *et al.* 2008; Lukasiewicz *et al.* 2007; Paksi 2009; Elekes and Paksi 2004; Goderie 2009; Sieroslowski 2001; Torres and Gomes 2002; DGPNSD 2006; PNSIDA and DGIP 2000; Liriano and Ramsay 2003; Friestad and Skog Hansen 2005), but many other studies provide no information on the sampling method. The size of the prison population surveyed is not available for most of the studies listed in *Table 2*, and sample sizes – which vary from less than 100 to thousands – reflect different proportions of the prison population in different countries.

Representativeness of samples is also an issue. The penal establishments sampled are sometimes unrepresentative of the prison system as a whole. In addition, although most of the reported studies refer to both convicted prisoners and prisoners on remand, some refer to convicted prisoners only. Inclusion may also be limited by age, with studies carried out in prisons for adults (Sieroslowski 2007; Lukasiewicz *et al.* 2007; Paksi 2009; Elekes and Paksi 2004; Sieroslowski 2001; Friestad and Skog Hansen 2005;

TABLE 2
 General Characteristics of Studies Carried Out During the Period 2000 to 2008

| Country | Reference | Year | Coverage and sampling | Method of assessment | Measurement and indicators | | Population covered | Data collection |
|----------------|------------------------------|-----------|---|---|--|-------------------|---|-----------------------------------|
| | | | | | Prior/ within imprisonment within prison | Within prison | | |
| Belgium | Todts <i>et al.</i> 2009 | 2008 | National survey in all the 32 Belgian prisons. Representative sample of 10% of all prisoners in each prison (n = 1078). | Self-report | DU; LT | DU; LT | Prisoners on remand and convicted, including mentally disordered | Cross-sectional survey (repeated) |
| Belgium | Todts <i>et al.</i> 2007 | 2006 | National survey in all the 32 Belgian prisons. Representative sample of 10% of all prisoners in each prison (n = 902). | Self-report | DU; LT; IDU; LT | DU; OTH; IDU; OTH | Prisoners on remand and convicted, including mentally disordered | Cross-sectional survey |
| Belgium | Todts <i>et al.</i> 2007 | 2003 | National survey. Random sample of 10 out of 38 prisons (n = 886). | Self-report | DU; LT; IDU; LT | DU; OTH; IDU; OTH | Prisoners on remand and convicted, including social defence (psychiatric cases) | Cross-sectional survey |
| Czech Republic | Zabransky <i>et al.</i> 2002 | 1996–2002 | National recording system in all prisons (n = 16213 in 2002). | Self-report, health records, drug screening | DU; OTH | | Prisoners on remand and convicted | Routine monitoring |
| Denmark | Kramp <i>et al.</i> 2003 | 2001 | National survey in 82 prisons (n = 1305). | Self-report | DU; RG | | Prisoners on remand and convicted | Cross-sectional survey |

| Country | Author(s) | Year | Methodology | Sample | DU: OTH | Study Design |
|---------|--|----------------------|--|--|-------------------|---|
| Denmark | Danish Retox National Focal Point 2003 Lukasiewicz <i>et al.</i> 2007 | 1995–2001 2003/04 | National survey (n = 3445 in 2001). National survey in 23 prisons out of 188 existing prisons. Random sample (n = 998). | Standard instruments (e.g. DSM-IV), based on self-reports and open clinical interviews | DU: OTH | Cross-sectional survey (repeated, annual) Cross-sectional survey |
| France | Sahajian, Lamothe and Fabry 2006 | 2003 | Local survey in all prisons in Lyons. All admissions during the year (n = 1410). | Self-report (clinical interview, DSM IV for dependence) | DU: OTH, RG | Survey at prison remand and admission |
| France | Mouquet 2005 | 2003 | National survey in 134 prisons out of 187 existing prisons. Representative sample (n = 6087). | Self-report | DU: LY IDU: LY | Survey at prison remand and admission |
| Germany | Radun <i>et al.</i> 2007 | 2006/2007 | Survey in 6 prisons in 3 out of 16 federal states. Quota sample (n = 1457). | Self-report | IDU: LT | Cross-sectional survey |
| Germany | Tielking, Becker and Stöver 2003 | 2002 | Survey in 11 prison (JVA Oldenburg). All admissions during the year (n = 517). | Prison staff and medical services | DU: RG | Survey at prison admission |
| Greece | Sunora 2001 | 2000 | Survey in 1 prison (n = 136). | Self-report | DU: LT | Cross-sectional survey |

