14 Medication-Assisted Treatment in Prisons

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Introduction: Drug Use of People Living in Prisons

Drug use remains endemic among incarcerated populations (EMCDDA, 2022). In 2019, there were around 856,000 people, including pre-trial detainees, living in prisons[1] in Europe, out of which 18% received a final sentence for offences related to the use, possession, or supply of illicit drugs (Aebi & Tiago, 2020; Royuela et al., 2021 Kolind and Duke, 2016; Walmsley, 2018;). In Europe, the lifetime prevalence of drug dependence among people living in prisons varies from country to country; a systematic review of the literature found the prevalence to range from 10% to 48% for male prisoners and 30% to 60% for female prisoners at the point of incarceration (Fazel et al., 2006).

Women represent around 5% of the total prison population in Europe (around 43,000), varying from 3% in Bulgaria to 5% in Cyprus. In 2016, one sixth of people living in prison in Europe were incarcerated for drug offences (Aebi et al., 2016; UNODC, 2014; Erickson et al., 2019). Among people who use drugs, a high proportion of people who inject drugs (PWID) are imprisoned (Dolan et al., 2005; WHO, 2014; Altice et al., 2016).

In the United States, the number of people incarcerated annually for drug-related offenses has grown in the past 20 years from 40,000 to 450,000, leading to prison populations with high rates of drug use (Rich et al., 2005). Imprisonment of drug users for crimes they commit – often

1 In the publication, particular attention is paid to the terminology; in particular, the term 'people in prison' is always used instead of 'prisoners', in order to avoid stigma and to highlight that people can experience imprisonment at some point in their life, but they should enjoy the same rights and respect as every member of society (Tran et al., 2018). Between 2018 and 2019 the prison population in the 27 EU Member States, Norway, Turkey, and the United Kingdom increased by more than 56,000. This is attributable to an increase of more than 80,000 people detained in prison reported by Turkey, where the last available data before 2018 were from 2016. In most of the other countries, the prison population decreased. For more information, see Aebi and Tiago (2020).

to support their dependence – contributes to prisoners' high prevalence of drug dependence (Final Report EU, 2008). A lifetime history of incarceration is common among intravenous drug users (IDUs); 56% to 90% of IDUs have been imprisoned previously (Jürgens et al., 2009; Stöver and Förster, 2022).

Ehab Salah from UNODC reported that 2.5 million people living in prison are estimated to have been convicted of drug-related offences, 22% of them for drug possession for personal use. The proportion of women imprisoned for drug-related offences is 35%, which is higher than that of men at 19%. There are no or limited alternatives to imprisonment. There is a lack of evidence-based harm reduction interventions in prisons (only 59 countries reported that they provide medication-assisted treatment (MAT) for people who use opioids and nine countries reported NSPs (needle exchange programmes). The risk of a fatal overdose increases markedly in the first one to two weeks after release (40 times more likely than the general population in the first week) (Salah, 2022).

In Germany, the representative 'DRUCK Study' carried out by the Robert Koch Institute (RKI, 2016) describes the consequences of criminalisation: out of the more than 2,000 drug users surveyed who were living in freedom, 84% had been incarcerated (on average for 5.4 years and average 5.4 times), 30% of those who had been incarcerated had injected while in prison, and 11% of those started their drug habit of injecting in prisons (confirmed by Hößelbarth et al., 2011; Stone et al., 2018; Zimmermann et al., 2019; Gassowskia et al., 2019). An earlier British study (Boys et al., 2002) reported that one fourth of heroin users started their drug use in prisons; in another study, a fifth of heroin users reported having started to inject while in prison (Singleton, 2003).

Drug-using people living in prisons may be continuing a habit acquired before incarceration or they may acquire the habit in prison (Royuela, 2021; Moazen et al., 2018; Wood et al., 2006). Current data on the prevalence of prior illicit drug use among the prison population in Europe is scarce. The aim of a study by van de Baan et al. (2022) was to identify the prevalence of illicit drug use prior to incarceration, as reported by studies conducted in 30 European countries. A comprehensive literature review was conducted from 5–31 March 2018 in Europe. The review found that the lifetime prevalence of illicit drug use before imprisonment ranged from 30% to 93%; last year prevalence from 51% to 69%; last six months prevalence from 13% to 75%; and last month prevalence from 58% to 62%. The prevalence of illicit drug use was especially high among women (van den Baan et al., 2022). 16% to 60% of people living in prison who injected outside prison continued to inject while incarcerated, whereas 7%

to 24% of prisoners who injected said they started in prison (Final Report EU, 2008). Levels of IDU within prison were reported in 36 European countries plus Turkey, with rates ranging from 0.8% to 64% among men, from 1% to 62.5% among women, and from 0.2% to 82.7% for both sexes (Moazen et al., 2018).

