European Monitoring Centre
for Drugs and Drug Addiction

ISSN 1830-7957

SELECTED ISSUE 2012

PRISONS AND DRUGS IN EUROPE: THE PROBLEM AND RESPONSES

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Legal notice

This publication is available in English.

Cataloguing data can be found at the end of this publication.

Luxembourg: Publications Office of the European Union, 2012

ISBN 978-92-9168-561-5
doi: 10.2810/73390

Printed in Spain

PRINTED ON WHITE CHLORINE-FREE PAPER

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Introductory note and acknowledgements

In-depth reviews of topical interest are published as Selected issues each year. These reports are based on information provided to the EMCDDA by the EU Member States and candidate countries and Norway as part of the national reporting process.

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- Treatment and care for older drug users;
- Problem amphetamine and methamphetamine use in Europe;
- Trends in injecting drug use in Europe.

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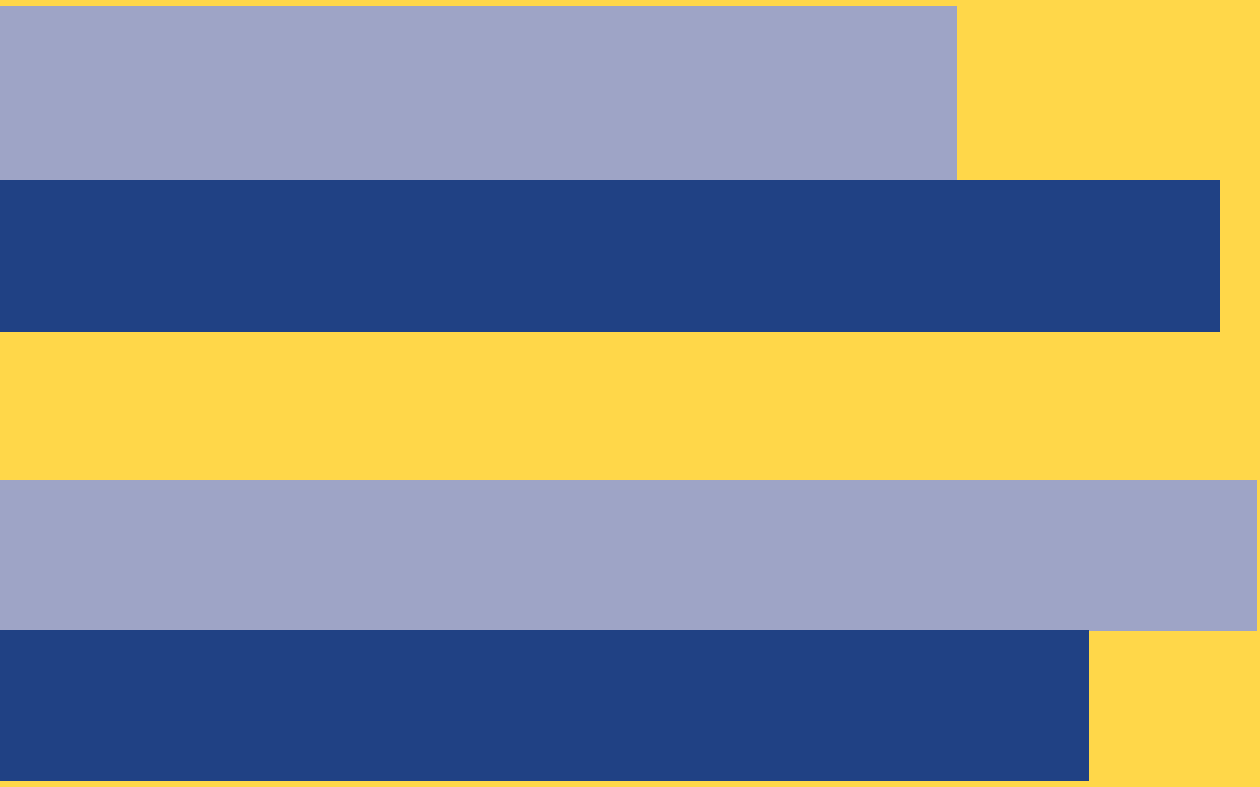
The EMCDDA would like to thank the following for their help in producing this Selected issue:

- the heads of Reitox national focal points, their staff and the national experts on drug-related deaths;
- the services within each Member State that collected the raw data;
- the members of the Management Board and the Scientific Committee of the EMCDDA;
- the Publications Office of the European Union.

Reitox national focal points

Reitox is the European information network on drugs and drug addiction. The network is composed of national focal points in the EU Member States, Norway and the candidate countries and at the European Commission. Under the responsibility of their governments, the focal points are the national authorities providing drug information to the EMCDDA.

The contact details of the national focal points may be found at: http://www.emcdda.europa.eu/about/partners/reitox-network



Introduction

Over the last decade, Europe has seen an increase in the size of its prison population. As of 1 September 2010, there were an estimated 635 000 inmates in prison in EU Member States (Aebi and Del Grande, 2012; Walmsley, 2012). Most of those in Europe's prisons are from poor communities and vulnerable social groups (WHO Regional Office for Europe, 2007), with the proportion of inmates who are immigrants or from minority ethnic backgrounds on the increase (Ronco et al., 2011). Drug users form a large part of the overall prison population, with studies showing that a majority of prisoners have used illicit drugs at some point in their life and many have chronic and problematic drug use patterns. Because of the illegality of the drugs market and high cost of drug use, which is often funded by criminal activity, the more problematic forms of drug use are accompanied by an increased risk of imprisonment.

Although some prisoners do stop or reduce their use of drugs on prison entry, others initiate drug use or engage in more damaging behaviours when they are incarcerated (Lukasiewicz et al., 2007). In addition to high levels of drug problems, prisoners also experience poorer health than the general population, with higher prevalence of blood-borne infections, such as human immunodeficiency virus (HIV) and hepatitis C virus (HCV), as well as mental illness. Reported rates of self-harm and suicide among prisoners are particularly high compared with the general population of the same age. In addition, overcrowding and poor hygienic conditions may further aggravate the stress, social and health problems experienced by prisoners.

For opioid users, the risk of dying from drug overdose greatly increases in the period after release from prison — due to high rates of relapse and lower opioid tolerance (Farrell and Marsden, 2008). This is a critical time for action, when ensuring continuity of care and targeted interventions can both support recovery and save lives. The services offered to prisoners, however, have historically compared poorly with those provided in the community (Stöver and Weilandt, 2007). In general, services provided for prisoners have tended to mirror those provided in the community, but with a considerable time lag. Nevertheless,

Sources of information on drug use and health responses in prisons

This Selected issue is based primarily on data provided by the Reitox network of national focal points, through either yearly routine reporting or a special data collection ([1]). The data available to the EMCDDA include both qualitative information on drug use and responses in prisons and quantitative data on prevalence and patterns of drug use among prisoners. In the absence of a common methodology for monitoring drug use in prison, the methods used across Europe vary, which limits the comparability of the data. The drug use statistics presented here are based mainly on studies carried out since 2006; however, owing to the scarcity of data, studies from as early as 2000 have been included where more recent data are unavailable. Data from other EMCDDA sources are also used, among them data from the treatment demand indicator, which is applied in some countries in prison, and from the drug-related infectious diseases indicator. Data on drug use in prison are presented in the 2012 Statistical bulletin. Additional information was obtained from the international scientific literature.

A special data collection on health-related interventions for drug users in prison was conducted in 2011. This exercise collected information on healthcare priorities and levels of availability of selected measures through an expert survey among the 30 national focal points using a structured questionnaire. The respondents also provided a detailed report on the responses for drug-related health problems among prisoners in their country.

Data on prison populations in Europe were obtained from the Council of Europe *Annual penal statistics 2010 SPACE I* by Marcelo Aebi and Natalia Del Grande. Data on prison numbers for other countries were obtained from the International Centre for Prison Studies' *World Prison Brief*.

([1]) The 2010 Reitox national reports from 27 EU Member States, Croatia, Turkey and Norway are available on the EMCDDA website.

when appropriate drug services are in place, periods of incarceration may provide an opportunity for some to reduce their drug use and engage with treatment, and, in recent years, many European countries have increased the provision of services for drug users in prison, particularly substitution treatment.

Recent years have also seen an increasing acknowledgement from international and European institutions of the importance of treating prison health as an inseparable component of public health. The Council Recommendation of 18 June 2003 and the 2009–12 EU action plan on drugs have both called for the development and implementation of prevention, harm reduction and treatment services in prison that are equivalent to services outside prison ([1]).

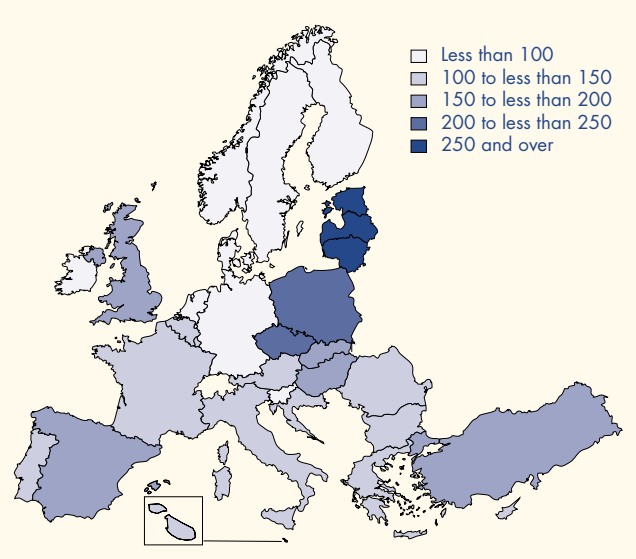
This Selected issue approaches the important topic of prisons and drugs in Europe from two perspectives. The first section aims to provide an insight into patterns and levels of drug use among the European prison population, the health profile of prisoners and risk behaviours while incarcerated. The second section examines Europe's prison health policies and models of delivery of drug-related healthcare to detainees, including the provision of prevention, treatment and harm reduction services. The report concludes with reflections on ways forward.

The context: prisoners in Europe

In this Selected issue, the term 'prisoner' is used in a broad sense to mean anyone who is held in custody. This definition includes a range of legal statuses, from detainees who have not yet been tried to prisoners who are serving custodial sentences.

Between 2001 and 2010, the prison population of the 27 EU Member States increased from 582 000 to 635 000. Over that period, 18 of the 27 EU Member States and Norway reported increasing numbers of prisoners, a trend observed in most countries worldwide. The current EU prison population represents an average of 135 prisoners per 100 000 population, with national figures ranging from 60–70 per 100 000 population in Denmark, the Netherlands, Slovenia, Sweden and Norway to more than 200 per 100 000 in the Czech Republic, Estonia, Latvia, Lithuania and Poland (Figure 1).

Figure 1: Prisoners per 100 000 population in EU Member States, candidate countries Croatia and Turkey and Norway in 2010



Source: Council of Europe annual penal statistics: SPACE I — 2010.