TABLE 2 (Continued)

| Country | Reference | Year | Coverage and sampling | Method of assessment | Measurement and indicators | | Population covered | Data collection |
|---------|---|-----------|---|--|---|-----------------------------------|--|---|
| | | | | | Prior/ within imprisonment | Within prison | | |
| Hungary | Paksi 2009 | 2008 | National survey in 22 prisons from all regions. Random sample (n = 503). | Self-report | DU: LT, LY, LM, RG IDU: LT, LY, LM, RG | DU: LT, LY, LM IDU: LT, LY, LM | Hungarian adult prisoners convicted on the basis of a final decision | Cross-sectional survey |
| Hungary | Elekes and Paksi 2004 | 2004 | National survey in 11 prisons. Random sample (n = 609). | Self-report | DU: LT, LY, LM, RG IDU: LT, LY, LM | DU: LT, LY, LM IDU: LT, LY, LM | Hungarian adult male convicted prisoners | Cross-sectional survey |
| Ireland | Hannon, Kelleher and Friel 2000 | 2000 | National survey in 13 out of 15 prisons (men: n = 718 and women: n = 59). | Self-report | DU: LY, LM IDU: LY | DU: LY, LM IDU: LY | Male and female prisoners on remand and convicted | Cross-sectional survey |
| Italy | Italian Presidency of the Council of Ministers 2009 | 1999–2008 | National recording system (n = 92800 in 2008). | Self-report and/or clinical assessment | DU: OTH | | All prisoners imprisoned during the year | Routine monitoring at prison admission (annual) |

| | | | | | | | |
|------------|--|------------|--|-------------|---------------------------|--|---|
| Italy | Rezza <i>et al.</i> 2005 | 2003 | Survey in 9 prisons in 8 cities spread across the national territory. All admissions during November (n = 1267). | Self-report | DU: LT, LM | All prisoners | Survey at prison admission |
| Italy | Babudieri <i>et al.</i> 2005 | 2001/2002 | Survey in 8 prisons in different areas of Italy. Convenience sample (n = 973). | Self-report | IDU: LT | Male and female prisoners | Cross-sectional survey |
| Latvia | Snikere, Trapencieris and Vanaga 2003 | 2003 | National survey in 11 out of 15 prisons, with at least 100 convicted persons (n = 2867). | Self-report | DU: LT, LY, LM IDU: LT | Convicted prisoners | Cross-sectional survey |
| Lithuania | Lithuanian Retox National Focal Point 2005 | 2003, 2004 | National routine survey in all 14 prisons on 31 December (n = 8125 in 2004). | Self-report | DU | Prisoners in prison on 31 December | Cross-sectional survey (repeated) |
| Lithuania | Narkauskaite <i>et al.</i> 2007 | 2003 | Survey in all penal institutions (men n = 1122, women: n = 67 and minor boys: n = 115, total: n = 1304). | Self-report | DU: LT | Males, females and minor boys (who answered the questionnaire) | Cross-sectional survey |
| Luxembourg | Origer and Removille 2007 | 2005 | National survey in 2 state prisons (n = 246). | Self-report | DU: LT IDU: LT | Total population of prisoners | Cross-sectional survey |
| Malta | Maltese Retox National Focal Point 2007 | 2004–2006 | National screening. All admissions (n = 535). | Urine test | DU: OTH | Total prison population on remand and convicted | Routine monitoring at prison admission (annual) |

TABLE 2 (Continued)

| Country | Reference | Year | Coverage and sampling | Method of assessment | Measurement and indicators | | Population covered | Data collection |
|-------------|---------------------------------------|-----------|--|--|----------------------------------|--|------------------------|-----------------|
| | | | | | Prior/within imprisonment prison | Within prison | | |
| Netherlands | Goderie 2009 | 2008 | Survey in 5 out of 8 institutions for prolific offenders representative of all institutions. Random sample (n = 100, women over-represented). Survey in 1 local penitentiary institution ('Vught') (n = 191). | Information from prison files | DU: OTH | Male and female prisoners | Cross-sectional survey | |
| Netherlands | Bulten, Nijman and van der Staak 2009 | 2007 | Survey in 8 prisons (n = 637). | Self-report, use of diagnostic instruments (MINI) | DU: OTH | Male prisoners on remand and convicted | Cross-sectional survey | |
| Netherlands | Oliemeulen <i>et al.</i> 2007 | 2007 | Survey in 8 prisons (n = 355). | Self-report, use of diagnostic instruments (e.g. EuropASI) | DU: OTH | Prisoners on remand | Cross-sectional survey | |
| Netherlands | Vogelvang <i>et al.</i> 2003 | 2003 | Survey in 8 youth detention centres in 3 regions. Representative sample (n = 205) | Self-report | DU: LT, LM, OTH RG | Male prisoners on remand and convicted | Cross-sectional survey | |
| Netherlands | Korf, Benschop and Rots 2005 | 2002/2003 | (Random sample of 135 boys and over-sample of 70 girls). | Self-report | DU: LT, LM | Male and females 14- to 17-year-olds on remand and convicted | Cross-sectional survey | |