In general, sedative substances are preferred because their effects are easy to hide and their consequences easier to manage in the confined setting of a prison. The need to increase the efficiency of the drugs they take, due to its scarcity in prison, may also encourage some people who use drugs to adopt more harmful patterns of drug use, such as injecting instead of smoking or snorting. However, new psychoactive substances became an emerging issue in prisons in a number of European countries. The initial undetectability of new psychoactive substances in routine urine testing is thought to be the main reason for their increased use in prison, particularly for synthetic cannabinoids (Royuela, 2021).

Imprisonment also favours high-risk behaviour regarding drug use because of the concentrated at-risk populations and risk-conducive conditions, such as overcrowding and violence. Prisons continue to be settings where HIV and HCV prevalence is much higher than in the surrounding communities (Moazen et al, 2018). Based on a systematic review, there is evidence of an association between recent incarceration and increased HIV and HCV acquisition among people who inject drugs (Stone et al., 2018; ECDC, 2022).

Overall, we found a high prevalence of HIV risk behaviours in prison settings internationally in the context of a high background prevalence of infections (Final Report EU, 2008; Moazen et al., 2018; Vroling et al., 2018; Ickowicz et al., 2019). The consequences of drug use in prisons include drug-related deaths, suicide attempts, and self-harm – psychiatric comorbidities are widespread (Royuela, 2021).

Drug use tends to be riskier inside than outside prisons because of the scarcity of drugs and sterile injecting equipment (Moazen et al., 2018; Dolan et al., 2005; Final Report EU, 2008; Haber et al., 1999). People living in prisons engage in a range of risk behaviours that can cause the transmission of human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV). Additionally, hepatitis C virus (HCV) infection through the use of shared injecting equipment in prison has been reported in several studies (Haber et al, 1999; O'Sullivan, 2003; Keppler & Stöver, 1999; Moazen et al., 2018; Azbel et al., 2018; EMCDDA, 2022).

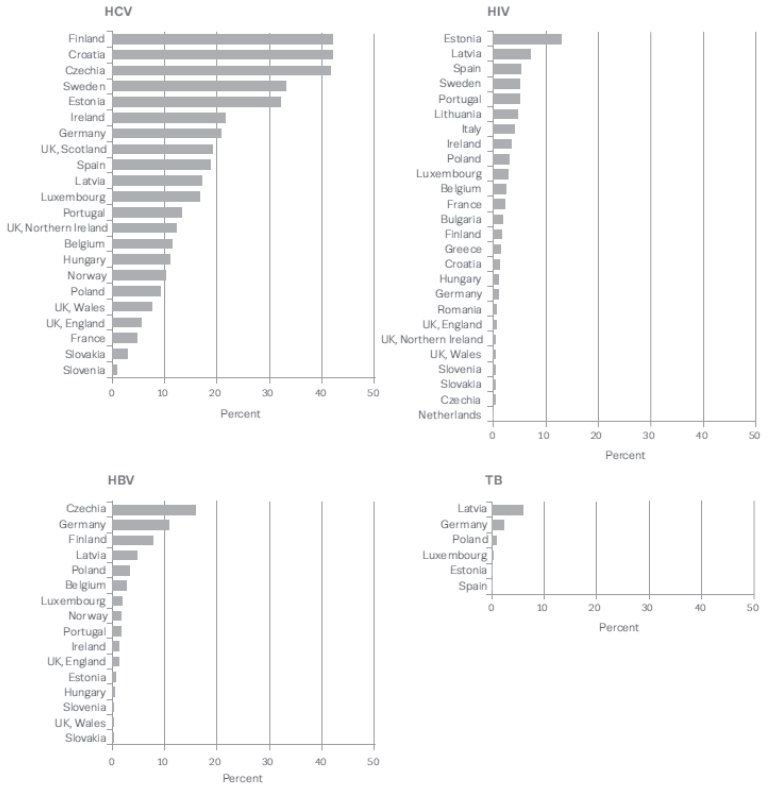

Figure 1. Prevalence of HIV, HCV, HBV, and TB Among the Overall Prison Population in the EU Member States, Norway, and the United Kingdom, 2009–2017

Source: Montanori et al. 2022

Drug use in prison is also associated with the risk of involvement in violence. People living in prisons who incur disciplinary action related to the possession or use of a controlled substance were 4.9 times more likely to display violent or disruptive behaviour than those who did not incur such disciplinary action (Friedman et al., 2008; Pont et al., 2015; van Hout et al., 2021). Prisoners using drugs are also at risk of engaging in further illicit activities because they are dependent on illicit psychoactive substances and using them will, by itself, lead to illegal behaviour and thus sooner or later to criminalisation and imprisonment (Stallwitz and

Stöver, 2007). If discovered using illegal drugs, people living in prisons risk prolonged incarceration for breaking security rules and eliciting hostility among prison staff.

Unless people living in prison receive adequate treatment, drug dependence and its associated risks persist after the prisoner's release into the community and are combined with a high rate of overdose and other forms of harm, especially in the first weeks after release (Binswanger et al., 2007 356/2; Merrall et al., 2010; Stöver et al., 2019; Stöver and Michels, 2022). Overall, the determining factor in drug-related mortality soon after release appears to be altered tolerance to opioids. In the first week after release, prisoners are approximately 40 times more likely to die due to an overdose than are members of the general population; in this immediate post-release period, more than 90% of deaths are drug related. Among women, the odds of a drug-related death in the first week after release were over ten times greater than at 52 weeks. Very high rates of drug-related mortality persist at least through the first two weeks after release from prison (Farell and Marsden, 2008; Binswanger et al., 2013).