([1]) Council Recommendation of 18 June 2003 on the prevention and reduction of health-related harm associated with drug dependence OJ L 165 13.7.2003, p. 31 and EU drugs action plan for 2009–12 OJ C 326 20.12.2008, p. 7.

Drug use and its consequences among the prison population

Drug use among the prison population

Drug use, including problem drug use ([2]), is relatively common among the prison population. In the European Union, it has been estimated that about half of the prison population have used illicit drugs at some time in their lives (Zurhold et al., 2005). A systematic review of international studies — with a predominance of studies conducted in the United States — found that 10–48 % of men and 30–60 % of women were dependent on or used illicit drugs in the month before entering prison (Fazel et al., 2006).

Prisoners will have different experiences with drugs and crime. In Europe, offences related to the use, possession or supply of illicit drugs are the main reason for incarceration of between 10 % and 25 % of all sentenced prisoners (Aebi and Del Grande, 2011). Many, but not all, of these prisoners will have both experience of and problems with illicit drugs. Of those prisoners with a history of problematic drug use, some will have been imprisoned for a drug law offence, some for a crime committed to support their drug use (e.g. burglary, shoplifting) and some for offences unrelated to drugs.

Available data provide some insight into prisoners' drug use before prison entry and their use of drugs during their period of imprisonment.

Experience of drug use among prisoners

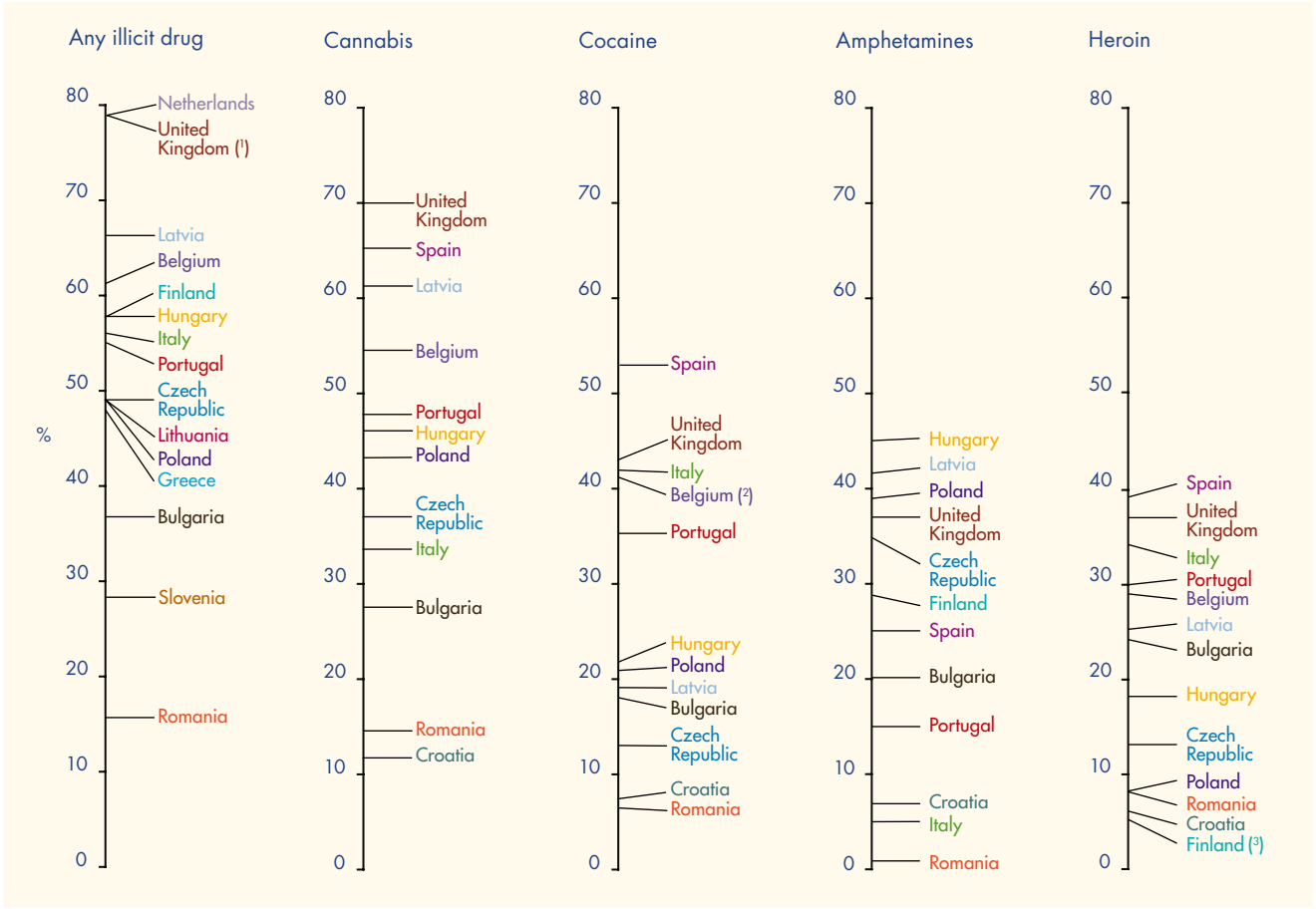
Experience of illicit drugs is much more common among prisoners than among the general population. Among the 17 European countries that have reported data on drug use among prisoners, the proportion of prisoners who have ever used any illicit drug before imprisonment ranges from 16 % in Romania to 79 % in England and Wales and the Netherlands, with nine countries reporting levels of use higher than 50 % (Figure 2). The variation between countries broadly reflects national levels of drug use, but may also partly reflect differences in data collection methods and practices.

Cannabis is the illicit drug with the highest reported level of lifetime prevalence among prisoners, with between 12 % and 70 % having tried it at some time in their lives. This reflects drug use experience in the general population, although the levels there are lower (1.6 % to 33 % among 15- to 64-year-olds). Levels of use of cocaine, Europe's second most commonly reported illicit drug, both inside and outside prison, are also much higher among prisoners (lifetime prevalence of 6–53 %) than among the general population (0.3–10 %). Experience of amphetamines among prisoners ranges from 1 % to 45 %, whereas among the general population the range is from almost zero to 12 %. Data on lifetime misuse of other substances (such as volatile substances, hypnotics and sedatives) are limited, and prevalence levels, among both prisoners and the general population, are usually low (EMCDDA, 2012).

Prisoners differ greatly from the general population in their reported experience of heroin. Whereas less than 1 % of the general population have ever used heroin, lifetime prevalence levels among European prisoners are much higher, with eight of the 13 countries that were able to provide information on heroin use reporting levels between 15 % and 39 %.

([2]) The EMCDDA defines problem drug use as 'injecting drug use or long-duration/regular use of opioids, cocaine and/or amphetamines'. See the problem drug use indicator on the EMCDDA website for more information.

Figure 2: Lifetime prevalence (%) of illicit drug use among prisoners in European countries



(1) Any of amphetamines, cannabis, crack, cocaine or heroin.
(2) Includes crack cocaine.
(3) Opioids.
NB: Data refer to lifetime prevalence of use prior to imprisonment, with the exception of data for Belgium and Bulgaria, which refer to lifetime prevalence inside and outside prison. The prisoner sample in Finland was made up of convicts presenting for voluntary HIV testing; in the United Kingdom, the sample consisted of adults receiving sentences of between 1 month and 4 years. The studies were carried out in 2000 (Greece), 2001 (Finland), 2003 (Italy, Lithuania, Netherlands), 2005/6 (United Kingdom), 2006 (Spain, Romania), 2007 (Poland, Portugal), 2008 (Slovenia), 2009 (Hungary) and 2010 (Belgium, Bulgaria, Czech Republic, Latvia, Croatia).
For further information see Table DUP-1 in the 2012 Statistical bulletin.
Sources: Reitox national focal points.

Drug use within prison

Imprisonment forces some drug users to stop using drugs, and some will see this as an opportunity to improve their lives. For others, however, prison may be a setting for initiation into drug use or for switching from one drug to another, often due to lack of availability of the preferred drug inside prison (Fazel et al., 2006; Stöver and Weilandt, 2007) and other possible reasons (e.g. use of substances for which avoiding control measures is easier). Sometimes, this change leads to more harmful patterns of drug use (Niveau and Ritter, 2008). For example, a Belgian study carried out in 2008 found that more than one-third of drug-using prisoners had started to use an additional drug during detention, one that they were not using before entering prison, with heroin being the drug most frequently mentioned (Todts et al., 2008).

Studies carried out in 15 European countries since 2000 estimated that between 2 % and 56 % of prisoners have ever used any type of drug while incarcerated, with nine countries reporting levels in the range 20–40 % (3). The

(3) See Table DUP-1 in the 2012 Statistical bulletin.

Imprisonment and drug use: the international picture

At an estimated 135 prisoners per 100 000 population, the level of incarceration in Europe is similar to that in Australia (134 per 100 000) and higher than that in Canada (117 per 100 000). Considerably higher levels of imprisonment are reported in the United States (743 per 100 000 in 2009) and Russia (590 per 100 000) (Aebi and Del Grande, 2011; Walmsley, 2012).

Outside Europe, data on drug use among prisoners mainly come from the United States, Australia and Canada. Despite the methodological differences in monitoring drug use in prison between different countries and world regions, data from all three countries show that the prevalence of drug use among prisoners prior to incarceration is substantially above the level in the general population. Comparing estimates of the more problematic forms of drug use between countries is hampered by the lack of an agreed international definition of the condition. The available European data indicate that one-third of prisoners show problematic drug-use patterns. In Canada, the percentage of prisoners diagnosed as having a substance abuse problem (70 %) is the nearest comparable measure, although this includes alcohol problems (CCSA, 2012). In the United States, 65% of prisoners reportedly meet the criteria for substance use disorder under the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (CASA, 2010).

In Australia, two-thirds of all prison entrants reported using illicit drugs in the 12 months prior to prison entry. The most common illicit substances used by prisoners before incarceration were, in the following order: cannabis (51 %), methamphetamine (30 %), analgesics (16 %), tranquillisers (12 %), heroin (10 %) and ecstasy (10 %) (AIHW, 2011). Also in Australia, a recent study found that 36 % of prisoners reported the illicit use of pharmaceutical drugs such as buprenorphine, morphine, benzodiazepines or dexamphetamine at least once in the past 12 months (Ng and Macgregor, 2012).

There are also reports of high levels of experience of injecting drug use among prison populations outside Europe, with 34 % of Canadian drug offenders in prison and 55 % of Australian prison entrants reporting ever having injected a drug. Injecting while in prison is reported by 11 % of Canadian inmates.

drug most frequently used by prisoners is cannabis, followed by cocaine and heroin. Estimates of heroin use while in prison ranged from 1 % to 21 % of prisoners ([4]). The wide variation in prevalence levels between countries may reflect methodological differences in data collection and reporting. Factors such as price and availability will influence the substances used within prison, but studies suggest a tendency towards the use of depressant-type drugs such as heroin, hypnotics and sedatives or drugs with depressant effects such as cannabis. Stimulant drugs may be less popular, as the effects can be more difficult to manage, for both prisoners and prison staff, within the confined prison setting (Bullock, 2003).