| | | | | | | | |
|-------------|-------------------------------------|-----------|--|--|--|---|--|
| Netherlands | Hildebrand 2004 | 1998/2001 | Local study in 1 forensic psychiatric facility. Persons enrolled between 01.01.1998 and 01.12.2001 (n = 98). | Self-report, clinical assessment | DU: LT | Psychiatric patients sentenced to involuntary commitment because of diminished responsibility Both male and female convicted adult prisoners (although only results on males are provided) | Survey at admission to a psychiatric service |
| Norway | Friestad and Skog Hansen 2005 | 2003 | National survey. Representative random sample (Total: n = 260, males: n = 225). | Self-report | DU: LM | Cross- sectional survey | Cross- sectional survey (repeated) |
| Norway | Skardhamar 2003 | 2000 | Survey in all prisons of the eastern prison district (n = 247). | Self-report | DU: RG IDU: RG | All prisoners who had grown up in Norway, and sentenced to a maximum of 3 years | Cross- sectional survey |
| Poland | Sieroslowski 2007 | 2007 | National survey in 41 prisons. Random sample (n = 1240). | Self-report | DU: LT, LY, LM | Male adult prisoners on remand and convicted | Cross- sectional survey (repeated) |
| Poland | Sieroslowski 2001 | 2001 | National survey in 38 prisons. Random sample (n = 1189). | Self-report | DU: LT, LY, LM IDU: LT | Male adult prisoners on remand and convicted | Cross- sectional survey |
| Portugal | Torres <i>et al.</i> 2008 | 2007 | National survey in 44 prisons. Random sample (n = 1986). | Self-report | DU: LT, LY, LM, RG IDU: LT LT | Prisoners on remand and convicted | Cross- sectional survey (repeated) |

TABLE 2 (Continued)

| Country | Reference | Year | Coverage and sampling | Method of assessment | Measurement and indicators | | Population covered | Data collection |
|----------|---|-----------|--|----------------------|-----------------------------------|---------------------------------------|--|--|
| | | | | | Prior/ within imprisonment prison | Within prison | | |
| Portugal | Torres and Gomes 2002 | 2001 | National survey in 47 prisons. Random sample (n = 2057). | Self-report | DU: LT IDU: LT | DU: LY, LM, RG IDU: LT | Prisoners on remand and convicted | Cross-sectional survey |
| Romania | RMDDD 2007 | 2006 | National survey in 27 prisons (n = 3218). | Self-report | IDU: LT LM | DU: LT, LY, LM | All prisoners | Cross-sectional survey |
| Slovakia | Slovak Retox National Focal Point 2005 | 2004 | National survey in 18 prisons (n = 8056). | Self-report | DU: OTH | | Prisoners on remand and convicted | Survey at prison admission |
| Slovenia | Carli <i>et al.</i> 2009 | 2008 | National survey (n = 4383). | Expert estimation | DU: LT | | Prisoners on remand and convicted (juveniles included) | Routine monitoring at prison admission |
| Slovenia | Slovenian Institute of Public Health 2009 | 2003–2005 | National monitoring in all prisons (6 prisons and 1 juvenile correctional) | Self-report | DU: OTH | | Adult and juvenile prisoners on remand and convicted | Routine monitoring at prison |

| | | | | | | | |
|-------------|------------------------------------|-----------|---|---|-------------------|--|---|
| Slovenia | Carli <i>et al.</i> 2005 | 2003 | centre) (n = 3097 in 2005). National survey in all prisons (6 prisons and 1 juvenile correctional centre). Persons in prison on 1 January (n = 1099). | Self-report | DU; OTH | Adult and juvenile prisoners on remand and convicted | admission (annual) Cross-sectional survey |
| Spain | DGPNSD 2006 | 2006 | National survey in 66 prisons. Random sample (n = 4934) (women over-represented). | Self-report | IDU; LT | All prisoners | Cross-sectional survey |
| Spain | Saiz de la Hoya <i>et al.</i> 2005 | 2001 | Survey in 1 prison (Alicante I-Fontcalent). Persons in prison on 01.06.2001 (n = 800). | Self-report | IDU; OTH | All prisoners on remand | Cross-sectional survey |
| Spain | PNSIDA and DGIP 2000 | 2000 | National survey (Catalonia excepted) in 61 prisons. Random sample (n = 5028). | Self-report | DU; LM | All prisoners | Cross-sectional survey |
| Sweden | Krantz and Elmby 2009 | 1997–2008 | National monitoring (n = 4666 in October 2008). | Self-report, police information, urine tests, other sources | DU; LY | All convicted prisoners | Routine monitoring at prison admission (biannual) |
| UK: England | Plugge, Yudkin and Douglas 2009 | 2004/2005 | Survey in 2 remand prisons. All admissions during certain pre-defined periods (n = 505). | Self-report | IDU; LT | Female prisoners on remand | Survey at prison admission |
| UK: England | Borrill <i>et al.</i> 2003 | 2001 | National survey in 10 prisons (n = 301). | Self-report | DU; OTH IDU; IDU; | Female prisoners on remand and convicted | Cross-sectional survey |