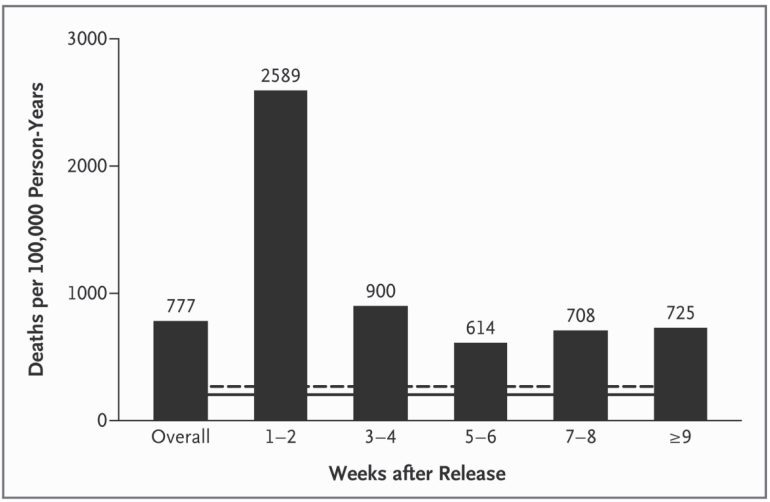

Figure 2. Mortality Rates Among Former Inmates of the Washington State Department of Correction During the Study Follow-Up (Overall) and According to Two-Week Periods After Release from Prison

Source: Binswanger et al., 2007; see also: Madzilli et al., 2022.

Among the costs to society for a prisoner's failure to fully reform while living in prison is the increased risk of recidivism. Within twelve months of release from prison, 58% of heroin users who did not receive MAT were re-incarcerated, compared with 41% of those who did receive MAT (Johnson, 2001).

1. Current State of Drug Treatment for Drug-Using People Living in Prisons

Many data attest to the low quality or even non-existence of drug treatment health care services for people living in prison, compared with offers made for drug users living in the community. Some interventions are of utmost importance for treating opioid users in prisons: namely MAT and needle and syringe programmes.

MAT is an intervention of proven effectiveness in the treatment of opioid use in community settings; in prison it is used in the different phases of drug treatment. The often-used terms 'methadone maintenance therapy' (MMT), 'opioid agonist treatment' (OAT), or 'opiate substitution therapy' (OST) have now been replaced by the term 'Medication-Assisted Treatment' (MAT): The reason for this is that the term 'substitution' is imprecise because treatment with opioid-containing drugs (such as methadone, buprenorphine, or morphine) is a medical – psycho-socially supported – treatment of an opioid dependence, and not a substitute for heroin. Since most of the drugs used for this treatment are not opioid derivatives but rather synthetically manufactured substances with the same effect (painkilling, calming, euphoric) (i.e. opioids), the term 'opioid' is used; since it is a treatment and not a mere replacement of the original substance, the term 'treatment' is used. In the initial health assessment of individuals who have a history of drug use, MAT can be used for managing withdrawal symptoms, and discontinuing medication for those who have been engaged in MAT programmes before incarceration may be risky.

A systematic review of 21 studies conducted in prison settings regarding the effectiveness of opioid maintenance treatment concluded that the benefits of this treatment when provided in prison are similar to those obtained in community settings. MAT was significantly associated with reduced heroin use, injecting, and syringe sharing in prison, if doses were adequate. Continuation of MAT for those who had been following this treatment before incarceration is essential to avoid relapse and the resurgence of high-risk behaviour while in prison (ECDC and EMCDDA, 2018a, 2018b, 2018c Prison and Drugs in Europe: Current and Future Challenges, Publications Office of the European Union, Luxembourg).

Pre-release MAT, meanwhile, was significantly associated with increased entry to treatment and retention after release, if arrangements existed to continue treatment (Hedrich et al., 2012; Alam et al., 2019; Grella et al., 2020). Boksán et al. (2022) have shown that MAT in prison settings reduces drug use, re-incarceration and leads to higher treatment engagement after release. More research is needed on the effects of incarceration-based MAT on secondary outcomes (e.g. health and social integration) and on factors that moderate these effects.

A recent study on the state of harm reduction in prisons in 30 European countries (Stöver et al., 2021) revealed that only one European country was not offering MAT in prisons: Slovakia. In prisons where MAT is available, those who have been receiving it in the community can continue to be treated in prison (Montanari et al., 2021, 59).