Drug injecting and other health risk behaviours among prisoners

The close associations between injecting drug use and serious health risks, including blood-borne infections and overdose, have led to research into drug use patterns among prison populations focusing largely on drug injecting.

Lifetime prevalence of injecting drug use is substantially higher among prisoners than among the general population. European countries report that between 2 % and 38 % of prisoners have ever injected heroin or other drugs prior to imprisonment. The most robust overall figure for drug injection among the European general population refers to those currently injecting, who are estimated to represent about 0.3 % of the adult population of the European Union.

In studies carried out in Europe since 2000, estimates of the prevalence of ever injecting illicit drugs while in prison range from 2 % to 31 % (Table 1). Data, however, are available for only a few countries, and differences in methodology mean that caution is required when comparing countries. The findings of qualitative studies suggest that in prison settings the likelihood of injecting in order to maximise the effect of the substance could increase, owing to the scarcity of drugs (EMCDDA, 2010b; Pena-Orellana et al., 2011). In addition, the scarcity of sterile equipment may lead to prisoners sharing syringes and other injecting paraphernalia, which increases the risk of infections.

([4]) See Table DUP-3 in the 2012 Statistical bulletin.

Table 1: Lifetime prevalence of drug injecting before and during imprisonment, in selected European countries

	Prevalence of drug injecting (%)		Year of study
	Prior to imprisonment	During imprisonment	
Belgium	15.2	2.3	2010
Bulgaria ([1])	7.3	2.7	2009/06 ([2])
Czech Republic	22.1	8.4	2010
Germany	31.0	22.2	2007
Spain	25.7	3.1	2006
France	7.0	—	2003
Italy	30.4	—	2001–02
Latvia ([1])	21.1	8.5	2010
Luxembourg	—	31.0	2005
Hungary	10.4	0.7	2008
Poland ([3])	5.9	3.3	2001
Portugal	12.6	1.9	2007
Romania	6.0	—	2006
United Kingdom (England) ([4])	37.8	6.9	2004–05
United Kingdom (England and Wales)	—	1.0	2001–02
United Kingdom (Scotland)	—	7.5	2009
Croatia	2.5	—	2010

([1]) Heroin.
([2]) Data for injecting prior to imprisonment refer to 2009, data for injecting during imprisonment are from 2006.
([3]) Adult males.
([4]) Female prisoners.
Sources: Reitox national focal points.

Prison experience among problem drug users

Studies among problem drug users show that many have spent time in prison, with between one-third and three-quarters of different samples of users of opioids, cocaine and amphetamines and injecting drug users having ever been in prison. Among problem drug users, evidence from a Norwegian study suggests that males are more likely than females to have been imprisoned at some time, and that males serve longer sentences (Ravndal and Amundsen, 2010).

Problem drug use and drug dependence will increase the risk of imprisonment, due to the illegality of the drugs market and high cost of drug use, which is often funded by criminal activity. In addition, studies suggest that incarceration has an additional negative impact on these already vulnerable populations. Imprisonment is, for example, associated with higher rates of heroin or cocaine use, both in prison and outside prison (Gaffney et al., 2008), increased benzodiazepine use in injecting drug users (McIlwraith et al., 2012), and earlier relapse after inpatient treatment (Smyth et al., 2010).

In light of the large overlap that exists between prison and problem drug use populations, prison samples (and criminal justice-involved samples, in general) are an important source of data for understanding the characteristics and estimating the size of populations of problem drug users, as they offer an opportunity to reach problem drug users who might never, or only much later, contact drug treatment services. Comparing their characteristics with treated clients gives a better understanding of treatment needs that are as yet unmet by existing services.

Additional risk factors for blood-borne infections include consensual and non-consensual unprotected sexual activity, including sexual assault and rape, which are reported to occur frequently in prison. In a large study conducted in Luxembourg in 1998, 90 % of the prisoners who reported having had sex in prison did not use condoms (Schlink, 1999); in a recent study, the corresponding proportion was 40 % (Origer and Removille, 2007). A number of other practices that are relatively frequent in prison are associated with increased risk of spread of infectious disease, including the sharing or re-use of tattooing and body-piercing equipment, sharing of razors, blood-sharing/'brotherhood' rituals and the re-use or inadequate sterilisation of medical or dental instruments. In addition, inmates' vulnerability to HIV and other infections may be indirectly increased by factors related to prison infrastructure and management, including overcrowding, violence and inadequate medical and social services (Jurgens et al., 2011; Rotily et al., 2001).

Social and demographic characteristics of drug treatment clients in prison

Information on the social characteristics of prisoners with drug problems is scarce, both in the scientific literature and from routine data; it mainly comes from qualitative studies (Vandam, 2009). Data on those entering drug treatment while in prison may provide a source of information on the social and demographic characteristics of drug users in prison settings. However, as only a small number of countries collect these data, and coverage may be limited, it

must be borne in mind that this dataset can describe only a subset of drug users receiving treatment in prison settings.

Data on drug users entering treatment in prison show that, prior to incarceration, they have experienced generally poor social conditions, with many of them having a low level of educational attainment, while unemployment and living in unstable accommodation are also common. Furthermore, violence, abuse and poverty feature in the history of many prisoners who have used or are using drugs (Ronco et al., 2011).

Eight countries were able to provide information on prisoners entering drug treatment in 2010 (Germany, Ireland, France, Luxembourg, Hungary, Romania, Slovakia and Sweden, with a total of 5 146 prisoners). In these countries, the social profile of drug clients entering treatment in prison, while being generally similar to that of those entering treatment in the community, had some distinct characteristics. Men accounted for a greater share of those entering treatment in prison (around 90 %) than in community settings (80 %). And, while the average age of treatment clients was similar in the two settings (29 years in prison and 30 years in the community), prisoners reported an earlier age of first use of the primary drug for which they were receiving treatment (18 years compared with 21 years among non-prisoners). Overall, heroin use was frequently the main reason for entering treatment in prison, although other primary drugs were reported by high proportions of prisoners entering treatment in several countries.

Health of drug-using prisoners

The health needs of prisoners are diverse and complex. Prisoners suffer from high levels of physical and psychiatric disorders, ranging from infectious diseases (HIV/AIDS, hepatitis B and C, tuberculosis) to psychiatric co-morbidity (antisocial and borderline personality disorder, depression, post-traumatic stress disorder, psychosis and alcohol dependence) (ECDC, 2010).

Prison conditions may also have a detrimental impact on prisoners' health. Overcrowding, in particular, is linked with increased stress and tension (Rouillon et al., 2007). In 15 out of 30 European countries (27 EU Member States, Croatia, Turkey and Norway) the occupancy rate in prison is over 100 %, ranging from 102 % in Ireland to 153 % in Italy, according to the latest statistics from the Council of Europe (Aebi and Del Grande, 2012). In addition, the poor and unsanitary detention conditions in some prisons are likely to impact on the health of prisoners (WHO Regional Office for Europe, 2007).

Differences in morbidity between the prison population and the general population are shown by several studies, with prisoners more often presenting a problematic mental health profile (Fazel and Danesh, 2002). Compared with the general population, prison inmates experience poorer physical and mental health and social well-being, including both acute and long-standing physical and mental illness and disability, sexual health problems, suicide, self-harm, physical, psychological and sexual violence, lower life expectancy and breakdowns in family and other relationships, drug, alcohol and tobacco dependency (Barry, 2010).

According to recent European and international studies more than one-third of prisoners had an alcohol problem

Health needs of female drug users in prison

On a given day more than 30 000 women are imprisoned in Europe, where they account for about 5 % of the prison population. Between 2000 and 2010, the number of women in prison grew by 27 %, and women's share of the prison population also rose. Part of the increase may be due to women drug couriers, many of whom have been coerced into carrying drugs. In the United Kingdom, for example, female foreign nationals represented 19 % of the female prison population, with 80 % of them convicted of drugs offences (Corston Report, 2007). These women form a group with special needs.

Women prisoners are more likely than their male counterparts to have been incarcerated for drug offences (Borrill et al., 2003) and to have serious drug-related health problems (Fazel et al., 2006), including infectious diseases (UNODC, 2008c). Female prisoners have specific treatment needs that are interwoven with their drug use history and drug-related lifestyles: many have experienced trauma related to physical and sexual abuse and violence and have to deal with mental health co-morbidities (WHO Regional Office for Europe, 2009). In addition, the risk of drug-related death is particularly acute among newly released women (Farrell and Marsden, 2008).

Responding to the requirements of women is challenging for prison authorities, because facilities and programmes are not typically developed to meet the specific psychological, social and healthcare needs of this small minority of inmates. Making sure that women have access to integrated treatment that addresses mental and somatic co-morbidities as well as drug dependence has been recommended (WHO Regional Office for Europe, 2009) alongside the systematic preparation of women prisoners for release, throughcare to drug treatment in the community and support to re-establish social support networks and family relationships (UNODC, 2008b).

in the last year before entering prison (Lukasiewicz et al., 2007), and almost 80 % smoked tobacco prior to arrest, compared with around 20–30 % in the general population (Hayton and Boyington, 2006; Kauffman et al., 2011).

Infectious diseases among injecting drug users in prison

HIV and hepatitis C virus

European data on HIV infection among injecting drug users in prison, albeit limited, show that the prevalence of infection varies, and in some countries it can be high among prisoners who have ever injected. Among the five countries providing data on HIV infection among injecting drug users in prisons between 2005 and 2010, HIV prevalence ranged from zero to 7.7 % in four countries while Spain reported a prevalence of 39.7 %. Reports from European countries with a high prevalence of HIV among injectors outside prison suggest that HIV prevalence is also high among injectors in prison. As higher proportions of prisoners inject or have injected drugs, the prevalence of HIV in prison populations can be much higher than that in the general population ([5]).

Data on hepatitis C virus (HCV) antibody prevalence among injecting drug users in prison between 2005 and 2010 were reported by five countries, with prevalence ranging from 11.5 % (Hungary) to 90.7 % (Luxembourg).

An analysis of studies undertaken in the community and reported to the EMCDDA, mostly in drug treatment and low-threshold services, assessed whether HIV prevalence differs by prison history of injecting drug users. Data since 2005 from 15 European countries were analysed. HIV prevalence among injecting drug users who reported ever having been in prison (5.6 %) was about twice that among injectors who reported never having been in prison (2.6 %). A similar pattern was found for HCV infection, with a prevalence of 63 % among injecting drug users who reported having ever been in prison and 43 % among those who reported that they had never been in prison. The increased risk of HCV infection varied from 1.1 times in Greece to 7 in Sweden and 19 times higher risk in Cyprus. Overall, the data suggest that, for injecting drug users in most countries, a history of imprisonment is associated with a two- to threefold increase in the risk of HCV infection, while in France, Cyprus and Sweden the increase is higher.