TABLE 2 (Continued)

| Country | Reference | Year | Coverage and sampling | Method of assessment | Measurement and indicators | | Population covered | Data collection |
|-----------------------|------------------------------|-----------|--|----------------------|-----------------------------------|---------------------------|---|-----------------------------------|
| | | | | | Prior/ within imprisonment prison | Within prison | | |
| UK: England and Wales | Stewart 2009 | 2005/2006 | National survey in 49 prisons (n = 1457). | Self-report | LT, OTH DU: LT | DU: LY, LM | All adult prisoners sentenced between 1 month and 4 years | Survey at prison admission |
| UK: England and Wales | Singleton <i>et al.</i> 2005 | 2001/2002 | Survey in 31 prisons. Representative sample (n = 2266). | Self-report | | DU: LY, LM | Male and female prisoners on remand and convicted | Cross-sectional survey |
| UK: England and Wales | Liriano and Ramsay 2003 | 2000 | Survey in 34 medium and large prisons nationally spread. Random sample (n = 1884). | Self-report | | DU: LY, LM, RG IDU: LY | Recently arrived male convicted prisoners | Cross-sectional survey |
| UK: Scotland | Scottish Prison Service 2008 | 2004–2008 | National survey in all prisons (n = 4318 in 2008). | Self-report | | DU: LY | All prisoners (young offenders and adults, age range 16–79 years) | Cross-sectional survey (repeated) |

| | | | | | | | |
|----------------------------|--|------|--|-------------|---------------------------|---|-------------------------------|
| UK: Scotland | Scottish Prison Service 2003 | 2003 | National survey in 16 prisons (n = 4741). | Self-report | DU: OTH IDU; OTH | All prisoners available at the time of the survey | Cross- sectional survey |
| UK: Northern Ireland | O'Mahony, Fox and Chapman 2005a | 2005 | Survey in 1 prison (Hydebank Wood Centre) (n = 20). | Self-report | DU: LM | Young female prisoners on remand and convicted | Cross- sectional survey |
| UK: Northern Ireland | O'Mahony, Fox and Chapman 2005b | 2005 | Survey in 1 prison (Hydebank Wood Centre) (n = 180). | Self-report | DU: LM | Young male prisoners on remand and convicted | Cross- sectional survey |

(Notes:

DU: drug use; IDU: injecting drug use; LT: lifetime; LY: last year; LM: last month; RC: regular; OTH: other type of measure (including dependence).

Year: year of data collection. E.g., '2000': data collection in 2000; '2000/2003': data collection from 2000 to 2003; '2000–2005': annual data collection every year from 2000 to 2005 inclusive; '2000, 2002': data collection in 2000 and repeated in 2002.

UK: United Kingdom.)

(Source: EMCDDA/Reitox National Focal Points.)

Stewart 2009) or young offenders (O'Mahony, Fox and Chapman 2005a, 2005b). Both genders are included in most of the studies, but the reported data usually do not distinguish between them. When only one gender is included, males are more often targeted (Sieroslawski 2007; Elekes and Paksi 2004; Sieroslawski 2001; Liriano and Ramsay 2003; O'Mahony, Fox and Chapman 2005b; Bulten, Nijman and van der Staak 2009; Vogelvang *et al.* 2003) than are females (O'Mahony, Fox and Chapman 2005a; Plugge, Yudkin and Douglas 2009; Borrill *et al.* 2003). This is, perhaps, explained by the fact that males represent the greater proportion of the prison population in Europe.

In most studies, drug use is measured by self-report, either using a questionnaire or a clinical interview, and in some instances, standard instruments such as DSM IV (American Psychiatric Association (APA) 2000) are used to qualify it. Some studies do not make a distinction between drug use prior to, or during, imprisonment. In the studies that distinguish between prior use and drug use in prison, information on lifetime and last month prevalence is available in about half. The definition of regular drug use is not standard across surveys: it may, for example, refer to use twice a week in the last month (Kramp *et al.* 2003), to daily use (Liriano and Ramsay 2003; Vogelvang *et al.* 2003; Plugge, Yudkin and Douglas 2009), or even to persons estimated to be regular users without providing information on the frequency of use (Tielking, Becker and Stöver 2003). Other operational definitions of drug use are reported, for example 'recent drug use' based on positive urine testing (Maltese Reitox National Focal Point 2007), and several, often undefined, terms are used including 'problem drug use' (Lukasiewicz *et al.* 2007; Goderie 2009; Oliemeulen *et al.* 2007), 'drug abuse' (Slovak Reitox National Focal Point 2005) or 'drug dependence' (Borrill *et al.* 2003). In some studies, drug use in the last six months (Plugge, Yudkin and Douglas 2009) or in the last week (Singleton *et al.* 2005) is addressed. Most reports on drug injecting among the prison population refer to lifetime injecting, although current injecting, either assessed as injecting during the last month (Scottish Prison Service 2008; Paksi 2009; DGPNSD 2006; Plugge, Yudkin and Douglas 2009; Skardhamar 2003) or during the current incarceration, is reported in some studies (Todts *et al.* 2007; Singleton *et al.* 2005; Scottish Prison Service 2003).

