

Methadone Maintenance Therapy in Prisons: Reviewing the Evidence

Thomas Kerr, PhD, Director of Health Research & Policy
Ralf Jürgens, PhD, Executive Director
Canadian HIV/AIDS Legal Network



Injection Drug Use and HIV/AIDS

Injection drug use has been associated with severe health and social harms.[1, 2] High rates of disease, death, crime, and the accompanying costs are drug-related harms experienced throughout the world. Injection drug use has also been identified as a key risk characteristic for HIV infection in many countries around the world.[3] Explosive epidemics of HIV/AIDS have emerged in various settings, demonstrating that HIV can spread rapidly once established within communities of injection drug users (IDUs). [4, 5] The dynamics of IDU-driven HIV epidemics present unique challenges, giving policy makers and health authorities little time to respond in an effort to contain outbreaks of HIV infection.

Injection Drug Use, HIV/AIDS and Prisons

Incarceration is a common event among IDUs. Evidence from the United States indicates that approximately 80 percent of IDUs have a history of imprisonment,[6] and a 12-city World Health Organization study of HIV risk behaviour among IDUs found that between 60 and 90 percent of respondents reported a history of imprisonment since commencing drug injection.[7] Available evidence indicates that a substantial proportion of drug users inject drugs while in prison, with 50% or more of drug users from several countries reporting injection while in prison.[8-11] In one study in Russia where 20% of prisoners reported injecting drugs while

in prison, 14% of these individuals stated that their first injection occurred within a penal institution.[12]

Worldwide, levels of HIV prevalence within inmate populations tend to be much higher than in the general population [13]. HIV prevalence among prisoners varies considerably across settings, although several countries have reported HIV prevalence among prisoners to be between 10-25%.[14-17] The jurisdictions with the highest HIV-prevalence in prisons (apart from countries with large heterosexual HIV epidemics) are areas where HIV infection in the general community is “pervasive among IV drug users, who are dramatically over-represented in correctional institutions”.[18] Incarceration has also been associated with HIV infection in several countries,[19-21] and evidence of rapid spread of HIV infection has been observed within specific prison settings, including in countries in Eastern Europe and the former Soviet Union (fSU).[11, 22, 23]

Within prisons, the prevalence of injection drug use and HIV infection, combined with the high rate of turnover of the prison population, create the potential for efficient and widespread transmission of infectious diseases and other drug-related harms. However, these characteristics also present opportunities for the treatment of drug addiction and the prevention of infectious disease transmission among a substantial number of disadvantaged individuals.

Responding to Injection Drug Use and HIV/AIDS

In most areas of the world, the mainstay of dealing with the problem of injection drug use has been targeted law enforcement.[2] However, despite the resources spent on the “zero-tolerance” strategy, success has not been achieved.[24] Since the early 1990s, in many countries, supply and demand for drugs has increased, purity of drugs has improved, and the price of drugs has decreased.[25] Among the more effective interventions for the prevention of social and health-related harms among IDUs is the provision of addiction treatment services.[26, 27] While there is no single treatment modality that will work in every circumstance, previous studies have demonstrated the beneficial effect of substitution therapies, detoxification programs, peer-support programs, and other treatment strategies.[28-30] However, in most settings, the demand for addiction services far exceeds supply.[2, 31, 32]

Despite the potentially explosive dynamics of IDU-driven HIV epidemics, there is evidence indicating that HIV epidemics among IDUs have been prevented, stabilized, and reversed in various locations throughout the world.[33, 34] One review of settings with large populations of IDUs suggested that some cities have managed to maintain low HIV seroprevalence among IDUs due to: (1) the implementation of HIV prevention measures while seroprevalence was still relatively low; (2) the implementation of syringe exchange programs; and (3) the provision of outreach services to IDUs.[33] Other important factors in addressing IDU-driven HIV epidemics include the provision of substitution therapies (e.g., methadone), involving drug users in the design and implementation of interventions, and ensuring that measures are responsive to changes in risk practices and provide adequate coverage.[35, 36]

There is also evidence, however, to indicate that dual epidemics of injection drug use and HIV/AIDS have occurred due to a failure on the part of governments to quickly implement appropriate interventions.[1] In some settings, a failure to respond quickly to these emerging

epidemics has been followed by more generalized HIV epidemics in which non-IDU members of communities are increasingly becoming infected with HIV through sexual contacts.[3]

While effective HIV prevention and drug treatment interventions exist, some of these remain unpopular among politicians.[24] In some countries, such as the United States, effective interventions have not been implemented despite widespread support from scientific and medical bodies in these countries.[37, 38] Among the effective albeit controversial of these programs is methadone maintenance therapy (MMT).

Methadone Maintenance Therapy (MMT)

Methadone is a long-acting synthetic opiate agonist that is easily absorbed when taken orally and has a half-life of approximately 24-36 hours, allowing once daily administration.[39] Studies have demonstrated that methadone is successful in blocking the effects of opiate withdrawal symptoms and the euphoria produced by short acting opioids. [40] As a result, methadone maintenance therapy (MMT) is effective in reducing major risks, harms and costs associated with untreated opiate addiction among patients attracted into and successfully retained in MMT.[41, 42] Research has demonstrated that the use of MMT leads to reductions in, and even the elimination of, use of opiates,[43-48] as well as reductions in criminal activity, unemployment, and mortality rates.[43, 44, 49-54] MMT is also associated with reduced HIV and viral hepatitis transmission rates,[51, 55-58] and several studies examining the relationship between MMT and HIV risk factors have also shown reductions in risk behaviors including needle sharing, number of sexual partners, engaging in sex without condom use, and exchange of sex for drugs or money.[46, 59-62] MMT has also been shown to be highly cost-effective,[54, 63-65] with every dollar (US) spent on MMT resulting in a saving of 4-5 dollars. [66, 67]