Tuberculosis

Prisons play a key role in the epidemiology of tuberculosis in Europe. The disease is more common among marginalised sections of the population, including those with drug problems, than in the community at large, and prevalence rates in European prisons usually far exceed those in the general population (Aerts et al., 2006). A recent systematic review indicates that the risk of acquiring tuberculosis is at least ten times higher in prisons than in the general population (Baussano et al., 2010). Conditions such as overcrowding and poor ventilation facilitate the transmission of tuberculosis among the prison population. Similarly, through infected visitors, prison staff and released prisoners, tuberculosis may be transmitted into the community.

Psychiatric co-morbidity

Psychiatric co-morbidity is the co-occurrence of two or more mental disorders, usually a mental health and substance use disorder, in the same person. It particularly affects vulnerable groups, including problem drug users and prison populations, which are, to a large extent, overlapping. Studies have estimated that for several types of mental health disorders, including psychosis, personality disorders, anxiety and depression, co-morbidity occurs at substantially higher prevalence rates among prisoners than in the general population (Fazel and Baillargeon, 2011).

A systematic review of 62 surveys covering about 23 000 prisoners from 12 countries worldwide showed that up to 65 % of prisoners have a mental health disorder, which may range from personality disorder (42–65 %, mostly antisocial disorder), to major depression (10–12 %) to psychotic illnesses (4 %; including schizophrenia, schizophreniform disorder, maniac episodes and delusional disorder). Those disorders represent a serious risk factor for suicide, which is the leading cause of death among those who are imprisoned (Fazel and Danesh, 2002).

Studies from European countries, including Spain, France and the United Kingdom, support those results (Birchard, 2001). Particular attention has been drawn to personality disorders, which are often associated with problem drug use (Arroyo and Ortega, 2012). In a French study, the most common problems among prisoners with a diagnosis of psychiatric co-morbidity were depressive syndromes (40 %), generalised anxiety (33 %), traumatic neuroses (20 %), agoraphobia (17 %), schizophrenia (7 %), and paranoia or chronic hallucinatory psychoses (7 %) (Rouillon et al., 2007).

([5]) See Table INF-1 in the 2012 Statistical bulletin.

Mandatory drug testing in prison

The main purpose of mandatory drug testing is to prevent inmates from consuming drugs inside prisons and to identify those who require treatment. The information obtained can also be used to estimate the level of use and the types of drugs being used in prisons (Stöver et al., 2008).

Mandatory drug testing in prisons was first established in a number of European countries in the 1990s (MacDonald, 1997), and is now carried out in most EU Member States. Urinalysis is the prevailing method employed, although countries report various methods and objectives of drug testing. Other types of biological samples are analysed, such as blood and oral fluids, hair follicles and sweat (Hoffmann, 2009). In addition to random testing, in some European countries inmates may also be tested upon prison admission, on suspicion of use, and before they leave the prison.

There are a number of problems associated with drug testing in prisons including cost, increased tension among prisoners, and negative impact on treatment compliance and effectiveness (Stöver et al., 2008). Studies have also reported links between testing and increases in harm. Drug testing is more likely to identify cannabis users, since metabolites of tetrahydrocannabinol, the main psychoactive chemical in cannabis, have a longer duration in the body than those of cocaine and heroin. This could lead would-be cannabis users to switch to 'harder' drugs. However, there is insufficient evidence to generalise these findings, and more research is needed to establish the efficacy of mandatory drug testing in prison (Bird, 2005).

Mortality among prisoners using drugs

Mortality among prisoners in general is high (30.6 per 10 000 per year), according to a study of suicide and mortality in prisoners, using supranational data from the Council of Europe Annual Penal Statistics (SPACE) from 1997 to 2008. Suicide is the leading cause of death in prison and accounts for around one-third of all prison deaths. In Europe, the risk of suicide among prisoners (10.5 per 10 000 in prison) is estimated to be seven times that of the general population (EU average of 1.5 per 10 000 population) (Rabe, 2012).

Drug-using prisoners represent a sizeable proportion of the prison population, and, while the evidence is not conclusive, it is likely that drug users represent a considerable share of the suicides in prison. Meta-analysis of studies suggests that, among other factors, drug problems might be a risk factor for committing suicide in prison (Fazel et al., 2011; Laishes, 1997). And studies show that, in the community, drug users are more likely than the general population to commit suicide (Darke and Ross, 2002).

In England, a study on 172 prison suicides in 1999–2000 found that the most common methods of suicide were hanging and strangulation, using bed clothes and window bars (92 %), and only 3 % of the victims died of self-poisoning (overdose). Drug-dependent prisoners who committed suicide did it early, and were twice as likely as other prisoners to commit suicide in the first week of detention. For all inmates, the authors identified the days following reception into prison as the period when suicide prevention measures are most needed, and that, in this respect, drug-dependent prisoners should be identified as a high-risk population and targeted by prevention measures (Shaw et al., 2004).

Mortality after prison release

Release from prison is a time associated with increased mortality from all causes and, in particular, from drug overdose. This risk does not appear to have decreased in the last 20 years (WHO Regional Office for Europe, 2010). During the period following release from prison and return to the community, prisoners face a range of physical, practical and psychosocial challenges (Binswanger et al., 2011). For prisoners with a history of problematic drug use, this is a time of very high overdose risk, as a result of reduced tolerance to opioids and frequent relapse into heroin use. A review of drug-related deaths that occurred shortly after release from prison in Europe, Australia and the United States showed that six out of 10 deaths in the first 12 weeks after release were drug-related (Merrall et al., 2010). The authors concluded that there is an increased risk of drug-related death during the first two weeks after release from prison, and that the risk remains elevated up to at least the fourth week. A study in England and Wales also reported that six out of 10 deaths in the first two weeks after release were drug-related and that the risk of death was greatly elevated during the first two weeks following release from prison. During the first week after release, compared with the general population of the same age and sex, female prisoners were 69 times more likely to die of drug-related causes and male prisoners 28 times more likely (Farrell and Marsden, 2008). In addition, an Irish study of drug users who died after prison release between 1998 and 2005 showed a considerable risk of death at the time of release. Among the 105 deaths identified, 28 % occurred within the first week of release from prison and a further 18 % in the first month (Lyons et al., 2010).

Responding to drug-related healthcare needs in prison

The European context

Responding to the drug-related healthcare needs of prisoners has been identified as a public health priority by the European Union and Member States. This is evident in the EU drugs action plan 2009–12, which sets for Member States the objective of providing drug users in prison with improved access to healthcare, in order to prevent and reduce health-related harm associated with drug dependence. It is also expressed in the Dublin Declaration on Partnership to fight HIV/AIDS in Europe and Central Asia, which identifies prisoners as a vulnerable population and sets time-bound targets for national governments to provide comprehensive HIV/AIDS services for them (ECDC, 2010).

A number of recommendations and resolutions that address the broader topic of prison health have been adopted by the Council of Europe, through its Council for Penological Cooperation under the Committee of Ministers ([6]), including the European Prison Rules ([7]). In addition, guidance translating internationally recommended health standards into the prison setting and promoting evidence-based health interventions in prisons has been issued, including the World Health Organization's (2007) health in prisons guide and the United Nations Office on Drugs and Crime's (2012) briefing on HIV prevention, treatment and care in prisons.

To set the context for the care for drug-related problems in prison, this section first examines the administration of prison healthcare in European countries, and reviews national policies. This is followed by an overview of the available information on drug-related service provision in Europe, from prison entry to prison release, addressing counselling, treatment of drug dependence and the prevention of infectious diseases.

The rights of prisoners in the European Union

In response to concerns about increasing prison populations, including overcrowding and rising numbers of foreign nationals in European prisons, in 2004, the European Parliament adopted a recommendation on the rights of prisoners in the European Union ([a]), which refers to the EU legal instruments dealing with the protection of human rights ([b]), treatment of drug users in prison ([c]) and reduction of health-related harm ([d]), as well as to the corresponding instruments adopted by the Council of Europe and the United Nations. The Parliament recommended the drafting of a binding prisons charter for Europe as well as the revision of the 1987 European Prison Rules ([e]), in order to incorporate a higher degree of protection. In the context of the adoption in 2008 of an EU framework decision ([f]) implying the option of a transfer of a sentenced prisoner to serve the remainder of the sentence in another Member State, growing importance is now being attached to ensuring common minimum prison standards across the EU Member States and to the exchange of best practices.

([a]) European Parliament recommendation to the Council on the rights of prisoners in the European Union (2003/2188(INI)) — document P5_TA(2004)0142 (available online).

([b]) The Treaty on European Union and the Charter of Fundamental Rights of the European Union (available online).

([c]) Council Resolution on the treatment of drug abusers in prison, adopted at the meeting of the Justice and Home Affairs Council on 27–28 February 2003 (available online).

([d]) Council Recommendation of 18 June 2003 on the prevention and reduction of health-related harm associated with drug dependence, OJ L 165, 3.7.2003, p. 31 (available online).

([e]) Recommendation Rec(87)3E of the Committee of Ministers on the European Prison Rules (available online).

([f]) Council Framework Decision 2008/909/JHA of 27 November 2008 on the application of the principle of mutual recognition to judgments in criminal matters imposing custodial sentences or measures involving deprivation of liberty for the purpose of their enforcement in the European Union (available online).

([6]) A compendium of the work of the Council of Europe published in 2007 is available online.
([7]) See the box 'Prison health standards in Europe: the European Prison Rules'.

Responsibility for prison health in European countries

In Europe, the responsibility for the provision of healthcare in prisons has historically lain with the same ministry that is in charge of the overall management of prison services — generally the justice or interior ministries. In practice, this means that decisions about prison health are taken by the national prison administrations or specialised executive agencies such as the Criminal Sanctions Agency in Finland, the Custodial Institutions Agency in the Netherlands or the Irish Prison Service. In several countries, namely Belgium, Germany, Malta, Portugal, Finland and Norway, prison health policies are dealt with at regional or prison levels.

Seven countries, accounting for 40 % of all prisoners in the European Union and Norway ([8]), have transferred or are in the process of transferring competence for delivering prisoner healthcare to the same structures that provide healthcare in the community. An important rationale for this change has been the need to integrate prison health structures with those in the community and improve the continuity of care for prisoners. In some countries, the move followed recognition of the need to tackle prison health problems more effectively, and to improve the quality of care for prisoners through easier access to medical specialists from public health structures. In some countries, such as Sweden and the United Kingdom, this move seems to have been accompanied by increased funding to engage prisoners in drug treatment programmes.

Among EU Member States, Sweden has the longest experience of involving the Ministry of Health in prisons, with a law from the early 1980s (Bill 1982/83:85) stipulating that general health services should care for prisoners just as they care for other citizens. However, while the Ministry of Health funds the medical treatment of inmates, prison healthcare units are run by the Swedish Prison and Probation Service under the Ministry of Justice, which is also in charge of providing cognitive treatment and educational activities targeting imprisoned drug users.