Although several studies report on drug use within prison, this is not operationalised in the same way, leading to potential large differences in terms of what is measured. Indeed, several studies report drug use during current detention (Todts *et al.* 2007; Scottish Prison Service 2008; Singleton *et al.* 2005; Todts *et al.* 2009), while one Belgian study (Todts *et al.* 2007) refers to the last incarceration episode, and many others do not provide any specific definition, implicitly referring to all incarcerations within an individual's lifetime.

Data on Drug Use Prevalence

Data from the 53 studies listed in *Table 2* show that the prevalence of drug use varies greatly between samples. The proportion of inmates having ever

used an illicit drug is in the region of 50% in most studies, whereas four studies report levels of a third or lower (Carli *et al.* 2009; Paksi 2009; Elekes and Paksi 2004; Romanian Monitoring Centre for Drugs and Drug Addiction (RMCDD) 2007) and two report levels of 70% or above (Goderie 2009; Stewart 2009). As in the general population, cannabis remains the illicit drug most frequently reported, with lifetime prevalence rates ranging between 15% and 78% in inmates. Ever in lifetime use of cocaine was reported for 6%–53% of inmates, that of amphetamines for 1%–59% and that of heroin for 4%–49%. Prison inmates reporting having used an illicit drug during the last year represent 9%–88% of the prison population, with the highest prevalence levels reported in studies from Ireland and the United Kingdom (Scottish Prison Service 2008; Liriano and Ramsay 2003; Stewart 2009; Borrill *et al.* 2003; Singleton *et al.* 2005; Hannon, Kelleher and Friel 2000). Recent use of illicit drugs, defined as drug use in the last month prior to imprisonment, is reported for 7%–77% of inmates (Table 3), while 10%–58% of the prison population report some type of regular drug use. In the majority of the studies, about 15%–30% of the prison population report having ever injected drugs (Table 4). These data show that drug use among the prison population prior to incarceration is greater than that in the community (European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) 2009).

There is clear evidence that drug use continues at some level within the prison setting, though reported drug use in prison tends to be lower than reported drug use prior to imprisonment. Reported ever use of illicit drugs in prison ranges from 2% (RMCDD 2007) to 56% (Origer and Removille 2007), with most studies reporting levels of 20%–40%. Last year prevalence of drug use within prison varies between 2% and 52% in the five studies reporting data, while last month prevalence ranges from 0.9% to 40% (Table 3). The two studies carried out in Portugal in 2001 (Torres and Gomes 2002) and 2007 (Torres *et al.* 2008) include data on regular drug use during the last month in detention, with respectively 10% and 12% of inmates declaring such use. Drug injecting is also an issue with 0.7%–31% of inmates reporting having ever injected illicit drugs while in prison (Table 4).

Data from repeated surveys or routine monitoring are available from twelve countries, each with at least one repeated data collection within the last ten years. It is not possible to compare reports between countries given the different methodologies adopted, as discussed above. The patterns within the countries are varied. Annual data over 1996–2002 from the Czech Republic (Zabransky *et al.* 2002) show that the prevalence of inmates reporting regular drug use before imprisonment, or found positive through drug screening, increased from 12% to 34% over the period. In Slovenia (Slovenian Institute of Public Health 2009), the prevalence of inmates reporting problems with drugs increased from 8% to 28% between 2000 and 2008, whereas in Malta (Maltese Reitox National Focal Point 2007), a decrease in the proportion of inmates found positive for cannabis by urine testing at prison admission was reported, with a decline from 35% to 17% between 2004 and 2005, and a further decline to 15% in 2006.

TABLE 3
 Last Month Prevalence (Percentage) of Drug Use Among Prisoners in EU Member States and Norway, 2000-2008

| Country | Reference | Year | Prior to imprisonment (%) | | | Within prison (%) | | | | | | | |
|----------------------------|---------------------------------------|-----------|---------------------------|------------------|------------------|-------------------|-------------------|----------|----------|--------|--------------|---------|-----|
| | | | any drug | cannabis | heroin | amphetamines | ecstasy | any drug | cannabis | heroin | amphetamines | ecstasy | |
| Hungary | Paksi 2009 | 2008 | 26 | | | | | | | | | | |
| | Elekes and Paksi 2004 | 2004 | 15 | 12 | 5 | 2 | 7 | 8 | 3 | 1 | 0.2 | 0 | 0.3 |
| Italy | Rezza <i>et al.</i> 2005 | 2003 | | 21 | 27 | 23 | 1 | 2 | | | | | |
| | Smikere, Trapencieris and Vanaga 2003 | 2003 | | 20 | | | | | | 6 | | | |
| Netherlands ⁽¹⁾ | Vogelvang <i>et al.</i> 2003 | 2003 | | 2 | 2 ^(a) | 0.6 | 0.3 | 3 | | | | | |
| | Korf, Benschop and Rots 2002/2003 | 2002/2003 | | 58 | 4 | 0 ^(b) | 3 | 7 | | | | | |
| Norway ⁽¹⁾ | Friestad and Skog Hansen 2005 | 2003 | | 8 ^(c) | | 20 ^(d) | 29 ^(e) | | | | | | |
| | Sieroslowski 2007 | 2007 | 9 | 7 | 2 | 1 | 5 | 2 | | | | | |
| Poland ⁽¹⁾ | Sieroslowski 2001 | 2001 | | 9 | 2 | 2 | 6 | 3 | | | | | |
| | Torres <i>et al.</i> 2008 | 2007 | 37 | 28 | 19 | 16 | 4 | 5 | 27 | 23 | 4 | 7 | 1 |
| Portugal | Torres and Gomes 2002 | 2001 | | | | | | | 30 | 24 | 7 | 16 | 2 |