The substances most frequently used in MAT in prison are similar to those used in the community in each country. Most countries predominantly use methadone, but Croatia and France mostly use buprenorphine, and Belgium, Cyprus, Finland, and Norway prefer a buprenorphine-naloxone combination (Tarján et al., 2019). Continuity of care, when entering and leaving prison, is a critical issue for those undergoing MAT because there is a high risk of overdose and of transmission of HCV infection when treatment is disrupted (Stone, 2018). One in three countries has specific guidelines addressing continuity of care and cooperation between MAT services in prison and in the community. Most countries provide MAT to less than 10% of the prison population. Although this is only an indirect indicator of treatment coverage, data suggest a scarce implementation of MAT in prison. Only in the UK, Italy, Slovenia, and Croatia do more than 10% of the prison population receive MAT. MAT programmes include detoxification and maintenance programmes. In many countries, MAT can also be initiated in prison at different stages. Universally, the percentage of drug users offered MAT varied considerably from prison to prison (in European prisons from 0.001% in Hungary to 44.6% in Slovenia (Stöver et al., 2021).

In most European countries that offered MAT in prison, access to and varieties of available MAT programmes were heterogeneous and inconsistent (Stöver et al., 2006; Stöver, 2021). For example, although MAT is nominally available in German prisons, implementation is the responsibility of each of the 16 federal states and often varies from prison to prison within states and even from doctor to doctor (Stöver et al., 2019). In France, many physicians have been reluctant to initiate MAT in prison or even to renew existing buprenorphine or methadone prescriptions for prisoners (Larney et al., 2014). In some parts of Europe, pharmacological treatment

is often limited to drug detoxification. Furthermore, most efforts to scale up MAT in the community have not been carried through to the prison setting. However, there have been essential improvements in the last 10 years (Stöver and Hariga, 2016; Stöver et al., 2021).

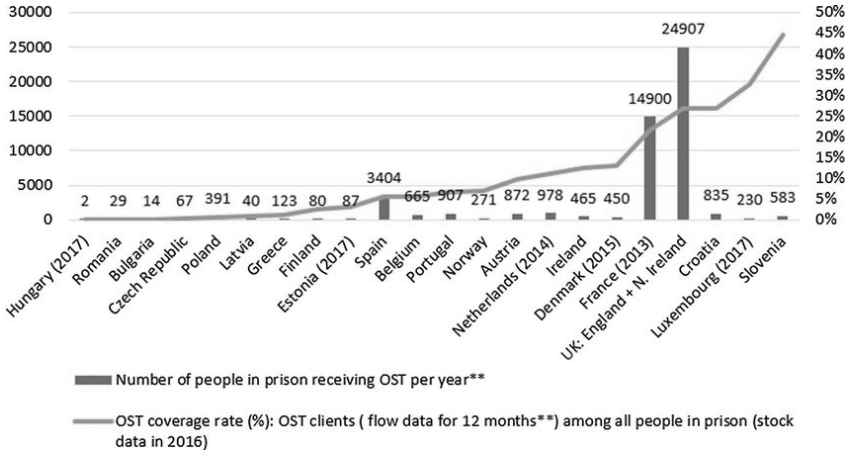

Figure 3. Number of People in Prison Receiving OST per Year

Source: Stöver et al., 2021

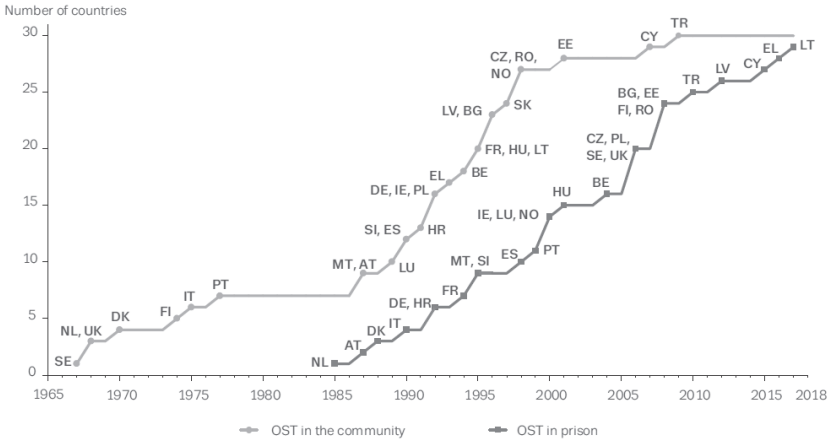

Figure 4. Cumulative Number Countries Introducing OST in the Community and in Prison in the European Union, Norway, Turkey and the United Kingdom, 1965-2019

Source: Montanori et al. 2022

2. *Why is Drug Treatment for People Living in Prisons not yet Comparable to that Available for Non-Incarcerated Drug Users?*

Several factors affect the extent to which prisons provide MAT, including the varied prison health policies of prisons and difficulties in employing adequate numbers of high-quality prison staff (Michel and Maguet, 2005). Some people living in prisons had been prevented from entering an MAT programme because of restrictive criteria. For example, in some countries MAT is limited to people living in prisons who are serving sentences of a particular length, were in treatment before imprisonment, or can confirm that they are enrolled in a post-release treatment programme (Larney et Dolan, 2009). Other limitations related to MAT in prisons include a deficiency of psychological and social support for drug-using prisoners (Final Report EU, 2008) and lack of or limited access to certain MAT programmes, such as buprenorphine-based regimens, that may be more suitable for use in prison.