In Norway, since 1988, municipal health services have been responsible for the provision of primary healthcare to the inmates of prisons located in their area. As the Norwegian prison system consists of many small prisons, this solution offers practical advantages, including better availability of healthcare. Steps are currently being taken towards a further integration of service provision, in particular the incorporation of specialised drugs care and rehabilitation competence in prisons.

Prison health standards in Europe: the European Prison Rules

European and international prison rules ([1]) promote equivalence of care between prison and community and provide guidance on the organisation of imprisonment, including preparation for release as well as prison inspection and monitoring. The standards set by these rules provide a frame of reference for the judgments of the European Court of Human Rights, and are a benchmark against which conditions of detention are evaluated in Member States.

The European Prison Rules include a set of recommendations on the organisation and provision of healthcare and on the qualifications and duties of the medical staff. The principles stipulated in the Prison Rules apply equally to the provision of healthcare for problems related to drug use. Under the 'principle of equivalence', prisoners shall have access to the health services available in the country, without discrimination on the grounds of their legal situation; the prison health staff shall have adequate training and be able to identify mental health problems; and those in need of specialised treatment not available in prison shall be transferred to external institutions.

([1]) Standard Minimum Rules for the Treatment of Prisoners (SMRTP), adopted by the First United Nations Congress on the Prevention of Crime and the Treatment of Offenders, held at Geneva in 1955, and approved by the Economic and Social Council by its resolutions 663 C (XXIV) of 31 July 1957 and 2076 (LXII) of 13 May 1977 (available online) and Recommendation Rec(2006)2 of the Committee of Ministers to Member States on the European Prison Rules (available online). The European Prison Rules follow the general lines of the SMRTP, which set out consensual principles and practices in the treatment of prisoners, covering accommodation, hygiene, food, exercise and medical services.

In France, since 1994, prison healthcare has been provided through the public hospital system. Each prison has an agreement with a public hospital, which is responsible for the healthcare of the inmates. Addiction treatment costs are covered by French social security, and contributions for inmates to the scheme are paid by the Ministry of Justice.

Between 2003 and 2006, responsibility for commissioning and funding healthcare in public prisons in England and Wales was transferred from the prison administrations to public healthcare providers. The change was accompanied by an increase in funding of 78 % in England and 30 % in Wales. In Northern Ireland, the South Eastern Health and

([8]) Spain, France, Italy, Slovenia, Sweden, United Kingdom and Norway.

Social Care Trust took charge of prison health in 2008, and, in Scotland, the transfer to the National Health Service took place in 2011.

In Spain, the management of all prison healthcare units, the planning of drug policies, epidemiological surveillance and the prison health information systems are coordinated under the secretary general of Spanish prison institutions. Care is provided using an integrated model with shared funding from the Ministry of Interior for primary health services and from the Ministry of Health for external healthcare services delivered by non-governmental agencies. All prison healthcare personnel are currently being transferred from the national Ministry of Interior to the health structures of the Autonomous Communities.

In Italy, the Ministry of Health has been responsible for prison health since 2008, and all health units in prisons operate under its authority. In Slovenia, regional health centres became responsible for prisoner healthcare in 2009, when prison health was integrated in the public healthcare system.

Drug-related prison health policies

Drug-related health issues in prisons have been an important focus for European policymakers in recent years. Two reports issued by the European Commission in 2007 ([9]) and 2008 (Stöver et al., 2008) highlighted the lack of available services for drug users in prisons and drew attention to the importance of intervening in this setting. As noted earlier, improved provision of healthcare for drug users in prison has been an objective in the 2009–12 action plan on drugs, and 15 EU Member States, as well as Croatia and Norway, specifically address drug-related prison health in their national drug policies.

Furthermore, in 10 EU Member States, drug-related prison health is covered in a national prison health strategy, in a strategy dedicated specifically to drug-related prison health, or in both.

There is evidence of increasing coordination and cooperation between agencies around prison health planning and service provision. An example of a recent multi-stakeholder prison health plan is the French strategy 'Santé/Prison' for 2010–14, developed by the Ministry of Health and Sports in collaboration with the Ministry of Justice and Liberties and involving the National Institute for Prevention and Health Education (INPES), the National Institute for Public Health Surveillance (InVS) and the Agency for Shared Information Systems (ASIP Santé), as well as a general adviser for health establishments. This national strategic action plan for improving the health of detainees is consistent with the objectives of the French national action plan on drugs and drug addictions (2008–11) and emphasises the importance of continuity of care after release from prison, especially through the provision of housing.

In England, since 2008, an integrated drug treatment system (IDTS) has been implemented in all adult prisons, with the aim of improving the coordination of planning and delivery of all drug treatment interventions, both clinical and psychosocial. The IDTS aims to improve collaboration between prisoners and the prison system through an individual treatment plan, and to ensure continuity with community treatment at both the start and finish of custody. Each prison has its own drug and alcohol strategy, and a review of this is carried out annually. Also in the United Kingdom, a prison drug treatment strategy review was carried out, under which an independent expert group assessed rehabilitation measures for drug users in prison and on release with regard to their effects on reducing drug-related crime and rehabilitating offenders, and came forward with recommendations for an evidence-based approach to prison drug treatment (Prison Drug Treatment Strategy Review Group, 2010).

In Portugal, the provision of healthcare, treatment and harm reduction measures is ensured through the use of collaboration procedures between the health and justice ministries.

In the majority of European countries, drug treatment in prisons is provided by staff employed by the prison administration. However, it is also common for prison administrations to collaborate with a range of community-based providers, public health services or non-governmental organisations in order to deliver drug treatment services to those in detention. Collaboration can entail bringing in personnel from public services to work alongside prison staff or having external providers 'reach in' and work independently inside prison. In the Netherlands, mixed teams are the main providers of all types of drug treatment in prisons, and in the United Kingdom they are the main providers of opioid substitution treatment. In Greece, non-governmental organisations are the only provider of drug treatment in prisons.

([9]) COM report on follow-up to Council Recommendation of 18 June 2003 on the prevention and reduction of health-related harm associated with drug dependence (available online).

Provision of drug-related health services in prison

As a general principle, prisoners are entitled to the same level of medical care as persons living in the community, and prison health services should be able to provide drug-related treatment and care in conditions comparable to those enjoyed by patients outside ([10]). The following sections describe what drug-related health services are provided to prisoners on entry into custody, during imprisonment and upon release.

Prison entry

Medical examination of all those remanded in custody or entering prison after conviction is a widely accepted standard of prison healthcare. The aim here is to diagnose any physical or mental illnesses that might be present and take the necessary treatment measures, such as ensuring the continuation of existing medical treatment. Although information from some countries is incomplete, a general picture emerges from the available data. The overall health condition of prisoners is screened by the prison doctor or nurse immediately at entry or within the first 24 hours and, in several countries, withdrawal symptoms are assessed and medication needs are established.

This is followed by a comprehensive medical examination, which takes place in a specified time, which can vary depending on the country from 'within the first working day' to up to 'within 20 working days'. This examination typically involves a thorough medical assessment ([11]), an evaluation of the need for specialist care and the testing for blood-borne viruses and sexually transmitted infections.

Tests for infectious diseases should be offered but should not be mandatory (EMCDDA, 2010a). Information on specific screening policies was available from only a few countries. For example, in Romania, HIV screening requires written consent; however, if the prisoner tests positive, screening for sexually transmitted infections will also be performed. In Estonia, where tuberculosis affects more than 20 per 100 000 inhabitants, and where an increase in tuberculosis patients carrying multidrug-resistant pathogens was detected in 2010, a more active tuberculosis screening is implemented based on the national tuberculosis prevention strategy (2008–12). During the medical examination on prison entry, in cases where it is required, a radiographic examination is performed. Testing for HIV and viral hepatitis B and C is done on a voluntary basis in all prisons and always includes pre- and post-test counselling. It is performed when an individual arrives in prison, one year after previous testing or, more frequently, where medical necessity demands. In Lithuania, since 2002, prisoners are required by law to comply with procedures for preventing dangerous and highly contagious infectious diseases.

In Hungarian prisons, voluntary testing for hepatitis B and C and HIV is conducted periodically — not on prison entry — as part of an extensive screening campaign taking place in prisons since 2007. In Germany, rules on testing vary between Länder, and no central dataset is available.

In most countries, a confidential health record is created during the prison entry examination, which accompanies the prisoner throughout the time in prison. Electronic information systems and centralised databases are increasingly being used to maintain a centralised overview of prisoners' health.

Assessment of drug problems

In a majority of countries, new inmates are routinely assessed for drug use and drug-related problems. Sixteen countries report procedures other than urine testing to detect illicit substances. The common approach is a clinical assessment carried out by a medical doctor, psychiatrist or psychologist in order to ascertain a diagnosis of drug dependence and mental health problems, but in some countries standardised tests, questionnaires and interviews are used for this purpose. In Sweden, all prisoners are classified by prison personnel with regard to level of addiction, with a follow-up Addiction Severity Index ([12]) interview when needed. In Scottish prisons, following a core screening, inmates with drug problems are referred for specialist substance misuse assessment. In England, CARATs teams (Counselling, Assessment, Referral, Advice and Throughcare services) carry out a brief substance use assessment and, if needed, triage. In Spain, Italy and the Netherlands, social workers and psychologists carry out a multidisciplinary assessment, evaluate psychological, social and legal areas and draw up an individual care plan.

The medical consultation upon prison entry is also used as a first opportunity to inform prisoners about treatment and prevention, raise risk awareness, distribute prevention

([10]) See also the box on the European Prison Rules, p. 17.
([11]) European Prison Rules — Part III: Health — Duties of the medical practitioner — Rule 43.2. Available online.
([12]) The Addiction Severity Index (ASI) is an assessment instrument, designed to be administered as a semi-structured interview, that gathers information about seven areas of a client's life: medical, employment/support, drug and alcohol use, legal, family history, family/social relationships and psychiatric problems.

materials, including hygiene kits and condoms, and make referrals to specialised drug treatment and care.

Assessment of suicide risk

The importance of early identification of drug-using prisoners at risk of suicide and referring them to adequate treatment was shown in England, where the implementation of an integrated treatment system in all prisons led to a dramatic reduction in suicides among the population of women prisoners, from a total of 36 in the preceding three full years (2002–04) to 15 in the three years following the start of the programme (2005–08) (Marteau et al., 2010).

Treatment of drug dependence

Treatment for drug dependence is aimed at both improving the health of detainees and reducing the often high levels of illicit drug use in prisons. Treatment options for drug users in European prisons cover a range of modalities, which, in the absence of a standard nomenclature, are broadly categorised into three types:

1. 'low-intensity drug treatment', which covers counselling interventions as well as short-term treatment conducted in an outpatient regime within the prison setting;
2. 'medium- or high-intensity drug-free treatment', defined as including inpatient wards for the delivery of drug treatment in a residential setting, e.g. therapeutic communities in prison;
3. 'medium- or long-term opioid substitution treatment', covering methadone or buprenorphine substitution programmes.