| | | | | | | | | | | | | |
|-------------------------------------|-------------------------------|-----------|----|----|-------------------|----|-----|-----|-----|-----|-----|-----|
| Romania | RMCD | 2006 | 7 | 3 | 1 | 4 | 0.1 | 0.8 | 0.9 | 0.1 | 0.1 | 0.5 |
| | 2007 | | | | | | | | | | | |
| Spain | DGPS | 2006 | 43 | 31 | 19 | 4 | 28 | 5 | | 3 | 5 | 0.3 |
| | 2006 | | | | | | | | | | | |
| Spain | Saiz de la Hoya <i>et al.</i> | 2000 | 43 | 37 | 31 | 5 | 7 | | | | | |
| | 2005 | | | | | | | | | | | |
| UK: England and Wales | Stewart | 2005/2006 | 62 | 15 | 28 | 8 | | | | | | |
| UK: England and Wales | Singleton <i>et al.</i> | 2001/2002 | 66 | 51 | 29 | 8 | 19 | 13 | 25 | 1 | 13 | 0 |
| UK: England and Wales | Liriano and Ramsay | 2000/2003 | 63 | 51 | 28 ^(b) | 11 | 8 | | | | | |
| UK: Scotland | Scottish Prison Service | 2008 | | | | | 26 | 17 | 26 | 5 | 18 | 2 |
| | 2008 | | | | | | | | | | | |
| UK: Scotland | Scottish Prison Service | 2007 | | | | | 30 | 19 | 30 | 6 | 21 | 2 |
| | 2007 | | | | | | | | | | | |
| UK: Scotland | Scottish Prison Service | 2006 | | | | | 29 | 20 | 29 | 6 | 21 | 2 |
| | 2006 | | | | | | | | | | | |
| UK: Northern Ireland ⁽³⁾ | O'Mahony, Fox and Chapman | 2005 | 40 | 25 | 5 | 5 | 20 | 10 | | | | |
| | 2005a | | | | | | | | | | | |
| UK: Northern Ireland ⁽²⁾ | O'Mahony, Fox and Chapman | 2005 | 77 | 73 | 45 | 3 | 52 | 40 | 38 | 4 | 0 | 15 |
| | 2005b | | | | | | | | | | | |

(Notes:

⁽¹⁾Adult males. ⁽²⁾Young males. ⁽³⁾Young females.

⁽⁴⁾Cocaine/crack. ⁽⁵⁾Heroin/opiates. ⁽⁶⁾Use of cannabis but not of stimulants or opioids. ⁽⁷⁾Use of opioids but not of other substances. ⁽⁸⁾Use of amphetamine and other stimulants but not of opioids.

Year: year of data collection. E.g., '2000': data collection in 2000; '2000/2003': data collection from 2000 to 2003.

UK: United Kingdom.)

(Source: EMCDDA/Reitox National Focal Points.)

TABLE 4
Prevalence (Percentage) of Drug Injecting Among Prisoners in EU Member States and Norway, 2000–2008

| Country | Reference | Year | Prior to imprisonment (%) | | | Within prison (%) | | | Prior/ within prison (%) |
|------------------------|---------------------------------------|---------------|---------------------------|---------|--------|-------------------|-------------|----------------|--------------------------------|
| | | | any drug | cocaine | heroin | any drug | amphetamine | cocaine heroin | |
| Belgium | Todts <i>et al.</i> 2007 | 2006 | 14* | | | 4 ^(a) | | | 18* |
| Belgium | Todts <i>et al.</i> 2007 | 2003 | | | | 2 ^(b) | | | 15* |
| France | Sahajian, Lamothe and Fabry 2006 | 2003 | 3** | | | | | | 7* |
| Germany | Radun <i>et al.</i> 2007 | 2006/ 2007 | 31* | | | 22* | | | |
| Hungary | Paksi 2009 | 2008 | 10*, 9**; 8*** | | | 0.7*, 0.2** | | | |
| Hungary ⁽¹⁾ | Elekes and Paksi 2004 | 2004 | 7* | | | 1* | | | 8* |
| Ireland | Hannon, Kelleher and Friel 2000 | 2000 | 25*** | | | | | | |
| Italy | Babudieri <i>et al.</i> 2005 | 2001/ 2002 | | | | | | | 30* |
| Latvia | Snikere, Trapencieris and Vanaga 2003 | 2003 | 20* | | | 10* | | | |
| Luxembourg | Origer and Removille 2007 | 2005 | | | | 31* | | | |
| Norway | Skardhamar 2003 | 2000 | 38*** | | | | | | |
| Poland ⁽¹⁾ | Sieroslowski 2001 | 2001 | 6* | | | 3* | | | |
| Portugal | Torres <i>et al.</i> 2008 | 2007 | | 12* | 13* | | | 2* | 21* |
| Portugal | Torres and Gomes 2002 | 2001 | 27* | | | 11* | | | |
| Romania | RMCCDD 2007 | 2006 | | | | | | | 6* |
| Spain | DGPNSD 2006 | 2006 | 26*, 12*** | | | 3*** | | | |