Several theoretical and functional issues have resulted in drug treatment for prisoners not having parity with treatment for drugs users in the community. In particular, some societal misconceptions pervade the medical

management of drug dependence. There exists a poor understanding of opioid dependence as a chronic and recurring disease; some clinicians may feel that a hedonistic practice indicates a weakness of character (Lesting et al., 2021). Another widespread but mistaken belief involves the benefits of abstinence for drug users, which leads to the omission of maintenance therapy after detoxification, which in turn leads to reversion to opioid use (Keppler and Stöver, 2021). Also the full range of registered medications are not rolled out in prison settings – for instance, only methadone is prescribed, despite the registration of many other medications (like buprenorphine, slow-release morphine, etc.). Also different application modes do exist but are not used in a way that they could be used (for instance, depot solutions of buprenorphine (Keppler and Stöver, 2021).

There are also socio-economic reasons why drug-using people living in prisons, particularly IDUs, do not receive appropriate therapy for their drug problem: they are frequently poor and deprived and, therefore, marginalised and not considered worthy of treatment. The majority come from extremely disadvantaged backgrounds (Stöver, 2021). On the other hand, the false beliefs of prison staff regarding the common perception that prisons should be 'drug-free zones' lead to a delay in the implementation of MAT. Prison authorities may also be concerned that MAT undermines their efforts to reduce the drug supply in their institutions, i.e. the black market for drugs (Stöver, 2021).

3. Rationales for Drug Dependence Treatment in Prisons

3.1. Benefits for the Prisoner

There are many reasons drug-using prisoners should be afforded the same quality of health care regarding drug maintenance treatment – including MAT – as is available to non-prisoners. Primarily, it is appropriate to treat prisoners' drug use so that they will not leave prison in worse health than when they entered (Stöver, 2021). MAT is recognised as one of the most effective treatment options for opioid dependence (Stöver et Keppler, 2022). It can decrease the high cost of opioid dependence for users, their families, and society at large by reducing heroin use, associated deaths, HIV-risk behaviours, and criminal activity. MAT is established as a critical component of community-based approaches towards the management of opioid dependence. One cohort study (Larney et al., 2014) that enrolled N=16,715 opioid-dependent people who were in prison between 2000 and 2012 showed that:

- being in MAT was associated with a 74% lower risk of dying in prison (adjusted HR [Hazard Ratio], 0.26; 95% CI [Confidence Interval] 0.13 to 0.50), compared to time not in MAT;
- being in MAT was associated with an 87% lower risk of unnatural death (adjusted HR [AHR] 0.13; 95% CI 0.05 to 0.35), compared to time not in MAT;
- being in MAT was associated with a 94% lower all-cause mortality risk during the first four weeks of incarceration (adjusted HR [AHR] 0.06; 95% CI 0.01 to 0.48), compared to time not in MAT;
- being in MAT was associated with a 93% lower risk of unnatural death during the first four weeks of incarceration (adjusted HR [AHR] 0.07; 95% CI 0.01 to 0.59), compared to time not in MAT.

Many studies had already demonstrated the successful application of MAT in prison populations with regard to prisoner-centred and non-prisoner-centred outcomes. Positive prisoner-centred outcomes associated with MAT include reduced rates of drug use and infectious diseases. People living in prisons receiving MAT have shown less drug-injecting behaviour (Heimer, 2006) and less risk-taking behaviour (e.g. sharing of syringes) (Dolan et al., 1998; Stöver and Hariga, 2016). After four months in prison, the illicit use of morphine was at 27% for MMT-treated prisoners and 42% for controls ($P = 0.05$) (Dolan, 2003).

The use of buprenorphine maintenance therapy in prisons has been based chiefly on results obtained outside prisons (Michel, 2005; Michels et al., 2020); however, there is growing experience with buprenorphine in prisons (Keppler and Stöver, 2021a; Keppler and Stöver, 2021b). A group of people living in prisons receiving buprenorphine reported for their designated post-release treatment programme significantly more often than did a comparison group receiving methadone (48% vs. 14%, respectively; $P < 0.001$) (Magura, 2009).

An older two-year study in Puerto Rico examined the feasibility of initiating prisoners with histories of heroin addiction on buprenorphine/naloxone before their release to determine the effectiveness of such treatment with regard to post-release treatment entry, reduction in heroin use, and reduction in criminal activity at one month after release (Gordon, 2007).

MAT in prison has also been associated with reduced rates of infectious diseases. Adequate MAT has been associated with reduced risk of HCV infection (Dolan et al., 2005; UNODC/UNAIDS, 2006; Dolan et al., 2016; Azbel et al., 2018; Kamarulzaman et al., 2019), whereas inadequate MAT – periods of less than five months in one study, for example – was found to be significantly associated with increased risk of HCV seroconversion (*P*

= 0.01) (Kinlock et al., 2009). People living in prisons receiving MAT with a daily dose of more than 60 mg during their whole prison sentence were found to be the least likely to inject heroin, share needles, and engage in HIV risk-taking behaviour while in prison (Dolan et al., 2003).