The following sections summarise the available information and expert opinion about the provision of detoxification and drug treatment services in European prisons.

Detoxification

In many countries, detoxification is still the 'default' treatment for the majority of opioid users entering prison. Detoxification policies vary between countries and can also differ between prisons in the same country. Withdrawal symptoms are usually evaluated by a doctor and pharmacologically supported. Some prisons are equipped with specific detoxification inpatient facilities for cases where hospitalisation is necessary. In countries with smaller prison systems, such as Luxembourg, detoxification may be provided in collaboration with a psychiatric hospital. Detoxification regimes vary in length and form, depending on the individual's clinical condition. Medically assisted detoxification is available in all prisons in Ireland, and a specialist ward with capacity for nine prisoners is operating in the country's largest institution, Mountjoy Prison. Here, a typical programme includes psychosocial counselling and lasts six weeks, which allows 70 prisoners per year to benefit from it. In contrast, detoxification in Turkish prisons mainly involves the provision of information on drug addiction, increasing inmates' skills in managing withdrawal symptoms and craving, and training in relaxation methods.

Low-intensity treatment including counselling (outpatient)

Some form of low-intensity drug treatment was reported to be available in prison systems in all countries except Cyprus. The measures reported by national focal points included psychological counselling, crisis intervention, needs assessment and care planning, motivational programmes or drug treatment of short duration aiming at drug use reduction, relapse prevention or harm reduction. Among the counselling and treatment approaches mentioned were motivational interviewing and cognitive–behavioural and socio-educational interventions (e.g. social skills training). Educational and information programmes were delivered in group sessions, whereas treatments were administered usually in individual consultations.

The range of interventions reported was broad. In Slovakia, for example, programmes focus on psycho-education, sports activities and spiritual services; the Swedish Prison and Probation Service uses mainly cognitive–behavioural treatment programmes to address drug-using prisoners' behavioural problems and reduce re-offending; and, in Bulgaria, the focus of a short-term programme delivered to prisoners in daily sessions over 20 days is the reduction of drug-related harm.

Reports suggest that interventions aimed at spreading general information on drug prevention and risks are common in European prisons. These are frequently delivered to prisoners in group settings. In 2010, nearly one-quarter of all prisoners in the Czech Republic received at least one intervention from drug prevention and counselling centres, while in the same year in Latvia, 4 000 counselling sessions and 1 700 individual consultations took place. Data from Lithuania document that 80 % of prisoners were reached in 2010 with information about drug prevention, treatment and rehabilitation.

Intensive and individualised counselling approaches are more targeted, and reach a smaller number of prisoners. In Slovenia, for example, 186 prisoners were involved in medium-threshold treatment programmes during 2010, while in Denmark 455 prisoners were reached by such programmes. Furthermore, the Irish Prison Service reported that addiction counselling services provided by 23

counsellors delivered approximately 1 500 prisoner contacts per month, and in Luxembourg, services provided to a total national prisoner population of 680 (on a given day) included 45 health prevention groups, 274 individual prevention interviews and 1 238 therapeutic counselling sessions. In Greece, drug treatment services for prisoners are provided by the non-governmental organisations KETHEA and '18 ANO'. In 2010, more than 1 800 drug-related counselling sessions were delivered in 19 of the 32 Greek prisons.

As most countries do not possess reliable data on the prevalence of drug use and related treatment and counselling needs among prisoners, the Reitox national focal points were asked to assess current levels of treatment provision and give information on types of providers and models of service provision. Respondents were instructed to judge the treatment offer against the needs of drug users actively seeking treatment and to rank treatment providers according to the numbers of prisoners they reach.

Capacity for low-intensity treatment was considered as fully matching prisoners' demand in nine countries, where nearly all prisoners in need would obtain it. In 10 other countries, provision was judged sufficiently extensive to enable a majority of prisoners in need to obtain such treatment. A lack of capacity was identified in Estonia, Greece, Latvia, Hungary and Romania. In prisons in Cyprus, low-intensity drug treatment programmes were not available in 2010 ([13]).

National experts reported that health services run by the prison system were the main providers of low-intensity treatment services in 19 countries ([14]). External providers were judged to make an important contribution in eight of the 25 countries that answered the question: community-based public health services, non-governmental organisations that provide services through 'in-reach' or mixed teams of prison personnel and externally contracted staff were identified as main providers in Greece, Italy, the Netherlands, Slovenia and the United Kingdom, and were ranked on equal footing with prison health services as the main providers in Denmark, Malta and Croatia. In France, prison health services work under the authority of the public health system in partnership with a hospital.

Medium- or high-intensity drug-free treatment (inpatient)

Abstinence-based residential drug treatment programmes have a long tradition in prisons. Such programmes operate in a similar manner to residential programmes in the community, providing group and individual treatments, and professional staff may be supported by treated prisoners. Various therapeutic models may be offered, including cognitive, behavioural and 12-step programmes. The UNODC Treatnet project describes the different types of residential drug-free treatment approaches available in prisons (UNODC, 2008a). These include cognitive–behavioural treatment, in which structured psychological interventions help the prisoner to develop the skills necessary to stay drug free. Strategies include relapse prevention such as coping strategies, identification of high-risk situations and triggers to drug use, and identifying dysfunctional thinking patterns, managing emotions and problem solving.

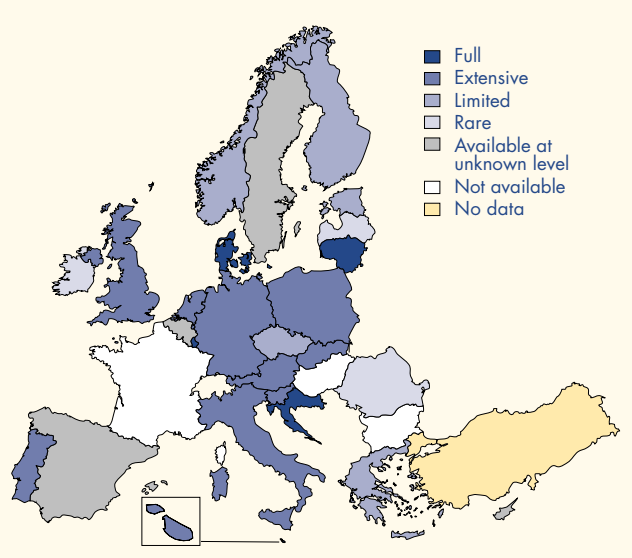
Also used in prisons is the 12-step residential approach, based on the Alcoholics Anonymous model, which assumes a biological or psychological vulnerability to dependency. The treatment goal is abstinence, and prisoners usually work their way through the first five steps of the 12-step programme. Programme graduates will be expected to attend self-help groups in prison and in the community on release.

Therapeutic communities are a special form of long-term, participative, group-based residential treatment of drug addiction, where milieu therapy principles are applied, meaning that clients are encouraged to take responsibility for themselves and for others.

There is a lack of research and evaluation of prison-based treatment programmes and too little is known about their effectiveness. However, two randomised trials conducted in prisons were included in a review of the effectiveness of therapeutic communities versus other treatments for substance dependents (Smith et al., 2006). While the authors found little evidence that therapeutic communities offer significant benefits in comparison with other residential treatment provided in community settings, inmates of prison-based therapeutic communities were less likely to return to prison within the first 12 months after, compared with prison inmates receiving no treatment or assigned to alternative services. Thus, prison therapeutic communities may be better than prison on its own, but a number of methodological limitations are mentioned by the authors, preventing them from drawing firm conclusions. The fact that both trials were conducted in US prisons may limit the transferability of the results to Europe.

([13]) Five countries (Belgium, Spain, France, Sweden, Turkey) provided no information.
([14]) No information was available from Belgium, Spain, Cyprus, Sweden, Norway and Turkey.

Figure 3: Estimated availability of residential drug-free treatment in European prisons



NB: Availability is defined by the estimated proportion of drug users in need of treatment who can receive it: nearly all (full); the majority, but not nearly all (extensive); more than a few, but not the majority (limited); only a few (rare); not available.

Sources: Reitox national focal points.

Residential drug-free treatment is provided through therapeutic communities or special inpatient wards in 21 of the 25 countries that provided information (Figure 3). Cyprus established a drug-free treatment inpatient programme in 2011.

Drug-free inpatient treatment or therapeutic communities in prison was considered to be available to all or almost all of those who need it in four (Denmark, Lithuania, Luxembourg, Croatia) of the 21 countries that were able to provide information, and to a majority of prisoners in a further nine of these countries (Figure 3). This type of treatment was seen as available to more than a few but not a majority of prisoners in need in six countries, namely the Czech Republic, Estonia, Greece, Malta, Finland and Norway and restricted to just a few prisoners in Ireland, Latvia and Romania.

Four countries did not provide a rating of the provision of drug-free inpatient treatment in prisons, but gave some additional information in their national report, which allows the conclusion that such services exist in three of them. While in Spain these take the form of residential 'treatment and educational units' set up in 12 prisons, much of the Swedish inpatient service provision seems to follow the 12-step Minnesota model. And with Belgium now also planning to start up a therapeutic community, the only country for which no information is available is Turkey.

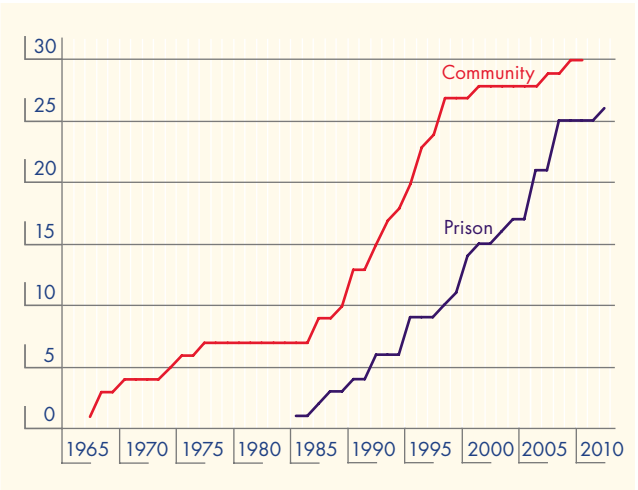
Prison health services are the main provider of drug-free inpatient treatment in 16 countries, with external providers or mixed teams playing an equal role in Denmark and Malta, and a main role in Italy, Slovenia, the Netherlands and the United Kingdom.

Opioid substitution treatment

Substitution treatment is the main approach in the treatment of opioid dependence in the European Union and is implemented in all Member States, Croatia, Turkey and Norway. With around 710 000 opioid substitution treatments reported in 2010, it covers at least one in two of the estimated population of problem opioid users (EMCDDA, 2012). Most European countries have introduced substitution treatment among the range of options for opioid-dependent prisoners, and the 'treatment gap' between community and prisons may now be closing, at least in some countries (Hedrich and Farrell, 2012). However, there has been a considerable delay in introducing opioid substitution treatment in prisons, which has generally occurred about eight to nine years after the treatment option was implemented in the community (see Figure 4).