| | | | | | | | | |
|------------------------------------|------------------------------------|---------------|-------|-------|--------|--------|------|-----|
| Spain | | | | | | | | 34* |
| UK: England ⁽²⁾ | Saiz de la Hoya <i>et al.</i> 2005 | 2001 | 21*** | 7* | | | | 38* |
| | Plügge, Yudkin and Douglas 2009 | 2004/ 2005 | | | | | | |
| UK: England ⁽²⁾ | Borrill <i>et al.</i> 2003 | 2001 | 29* | 1* | | | | 31* |
| UK: England & Wales | Singleton <i>et al.</i> 2005 | 2001/ 2002 | | 1* | | | | |
| UK: England & Wales ⁽¹⁾ | Liriano and Ramsay 2003 | 2000 | 23*** | 19*** | | | | |
| UK: Scotland | Scottish Prison Service 2008 | 2008 | | 2*** | 0.4*** | 1*** | 2*** | |
| UK: Scotland | Scottish Prison Service 2007 | 2007 | | 3*** | 0.4*** | 0.9*** | 2*** | |
| UK: Scotland | Scottish Prison Service 2006 | 2006 | | 3*** | 0.3*** | 0.9*** | 3*** | |
| UK: Scotland | Scottish Prison Service 2005 | 2005 | | 3*** | | | | |
| UK: Scotland | Scottish Prison Service 2004 | 2004 | | 5*** | | | | |
| UK: Scotland | Scottish Prison Service 2003 | 2003 | | 11* | | | | |

(Notes:

*Lifetime prevalence; **Last year prevalence; ***Last month prevalence.

⁽¹⁾Adult males. ⁽²⁾Adult females.

⁽³⁾Injecting drug use during the current detention. ⁽⁴⁾Injecting drug use during the last incarceration.

Year: year of data collection. E.g., '2000': data collection in 2000; '2000/2003': data collection from 2000 to 2003.

UK: United Kingdom.)

(Source: EMCDDA/Reitox National Focal Points.)

In other instances, there is no clear pattern, and in some, the size of the fluctuations leads to concerns regarding the comparability of the data.

Discussion

The EMCDDA-Reitox routine monitoring on drug use in prison populations via ST 12 is unique in Europe in that it provides access to data from many surveys and routine monitoring systems that would otherwise remain unknown outside the circle of those involved with the subject in each country. Seldom do the studies reported in ST 12 find their way into a scientific publication. This is especially the case for many of the institutionally-produced datasets which, at best, are published in an institutional report in the national language.

The data reported to the EMCDDA show substantial heterogeneity across Europe, both between and within countries, in the methodologies used to assess drug use in prison populations. Comparability between surveys is the main issue. Whether by choice or as a result of data collection and sampling strategies, the listed studies refer to very different populations. As discussed above, the data may stem from cross-sectional or reception studies, one-off or repeated, local or national, from a selection of specific establishments which may or may not be representative of the national prison population as a whole, and using a documented sampling method or not. The populations sampled differ in terms of legal status (on remand, convicted), length of incarceration, main offence, or socio-economic and demographic characteristics.

The data analysed show very wide prevalence ranges, with tenfold differences in some cases. It is likely that the differences between studies in the prevalence and patterns of illicit drug use result, at least in part, from the broad range of methods and methodologies described above. In the absence of a standard methodology, the scope for European comparative analysis is very limited. Furthermore, the large variation in the results prevents the emergence of a clear European picture of drug use in prisons. Overall, the data are difficult to interpret, and it is not possible to distinguish between the effect of methodology and true differences between prison populations and countries.

In addition, the analysis of the 53 studies carried out in 23 European countries since 2000 provides an incomplete dataset on the prevalence and patterns of drug use in the prison population across Europe. Many of the available data are not recent. Those that refer to the last five years (2004–2008) come from 26 studies carried out in 17 countries. With repeated measurements made only in a few countries, trend analysis remains the exception, and where this is possible, simple trends are rarely observed. Background information at national level would be needed in order to understand the fluctuations.

A further concern, arising from the EMCDDA's reporting system via its NFP network, is the difficulty in liaising directly with original data providers in each country. Indeed, it is not always possible to clarify all methodological aspects through the NFPs. This issue points to the need to

improve the reporting of methodological characteristics of studies via ST 12, so that detailed information can be gathered in a more complete and standardised way.