MAT has also been associated with a reduced risk of prisoner death. In one study, no deaths were recorded while prisoners were enrolled in MAT, whereas 17 prisoners died while not enrolled in MAT, representing an untreated mortality rate of 2.0 per 100 person years (95% CI, 1.2–3.2) (Kinlock et al., 2009). Finally, people living in prisons receiving MAT have shown a decrease in serious violent drug charges over time, whereas those not receiving MAT showed an increase (Johnson, 2001).

Other positive prisoner-centred outcomes related to MAT in prison can be observed after the term of incarceration is completed. Reduced drug use after release was reported among people in prisons engaged in MAT. The mean number of days in community-based drug use treatment one year post release – as a function of in-prison treatment for drug abuse – was 23.1 days of counselling only in prison; 91.3 days of counselling plus passive transfer to treatment upon release; and 166.0 days of counselling plus methadone treatment in prison and continued post release (each pairwise comparison, $P < 0.01$). Participants in the counselling-plus-methadone group were significantly less likely than those in the other groups to have opioid-positive or cocaine-positive urine drug test results (Kinlock et al., 2009). MAT also lessens the likelihood of released prisoners committing crimes. The reported number of days of criminal activity in the past 365 days after release was 106.7 (standard deviation [SD] = 128.7) with counselling only; 65.2 (SD = 96.2) with counselling plus transfer to methadone; and 81.8 (SD = 109.5) days with counselling plus methadone (Kinlock et al., 2009). Reduced recidivism was reported among people living in prisons engaged in some type of MAT. People living in prisons on a twelve-month MAT while incarcerated had a lower level of re-incarceration than heroin-using prisoners with no treatment (Johnson, 2001). Reduced rates of re-incarceration during a 3.5-year period following a first incarceration were related to maintenance MAT in prison (Sibbald, 2002). A Correctional Service of Canada study found that, after one year, 41% of addicted inmates receiving MAT were readmitted to prison compared with 58% of addicted inmates who were not receiving the treatment (Sibbald, 2002). Compared with periods of no MAT in prison, the risk of re-incarceration was reduced by 70% during MMT periods greater than or equal to eight months ($P < 0.001$) (Dolan, 2005) (Gross et al., 2021).

3.2. Benefits for the Prison Staff and Community

A major rationale for the use of MAT in prison is the cost-effectiveness of such a strategy. For example, prison methadone is not costlier than community methadone and provides the benefit of reduced heroin use in prisons with the associated reductions in morbidity and mortality (Warren et al., 2006). The cost of an institutional MAT programme may be offset by the cost savings accruing from offenders successfully remaining in the community longer than equivalent offenders not receiving MAT (Warren et al., 2006). Expanded access to MAT has an incremental cost-effectiveness ratio of less than $11,000 per quality-adjusted life year, which is more cost-effective than many widely used medical therapies (Barnett et al., 2000). Implementing MAT in prisons is also associated with improvement in inmate manageability and prison safety; total institutional charges for prisoners enrolled in MAT are lower than for prisoners not enrolled in MAT. Reduced drug use and reduced recidivism were reported among prisoners engaged in methadone treatment.

4. Guidance on Overcoming Barriers to the Implementation of Substitution Programs in Prisons

4.1. Overcoming Barriers from the Prisoner

The resistance of people living in prisons to participate in a maintenance programme is often based on a lack of desire to be treated. Of the 140 eligible men approached to take part in a study of opioid detoxification, 36% declined to be recruited (Sheard et al., 2009). A similar lack of desire to be treated may be seen with regard to MAT. Some prisoners may resist participating in a programme because they do not want their partners or relatives to know they have been using drugs. Some may resist treatment with methadone because they consider methadone a street drug.

The refusal of people in prisons to participate in a MAT programme is best addressed by improving prisoner education. People living in prisons may be convinced to participate in a substitution maintenance programme through discussion that includes an explanation and demonstration – through the use of data – of the benefits accruing from in-prison MAT, including easier incarceration with less desire to inject an illicit drug (Stallwitz and Stöver, 2007) and the potential for less violence (Friedmann, 2008), less risk of prolonging incarceration or irritating prison staff, less risk of acquiring an infectious disease, and less risk of self-harm. Other

benefits that may be demonstrated are realised after release from prison, including less desire to commit crime and, consequently, a lower risk of re-incarceration, violence, potentially lethal overdoses (Drug-Related Mortality Among Newly Released Offenders, 2003), and infectious diseases (Kinlock et al., 2009).

4.2. Overcoming Barriers from the Prison Staff and Other Stakeholders

Stakeholders who lack understanding or misunderstand the value of maintenance treatment in prisons – and who may block the implementation of a treatment programme – include politicians, ministerial representatives, and prison staff and professionals. A necessary step in convincing stakeholders to support the development of an MAT programme is to educate them on the nature of the opioid drug problem among prisoners and on the evidence-based benefits of successful MAT, including health economics benefits.