A systematic review of the effectiveness of opioid maintenance treatment in prison (Hedrich et al., 2012) analysed data from 21 studies, including six experimental studies. The authors concluded that the benefits of the treatment in prison are similar to benefits in community settings; namely, it presents an opportunity to recruit problem opioid users into treatment, to reduce illicit opioid

Figure 4: Cumulative number of European countries that had officially launched opioid substitution treatment as a recognised method of treatment in community and prison settings



Sources: Reitox national focal points.

use and risk behaviours in prison and potentially minimise overdose risks on release. Positive outcomes depended on the quality of treatment. The review highlights the importance of establishing a liaison between prison and community-based programmes in order to achieve continuity of treatment and longer-term benefits. The data also show that disruptions in the continuity of treatment, especially owing to short periods of detention, are associated with very significant increases in hepatitis C incidence.

In 2012, Greece, Cyprus, Lithuania and Slovakia are the only countries where prison doctors are not allowed to prescribe long-term substitution treatment ([15]). In Hungary, although the treatment has been officially allowed in prisons since in 2001, it was only implemented in a few isolated cases in the years 2005–06. In Turkey, an option to provide substitution treatment has been available in prisons since 2010, but the availability of substitution maintenance treatment as compared with reduction programmes is not clear. In 2011, Latvia permitted opioid substitution treatment to be used in the long-term care of prisoners, extending the current model of reduction treatment to a maintenance approach. In all other countries, drug users who are receiving substitution treatment in the community can continue upon entry to prison. In addition, this treatment can also be initiated during the period of detention in most of the countries where continuation is possible, with the exception of the Czech Republic, Latvia, Poland and the United Kingdom (Northern Ireland).

In order to describe the level of implementation of opioid substitution treatment, in the absence of reliable data on the number of opioid-dependent prisoners, two complementary approaches have been followed. First, the proportion of prisoners receiving opioid substitution treatment was calculated ([16]). In addition, because this method does not differentiate between countries with high or low levels of problem opioid use, national focal points were asked to provide an expert rating on the level of provision in relation to the number of prisoners in need of treatment. The results of the two methods are in broad agreement (Table 2).

It is estimated that opioid substitution treatment is received by more than 10 % of all prisoners in seven EU Member States, and by between 3 % and 10 % in another nine countries. Compared with 2008 ([17]), provision has increased in most countries.

Table 2: Provision of substitution treatment in prison: comparison of expert ratings and the percentage of prisoners reported to be receiving substitution treatment

	Percentage of prisoners receiving opioid substitution treatment in 2010			
Expert rating on provision in 2010	**Zero**	**Less than 3 %**	**3 % or more, but less than 10 %**	**10 % or more**
Full		Estonia	Denmark	Ireland, Spain, Luxembourg, Austria, Slovenia, United Kingdom
Extensive		Poland	France, Netherlands, Portugal, Norway	
Limited		Czech Republic, Romania	Italy, Croatia	Malta
Rare		Finland		
Treatment not available	Greece, Cyprus, Lithuania, Slovakia, Turkey			
Expert rating not available	Latvia, Hungary	Bulgaria, Sweden	Belgium, Germany	

NB: Availability is defined by the estimated proportion of drug users in need of treatment who can receive it: nearly all (full); the majority, but not nearly all (extensive); more than a few, but not the majority (limited); only a few (rare); not available.

Sources: Reitox national focal points.

([15]) See Table HSR-9 and Figure HSR-4 in the 2012 Statistical bulletin.

([16]) Two different methodologies were used and are described in Figure HSR-4 in the 2012 Statistical bulletin. See Table HSR-9 for information on the numbers of opioid substitution treatments reported.

([17]) For 2008 data, see Figure HSR-4 in the 2010 Statistical bulletin.

Prevention of drug-related infectious diseases in prison settings

Prisoners are at great risk of contracting infectious diseases: they are exposed to an often overcrowded environment with higher levels of disease prevalence and fewer options to protect themselves from infections than they would have outside (Laticevschi, 2007). By providing inadequate healthcare for inmates with communicable diseases, prisons may place at risk both other inmates and the public (APHA Task Force on Correctional Health, 2003).

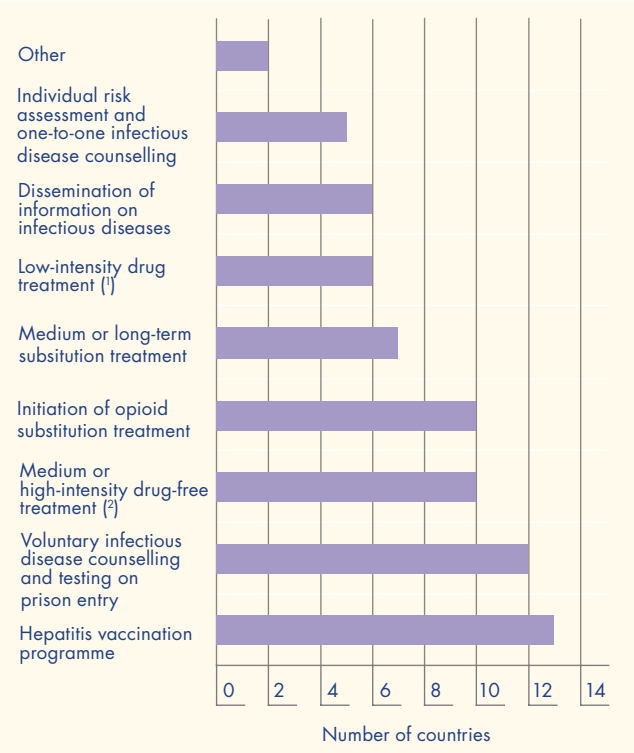
A solid evidence base exists for a number of cost-effective public health interventions to reduce and control infections among drug users (ECDC and EMCDDA, 2011). These include testing, vaccination and treatment of infections, as well as interventions aiming at the reduction of drug use and injecting-related risk behaviour, ranging from health promotion and drug dependence treatment to needle and syringe programmes.

The survey among national focal points sought to identify national priorities in the prevention of infectious diseases among drug users in prison settings ([18]). Twenty-five countries answered the question, and the most commonly identified priority measures were hepatitis vaccination programmes and voluntary infectious disease counselling and testing on prison entry (Figure 5). Furthermore, drug treatment was identified as a priority for preventing infectious diseases in prison settings: 10 countries prioritised drug-free treatment in specialised prison treatment wards or prison therapeutic communities, eight of which also identified the option of initiating opioid substitution treatment in prisons or of placing prisoners in medium- or long-term opioid substitution programmes as a strategic priority. One or both opioid substitution measures were identified as a priority in 15 of the 25 countries. Counselling, individual risk assessments and the dissemination of information materials about infectious disease prevention were less often identified as priority interventions.

Survey respondents were asked to judge the extent to which the availability of selected prison interventions matched the demand in their country. The results indicate that testing for hepatitis C on prison entry was available to a majority or nearly all of those who need it in 17 countries.

Hepatitis B vaccination programmes in prison exist in 16 of the 26 countries that were able to provide information, and drug users are their main target group. Some countries report specific accelerated schedules, others the general use

Figure 5: National priorities in the prevention of infectious diseases among drug users in prison settings



(1) Including counselling.
(2) Prison treatment centres, specialised prison treatment wards.
Sources: Reitox national focal points.

of the combined hepatitis A and B vaccine. Data on the uptake of such vaccinations are, however, extremely scarce. In Scotland, hepatitis B vaccination has been offered to all prisoners within 24 hours of admission since 1999, and, since 2000, all prisoners diagnosed with HCV infection have been offered the hepatitis A vaccine. Since 2009, both vaccines are routinely offered to all drug-using prisoners on admission.

Survey respondents perceived the availability of individual counselling on drug-related risk behaviour as either rare or limited in 13 countries, while such counselling was seen as being available to a majority or nearly all of those who need it in 11 countries. Safer drug use training was offered in prisons in 12 countries, but availability was mainly perceived as limited or rare (10 countries). Such training was not available in seven countries, and 11 countries provided no information on the availability of this measure.

([18]) It was possible to add up to two additional measures under 'other'. However, only one country made use of this option.

Needle and syringe programmes

Needle and syringe programmes exist in prisons in five EU Member States (Germany, Spain, Luxembourg, Portugal, Romania), although varying levels of provision are reported. While the capacity for syringe provision in the programme operating in the main prison in Luxembourg is considered to be sufficient to meet injecting prisoners' needs, and the majority of prisoners in Spain ([19]) who need syringes can obtain them from programmes running in 41 prisons, access to the programme in Romania is described as low, with just 83 prisoners taking part during 2011 in the programmes established in 10 prisons. In Portugal, where a legal basis for prison needle and syringe programmes has existed since 2007, a study cited in the Reitox national report shows that the two programmes established in 2008 were not accepted by the inmates, who feared discrimination ([20]). In Germany, only one site from a wider model project on prison syringe exchange, conducted until the end of 1998, remains in existence. In the women's prison Berlin Lichtenberg, prisoners can anonymously obtain sterile syringes at vending machines.

Although the introduction of needle and syringe programmes in prisons is recommended by international organisations (UNODC, 2012), and expert groups in several European countries have considered the measure (e.g. France, Hungary, Austria, United Kingdom, Norway), they face strong opposition, as they are often perceived as contradictory to the goal of a drug-free prison. Several countries provide disinfectants as an alternative. In Denmark, France, Lithuania, Austria, Finland, the United Kingdom and Norway, chlorine rinse fluid or other disinfectants are made available. While laboratory studies have shown efficacy of using bleach to eliminate HIV (Abdala et al., 2001), it has been doubted whether this measure is sufficiently safe under 'real-life' conditions in prison. In three countries (Belgium, Hungary, Netherlands), recent studies showing a low level of injecting drug use among the prisoner population are cited as the reason that needle and syringe programmes are not prioritised.

Treatment of hepatitis C in prison

As injecting drug users constitute a sizeable proportion of the population infected with HCV, and many of them can be reached in prisons, this setting provides an opportunity for treatment to reduce the national burden of hepatitis C and eliminate prison-to-community spread of the disease. The provision of treatment represents, however, a considerable challenge to national prison systems, not only because of its high costs, but also because it requires a multidisciplinary approach with collaboration between experts in infectious diseases and drug dependence treatment.

Hepatitis C testing is not always offered to or requested by prisoners, and as the infection is often asymptomatic, many do not know if they are infected. In some cases, the high costs of subsequent treatment may determine whether the prison health system offers the test.

A growing body of evidence from European prisons shows that hepatitis C treatment is feasible and effective in these settings. Currently, the state-of-art treatment for this infection is the use of pegylated interferon and ribavirin, but new drugs are under development. While a number of logistical and medical challenges (e.g. addressing the side-effects of interferon; treatment of co-infections and psychiatric disorders) exist, a prison stay can create an opportunity for treatment. Tan et al. (2008) investigated the cost-effectiveness of hepatitis C treatment with pegylated interferon and ribavirin in the US prison population, and concluded that the treatment results in both improved quality of life and cost savings for almost all segments of the inmate population.