The EMCDDA data collection instrument currently used requires further development. ST 12 remains very general and is limited by the fact that, although it was developed as a flexible instrument adaptable to all data-collection situations, common definitions and concepts are lacking in the study of drug use in the prison population. This is, in part, due to the data collection reflecting varying priorities, as illustrated by the many interpretations of the distinction between drug use ‘before’ and ‘within’ prison that were provided. Another related difficulty is that, although ST 12 was only meant to report data that had already been collected via another instrument (for example, a questionnaire), it has sometimes been used, inappropriately, for primary data collection, without proper instructions about the operationalisation of the different prevalence measures.

Despite the methodological caveats discussed above, our analysis shows that levels of drug consumption in the prison population are sometimes very high. Drug use in prison is a contemporary problem that has to be addressed seriously in Europe. Indeed, it raises a number of issues both for society at large and for the prison system: control of illicit drug smuggling into a closed environment where contacts with the outside world are limited and closely supervised; safety and specific problems that drug use may pose to prison management; public health with prison as a high-risk environment for the spread of infectious diseases; treatment offered and the principle of equivalence of services with the general community; and continuity of care for a drug-using population that is often already very marginalised. In order to take appropriate measures, it is first necessary to understand the size and nature of the problem.

Conclusions

Our analysis reveals a lack of consensus on how drug use in the prison population is assessed and monitored across Europe. This indicates the need for a rationalised and more standardised approach at EU level. Ideally, representative surveys based on a common methodology should be carried out regularly across Europe. However, funding for such an approach is likely to be difficult to obtain. The next best option would be to develop a standard instrument including a set of common variables that could be used in any prison survey or monitoring system across Europe, whether local, national or supra-national, with a view to generating standardised data and enhancing the possibilities of carrying out comparative analysis.

The diversity in the studies of drug use in the prison population suggests the need for a common European perspective on the issue. It is essential to agree on the priority areas to target in terms of knowledge improvement and monitoring. This is, perhaps, the first challenge, since there is some variation across Europe in the policies and practices on drug

use in the prison environment, and hence in information needs. An agreed perspective would allow the development of a standardised data collection instrument from which a core set of indicators could be constructed.

The final objective would be to develop a European model questionnaire that would include a limited number of core variables that could be implemented across countries, either as a stand-alone module on drug use or included in larger prison studies addressing broader issues. It would be useful to distinguish between a small number of priority variables that should be used in every prison study across Europe, and a larger number of optional variables that countries could use when needed.

First, from a needs-assessment perspective in the field of drug use prevention, drug treatment and harm reduction, including the prevention of infectious diseases in non drug users, a number of topics should be addressed. Measures of current drug use should be prioritised over those of lifetime use. Injecting drug use should be monitored as a potential risk factor for the dissemination of infectious diseases. In addition, standard monitoring of drug use prevalence and patterns of use could be extended to the collection of systematic data on other important related aspects such as initiation into drug use (and injecting) within prison, and risk behaviours (sharing injecting paraphernalia, unprotected sexual intercourse, tattooing) and prevalence of infectious diseases (hepatitis B and C, HIV/AIDS, tuberculosis) in prison populations. Information specific to drug users in relation to co-morbidity characteristics, but also on the availability and type of treatment received, could also be considered.

Second, developing a standard instrument could also shed light on the drug-crime nexus. The links between drug use and crime are complex and multidirectional; they are usually addressed by research initiatives focusing on the career of drug users or offenders rather than through systematic data collection. In a standard monitoring of drug use in prison, information could also be collected on the type of offence committed and any link with drug consumption. This would allow the extent of drug-related crime in the prison population to be estimated, and, in particular, assess whether offenders were under the influence of drugs at the time of the offence and/or whether they committed the offence to fund illicit drug use.

Third, there is a number of additional topics which could be addressed by such a standard instrument and which would be of interest to those working in the field, including the smuggling of illicit substances into prison and the perceptions and behaviour of prison staff in relation to drugs and drug use. A long wish list of issues is possible, but which topic would be included in any individual survey will depend on the national priorities at the time, the budget available and the type of survey.

Alongside the model questionnaire, it would be advisable to develop implementation guidelines to raise awareness on issues around conducting research in prison settings on drug use and related behaviours. In addition to methodological issues related to the collection of generalisable data on a sensitive topic, there are practical issues, particular to the prison environment, such as access to prisons and prisoners, obtaining permissions, and

working with penal institutions while maintaining independence (Jenness *et al.* 2010), which need to be addressed.²

Notes

- ¹ 'Prevalence' is a term used in epidemiology to refer to the number of persons, often expressed as a percentage of the population under study, being affected by a disease or presenting a certain condition or characteristic. The term 'prevalence of drug use' is commonly used in the field of drug addiction research to refer to the number of persons using drugs. For reasons of consistency, we will use this term, although it is rather technical, throughout the article.
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