It must be explained to stakeholders that opioid dependence is a chronically relapsing disease (Stöver et al., 2006; WHO/UNODC, 2019) and that coercive abstinence in prison may be followed by relapse immediately after release, often resulting in overdose, drug emergencies, and death (Farrell et al., 2008). This stakeholder education may include evidence of the beneficial results of MAT, including reduced rates of drug use, both in prison and after release from prison (Michel et al., 2005; Dolan, 2003; Stöver et al., 2021b), less risk-taking behaviour (Dolan et al., 1998), a reduced rate of infectious disease acquisition (Dolan et al., 2003; Dolan et al., 2005), a reduced risk of death, a decrease in serious violent drug charges (Johnson, 2001), reduced criminal activity after release (Kinlock et al., 2009), and a reduced re-incarceration rate (Dolan et al., 2005; Levasseur et al., 2002; Sibbald, 2002).

Outcomes and health economics data demonstrating the results of studies showing the cost-effectiveness of drug maintenance therapy in prisons (Warren et al., 2006) should be included. Techniques and resources to gain support for instituting an MAT programme and to disseminate information in support of such a programme include initiating and maintaining contact with decision-making politicians, the media, the professional public, and non-governmental organisations such as human rights agencies, UNODC, and the WHO Regional Office for European Health in Prison Project.

Other techniques for obtaining and building support for a programme include publishing and making available information on best MAT

practices; promoting the exchange of knowledge and experience among scientists, politicians, and practitioners through international and national conferences of experts from various fields; and organising local and regional discussions among interested physicians. Finally, identifying local 'champions' who can knowledgeably explain models of best practice to their peers and provide opportunities for personnel who are interested in starting an MAT programme to visit prisons where successful harm reduction programmes are in operation can be invaluable in the process.

Stakeholders should be informed that an MAT programme must provide for the supply of MAT medications. Lack of access to these medications is often a barrier to the successful implementation of an MAT programme. Prisons may have a limited list of medications available for dispensing, and MAT maintenance medications may not be among those available. In some cases, there may not be medication available to continue maintenance therapy that was started before imprisonment. Prisoners usually do not have health insurance while in prison and thus cannot afford the medication they could afford outside of prison; they are dependent for their medication on a prison's health care system.

Prison staff often express the concern that MAT programmes introduce the potential risk of internal diversion of the used medications (Stallwitz and Stöver, 2007). In some studies, such diversion was suspected (Magura et al., 2009), whereas in others it was found not to be a problem. When diversion was suspected, it was because of actions such as the movement of a prisoner's hand to their face when sublingual buprenorphine was administered (Magura et al., 2009). Because it takes five to ten minutes for a buprenorphine tablet applied sublingually to be absorbed completely, there is time for it to be removed from the mouth after insertion for subsequent potential black-market sale.

Prison personnel are often unwilling to spend the time necessary to observe each administered dose of buprenorphine in order to prevent its extraction from the mouth and diversion. Thus, instead of buprenorphine tablets, prisons are increasingly administering tablets combining buprenorphine and naloxone to reduce potential diversion and misuse: applied sublingually, the naloxone is poorly absorbed and has limited pharmacological effect, whereas the efficacy of the buprenorphine is not affected by the presence of naloxone. If a buprenorphine/naloxone tablet is crushed and used intravenously, the naloxone is bioavailable; it will counteract the potential euphoric effect of the buprenorphine and can precipitate severe opioid withdrawal, a strong deterrent to intravenous misuse of diverted buprenorphine/naloxone.

Finally, lack of adequate funding to cover the start-up costs of a prison MAT programme constitutes a barrier to implementing a programme. To remove this barrier, the following items must be covered in a programme's start-up budget: general administration and administration of the MAT programme; medical and nursing staff to execute maintenance therapy assessments, administration, and delivery; pharmacy and courier services for the stocking, preparation, and delivery of medications; disposable materials used in medicating prisoners; maintenance medication; and correction officers to supervise the administration of medication to prisoners (Warren et al., 2006).

5. *Prospects for Developing MAT in Prisons in China and Central Asia*

The development of MAT of opioid dependence in Central Asia and the People`s Republic of (PR) China has only been treated marginally in the international specialist literature in recent years, although it is precisely in these two regions that it can be exemplified which supporting and which obstructing factors play a role. The professional world is usually more interested in the development of MAT in the USA, Canada, Australia, or Europe. Why should the focus instead be on Central Asia and China? There are several reasons: Central Asia is marked to a considerable extent by increasing 'trade' (via smuggling, clandestine sale, and money laundering) and the consumption of opiates and opioids (especially heroin).