The available data on the provision of hepatitis C treatment in prison, although scarce, seem to indicate that only a small proportion of those who have contracted the infection are treated. In the Netherlands, in order to avoid interruption of treatment on release, only prisoners sentenced for more than 6 months are given the option of starting treatment. Short-term prisoners are referred to treatment in the community. A study among prison doctors in Germany found that 6 % of prisoners infected with HCV received treatment. In Hungary, 48 prisoners started antiviral hepatitis C treatment in 2010, and in the Czech Republic 56 cases were registered. In France, a recent study reported that nearly half of HCV-positive inmates had received a treatment (Semaille et al., 2011), while an earlier retrospective mail survey among French prisoners and a retrospective prison study reported hepatitis C treatment uptake in the range of 14 % (Remy, 2006) and 23 % (Allen et al., 2003) of HCV-positive prisoners. A prospective study of 268 HCV-positive prisoners in Luxembourg showed a hepatitis C treatment uptake of 32 % among this population (Strock et al., 2009).

([19]) Including 10 prisons in Catalonia.

([20]) The programme was developed in the framework of a pilot project, and was implemented in the prisons of Lisbon and Paços de Ferreira between July 2008 and March 2009.

Release preparation and throughcare

Most social care and rehabilitation strategies and procedures for those leaving prison are directed at the general prisoner population. However, some pre-release measures are particularly important for those who use or have used drugs.

Of special importance for drug users during the phase immediately preceding prison release — but ideally a process throughout the whole sentence — is cooperation between services inside the prison with health and social services outside, to ensure a seamless transition into community treatment. The term 'throughcare' refers to arrangements for managing the continuity of care before, during and immediately after custody ([21]). Throughcare and referral to external service providers is a general duty of prison or probation services, and can be crucial in preventing relapse (Prison Drug Treatment Strategy Review Group, 2010). In countries where prison and community health services operate 'under the same roof', throughcare between the two settings is easier to achieve, as integrated programmes operating inside prison can establish links into the community before the prisoner leaves the institution. In some prison systems, pre-release units have been set up to facilitate such referrals and to allow a smoother transition. One example is the central intake units in Flemish prisons, funded by the Ministry of Justice and run by external drug workers whose task is healthcare provision. Similarly, the 'exit unit' in the Portuguese prison system is a residential facility aimed at those who have completed drug treatment and are entitled to less restrictive conditions, including visits to the outside in an open prison regime, thereby allowing the prisoners to organise their future housing and employment before release.

A number of interventions targeting opioid users have been recommended to reduce the risk of a fatal overdose in the period shortly following prison release ([22]). They include pre-release counselling on overdose risk and training in first aid and overdose management; optimising referral to achieve continuity of drug treatment between prison and community; and the distribution of naloxone among opioid users leaving prison. Reliable data about the availability of pre-release measures are scarce. However, provision of naloxone on prison release is available across the England, Scotland and Wales prison estates, but is not reported from other countries. Examples of good practice for community-based organisations have been collected in the 'Through the gate' scheme in Wales and include 'in-reach', prison gate pick-up, assertive outreach, local networking and enhanced engagement with support services.

Although the European Prison Rules specify that prisoners should be offered a medical examination as close as possible to the time of release, a routine 'exit' health examination does not seem to be common in Europe: only reports from Croatia and Slovakia mentioned this as a statutory service in their prison systems.

([21]) A throughcare toolkit was produced under the EU-funded research project 'Throughcare for prisoners with problematic drug use' and is available online.
([22]) See the section 'Mortality after prison release'.

Conclusions

The current EU drugs action plan calls on Member States to increase the use of effective alternatives to incarceration of drug-using offenders. Despite evidence of an increased interest in providing 'alternatives to prison', many people with drug problems continue to pass through Europe's prison systems every year. Drawing on the available information, this Selected issue has presented an up-to-date overview of both the drug situation and health and social responses to drug-related problems in European prisons.

All evidence points to the fact that, when compared with the general population, prisoners as a group are particularly disadvantaged and marginalised. Most prisoners have limited education and low socioeconomic status, and poverty, violence and crime are common experiences in prisoners' lives. Incarcerated non-nationals, who account for more than 20 % of all prisoners in 13 EU Member States (Table 3.2 in Aebi and Del Grande, 2012), are among the most vulnerable prisoners. Similarly, women prisoners, although accounting for only a minority of prison inmates, are a group with complex health and social needs. Surveys on prison health also document elevated levels of physical and mental health problems among prisoners, often coupled with chronic and entrenched drug use problems.

Drug-using prisoners: an opportunity for intervention

Studies confirm that both drug use and drug use-related health problems are far more common among prisoners than in the general population. Lifetime prevalence of substance use, including illicit drug use, is reported to be very high among prisoners, with levels of up to 80 % for tobacco and cannabis use and up to 50 % for cocaine, heroin and amphetamines consumption. Although many prisoners stop or reduce their drug use when they enter prison, some continue to use drugs, sometimes switching to different substances or starting an additional drug while incarcerated. There is also evidence that some prisoners, who have never used drugs before, have their debut with illicit drugs while in prison.

In Europe, drug users represent a large proportion of the prison populations and, for some, periods of incarceration may offer an opportunity to reduce their drug use and engage with services. In this respect, imprisonment may be viewed as a chance to make contact with and provide treatment for a particular group of 'hard to reach' problem drug users, leading to their better health and also reducing risks to the community on their release. The current EU drugs action plan prioritises the further development and improvement of drug-related assistance for detainees, including better access to drug-related prevention, treatment, harm reduction and rehabilitation services, of a standard that is comparable to the services provided in the community. Opportunities in this area have been increasing, as many countries have scaled up their provision of interventions within prisons, in particular offering more substitution treatment slots for those who are opioid-dependent. However, in spite of progress in many European countries, the extent and quality of prison health service delivery still varies widely between countries, and rarely do prison health services offer an equivalent and comparable standard of care to that provided to the wider community.

A number of recent European and international studies have identified a very high risk of drug overdose mortality among newly released prisoners owing to relapse into heroin use alongside reduced tolerance. The time around release is a particularly important period for preventive interventions, such as pre-release counselling, as well as for ensuring continuity of care on release in order to keep vulnerable individuals in contact with services and reduce drug-related deaths.

Prisoners' health: complex service needs

Drug users among prisoner populations often suffer from multiple mental health and somatic co-morbidities, and require specialised services to treat both their drug use and health problems. Mental health problems are very common among prisoners, and may be associated with the high levels of self-harm that are documented in prison, where suicide is the leading cause of death. A particular concern for this group is the transmission of infectious diseases such

as hepatitis C, tuberculosis and HIV/AIDS in prisons. Drug-using prisoners often share needles and other paraphernalia, increasing their exposure to infectious diseases. Poor living conditions, such as overcrowding and poor hygiene, aggravate the risk of infections and decrease prison's safety. As prisoners move into and out of the general community, failure to maintain healthy living conditions in prison will impact negatively on the health of the community in general. More positively, imprisonment may provide an opportunity to intervene and provide treatment of infectious diseases, including hepatitis C, leading to improved prisoner health and also reducing risks to the community on their release.

Data limitations

The information available on drug use and responses in prison settings has a number of methodological limitations, which relate to both the nature of the subject (drug use and prison) and the lack of standardisation in data collection tools within and between countries. Data collection and research within prison settings are particularly affected by biases associated with self-selection, self-reporting and clustering. There are threats to validity linked to the sensitiveness of the topic (illicit drug use) and of the setting of the study (prison). In the prison setting, ethical aspects are especially important when collecting data, in particular with regard to confidentiality, anonymity and data protection issues. The use of relevant anonymised data from individual health records would be another option, but clear policies regarding confidentiality and data protection are needed when such data are collated at a central level.

This report documents the progress that has been achieved in drugs service provision in prisons with regard to the use of evidence-based approaches. However, a number of serious shortcomings remain. At the European level there, is a lack of harmonisation of data collection: methodological differences can be found with regard to types of study, sampling methods, target populations and variables studied. These differences make it very difficult to draw comparisons between countries, and limit the possibilities for presenting a complete and comprehensive European picture of problems related to drug use in prison as well as an objective assessment of the need for and provision of drug-related health responses in prisons.

Data monitoring on drugs and prison in Europe: a need for common standards

This review has demonstrated that prison health service delivery varies widely between countries, and that in many cases the evaluation and monitoring of drug-related health services are rare and do not follow the same standards. Under the last EU drugs action plan, which is coming to an end in 2012, Member States are called to endorse indicators to monitor drug use, drug-related health problems and drug services in prison on the basis of a methodological framework. As a complement to the healthcare-related recommendations of the European Prison Rules, an EU monitoring framework of drug-related prison health would address national drug-related prison health policies; data collection and monitoring infrastructures as well as quality standards and guidelines for drug-related services and interventions in prisons. A corresponding set of indicators on service needs (drug use, risk behaviours, health consequences) and service provision would facilitate the collection of objective, reliable and comparable data on drug-related prison health in Europe.

Closing the gap between prison and community: equivalence of care

There is wide recognition among EU policymakers of the need to harmonise practice and quality of health and social care services between community and prisons, and to respond better to the more severe health situation of the prisoner population. Progress has been made in some European countries, although the gap between prison and community in terms of levels and quality of health services available to prisoners still remains wide. Prison healthcare has, in the past decade, increasingly been recognised as part of public healthcare, and, consequently, several countries have transferred the responsibility for the healthcare of prisoners from justice ministries or the prison administration to health ministries. Others have drawn up specific drug and health strategies or regulations for the prison setting. A strong argument exists that any successful approach to improving prison health in the future must recognise the importance of including harm reduction and drug treatment services alongside, and integrated with, generic somatic and mental healthcare responses, a functioning throughcare mechanism in the community and substantial efforts to improve the reintegration of former prisoners.

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European Monitoring Centre for Drugs and Drug Addiction

Prisons and drugs in Europe: the problem and responses

Luxembourg: Publications Office of the European Union

2012 — 31 pp. — 21 x 29.7 cm

ISBN 978-92-9168-561-5
doi: 10.2810/73390

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TD-SI-12-002-EN-C

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The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) is one of the European Union's decentralised agencies. Established in 1993 and based in Lisbon, it is the central source of comprehensive information on drugs and drug addiction in Europe.

The EMCDDA collects, analyses and disseminates factual, objective, reliable and comparable information on drugs and drug addiction. In doing so, it provides its audiences with an evidence-based picture of the drug phenomenon at European level.

The Centre's publications are a prime source of information for a wide range of audiences including policymakers and their advisors; professionals and researchers working in the field of drugs; and, more broadly, the media and general public.

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ISBN 978-92-9168-561-5

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