The positive international experiences that foreground public health through harm-reduction and human rights approaches encourage local service providers to implement MAT in order to reduce overdoses and infectious diseases rates. However, the most recent evidence shows that funding of MAT in low- and middle-income countries has been visibly decreasing, leaving Central Asia and Eastern Europe with less than 27% of international donorship (Serebryakova et al., 2021). In both Central Asia and PR China, the official numbers of registered people who use opioids and the estimated grey numbers differ vastly (Zabransky et al., 2014; Zhao, 2020). In Central Asia, approximately only 2,500 of around 400,000 opioid-dependent people are being treated with opioid medications (mostly methadone). In Kyrgyzstan this number is 1,450 and in Kazakhstan 353 (Michels, 2021). Although there is MAT in prisons in Kyrgyzstan, access to treatment is inconsistent (Azbel, 2017).

In both Central Asian countries and the PR China, modern methods of treatment of drug-use disorders, according to the UNODC/WHO International Standards of treatment of drug use disorders (UNODC/WHO 2020),

have been implemented, including Medication-Assisted Treatment (MAT), although the provision of treatment is limited and not affordable for all those in need and psycho-social assistance is still widely unavailable. Social work in particular is missing or still in its infancy.

Marienfelda et al. (2015) provided a comprehensive overview on the development of MMT in *China [In China MAT had been named as MMT, Methadone Maintenance Therapy, as used in USA earlier]*. Shui Shan Lee together with Robert Newman had been researching on the long-term experiences from Hong Kong (Lee and Newman, 2017) and earlier Yin et al. (2010). The early success of small pilot MMT programmes introduced in 2004 (Yin, 2010) has been followed by the rapid expansion of MMT programmes that follow standardised clinical protocols, and physicians providing MMT participate in a structured, centrally run, national training programme. By the end of 2019, more than 160,000 patients had been enrolled in more than 730 clinics established since 2005 (Sullivan et al. 2014). The latest overview was given by Tianzhen Chen and Min Zhao in 2019 (Chen, 2019) and showed a decrease of patients. But unfortunately, MAT in prisons is neither implemented nor planned.

The development and implementation of MAT in *Central Asia* has been stagnating in the past few years. The implementation is accompanied by strong media and other public campaigns against this type of drug treatment and harm-reduction measure, which had been claiming that MAT will lead to a 'new type of addiction', that people who use drugs are 'poisoned with a dangerous drug', referring to methadone, or that this treatment intervention is another form of 'Western imperialism', etc. Against this backdrop, local governments and the Ministries of Health and Internal Affairs have been very cautious in implementing MAT, reflecting the scepticism that is still dominating the Central Asian drug policy landscape. We believe that this opposition widely communicates the influence from Russia against MAT, too (Michels et al., 2021).

Despite the above-cited challenges, implementation of MAT has undergone several successful stages, even if small in scale. However, only in the Kyrgyz Republic and Tajikistan has MAT been implemented in the prison system on a small scale (Subata et al., 2016). In Uzbekistan MAT was not implemented following a pilot project (Khachatrian, 2009; Michels et al., 2021). In Kazakhstan, MAT has not been allowed to be implemented in prisons.

In fact, there is still considerable ignorance of the rationale for the implementation of medication-assisted treatment in the prison systems in Central Asia and China. However, the first positive experiences in the Kyrgyz Republic and Tajikistan gives us hope that this will lead to further

implementation of this treatment option more in the next few years. Time will tell whether this also applies to China. The wide implementation in the public health system with very positive results gives us hope.

Conclusion

Drug use is prevalent throughout prison populations, and, despite advances in drug-treatment programmes for people living in prisons, access to and the quality of these programmes often remain substantially poorer than those available for non-incarcerated drug users. Because prisoners may be at greater risk of some of the harms associated with drug use (infectious diseases, overdoses, etc.), they deserve therapeutic offers that are at least equal to those available for drug users in the community. The new EU drugs strategy 2021–2025 includes a strategic priority aimed at addressing the health and social needs of people who use drugs in prison settings and after release.

The principles of equivalence and continuity of health care provision in prison are central in these documents and underline the necessity to treat drug-using prisoners. The key role of drug-related services for people in prison with drug problems is also in line with UN Sustainable Developmental Goal (SDG) 10 to reduce inequality and with UN SDG 3 to ensure healthy lives and promote well-being for all at all ages (Goosdeel, 2021).

This chapter has discussed drug use – in particular opioid use – by prisoners and its associated harms. In addition, we have provided an overview of studies conducted in prisons related to MAT, a clinically effective and cost-effective drug treatment strategy.

The findings from this overview indicate that treatment efforts for opioid users in prison are often poorer than those available in the community and demonstrate how the implementation of MAT programmes benefits not only prisoners but also prison staff and the community at large. Finally, the chapter has outlined strategies that have been found to be effective for implementing MAT in prisons and offered suggestions for applying these strategies more broadly.

Imprisoned people using drugs have the basic right to receive treatment for their drug addiction comparable to treatment available to people using drugs in the community. This treatment should include MAT, a treatment modality with demonstrated broad benefits to prisoners – both while they are incarcerated and after their release from prison – as well as benefits to the community. Examples of successfully implemented MAT programmes

exist, and these point to effective strategies and tactics for establishing MAT programmes elsewhere.

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