While some have questioned whether MMT would be effective in treating addicted individuals using home-produced derivatives of

poppy such as “chornaya” and “hanka”, there is no pharmacological basis to such concerns, as MMT is first and foremost an opiate and not a “heroin-specific” agonist. The efficacy of MMT in treating individuals addicted to opioids other than heroin was confirmed in a previous study showing no differences in MMT treatment outcomes among individuals who use heroin and those who use other opioids.[68]

Methadone Maintenance Therapy Programs in Prisons

Worldwide, an increasing number of prison systems are offering MMT to prisoners, including most Western European systems (with the exception of Greece, Sweden, and two jurisdictions in Germany). Programs also exist in Australia and in the United States (at Rikers Island, New York City). Finally, an increasing number of Eastern European systems are starting MMT programs or planning to do so in the next few years [69-71]. This trend follows recommendations for the introduction and expansion of methadone within prisons by several prominent organizations, including the World Health Organization.[72]

Arguments for Provision of Prison-Based MMT

Several arguments for the provision of MMT in prisons have been presented:[73]

- First, it has been argued that MMT be provided to all individuals who have received MMT outside of prisons. This point is particularly relevant in light of findings indicating that people taken off methadone once incarcerated often return to narcotic use, usually within the penal institutions, and often via injection.[74]
- Second, it has been suggested that MMT can be used for detoxification purposes for opiate addicted individuals as a means to reduce withdrawal symptoms and alleviate anxiety upon entry into prisons.
- Third, the provision of MMT will reduce high-risk injecting behaviours among prisoners who inject drugs and thereby reduce the spread of the infectious diseases.
- Fourth, the provision of MMT may serve to increase prisoners’ participation in abstinence-

based treatment programs within and outside of prisons.

- Fifth, the provision of MMT for those nearing release may help to reduce risk for overdose, as many prisoners resume injecting once released from prisons, but do so with increased risk for fatal overdose as a result of reduced tolerance to opiates.[73]
- Lastly, the provision of MMT may reduce the likelihood that newly released prisoners will return to crime, given the evidence that MMT reduces participation in illegal activities, particularly among newly released prisoners.[49]

Evaluations of Prison-Based MMT

A number of evaluations of prison-based MMT programs have indicated positive results. For example:

- results from a randomized-controlled trial of the MMT program in prisons in New South Wales, Australia indicated lower rates of heroin use, injection drug use and syringe sharing among those enrolled in MMT compared to controls;[75]
- evaluations of an existing prison-based MMT program in Australia have shown reduced levels of drug use and participation in the prison drug trade;[76]
- likewise, a study of newly released injection drug using prisoners in Australia found that prisoners maintained on methadone reported lower levels of risk behaviour in prisons than untreated prisoners;[77]
- a study conducted in the United States found that addicted prisoners who received MMT in prison were more likely to seek drug treatment upon release from prison than prisoners who received methadone for detoxification purposes only;[78]and in Canada, the federal prison system expanded access to MMT after evaluations demonstrated that MMT had a positive impact on release outcome and on institutional behaviour.[79]

Determinants of Success

There are several features associated with MMT and its implementation in prisons that should be

noted. For example, optimal treatment outcomes have generally been correlated with a number of programmatic factors including: sufficient methadone dosing, high level and quality of psycho-social care services, duration of treatment retention, and patient identification with the rules of the MMT program and staff of treatment centres.[43, 80-83] Clearly, while MMT has proven effective for individuals who are attracted and retained in treatment, innovative and flexible approaches must be implemented to ensure that the full potential of this approach is realized. Given the rigid routines and rules within prisons, the emphasis on abstinence from drugs, as well as the lack of psychosocial programs in many systems, successful implementation of MMT in prisons presents unique challenges. Although prison medical services (particularly those in Eastern Europe and fSU are challenged by a lack of appropriate funding, MMT has been shown to be highly cost-effective due the impact of MMT on a variety of outcomes, including crime and HIV-infection.[54, 63, 65-67, 84]

MMT more effective than other forms of treatment

Several arguments have been made against the implementation of MMT in prison settings. Some critics consider methadone as just another mood-altering drug, the provision of which delays the necessary personal growth required to move beyond a drug-centered existence.[85] Some also object to MMT on moral grounds, arguing that it merely replaces one drug of dependence with another.[85] However, research studies have shown that MMT has been found to be more effective than detoxification programs in promoting retention in drug treatment and abstinence from illicit drug use.[28, 65] As well, while some have expressed concern about the feasibility of implementing MMT in prison settings, experience has shown that these difficulties can be overcome.

Given the poor outcomes associated with untreated opiate addiction, including increased risk for HIV infection,[86] the lack of effective treatment options for those addicted to

opiates,[87] and the fact that methadone is currently the most effective treatment for opiate addiction,[88] it is clear that MMT can play a role in reducing harm among prisoners.

Conclusion

A wealth of scientific evidence has shown that MMT is the most effective intervention available for the treatment of opiate dependence. MMT has been associated with reductions in risk behaviour, illicit drug use, criminal behaviour, participation in sex work, unemployment, mortality, and HIV transmission. Many of the concerns raised about MMT have been shown to be unfounded. In particular, MMT has not been shown to be an obstacle to the cessation of drug use, and in fact, MMT has been found to be more effective than detoxification programs in promoting retention in drug treatment programs and abstinence from illicit drug use.

MMT has increasingly been established in prison settings. Evaluations of prison-based MMT have been highly and consistently favourable, showing that the MMT is associated with substantial declines in HIV risk-behaviour (e.g., syringe sharing), decreased levels of drug use, participation in the prison-based drug trade, and increased participation in drug treatment following release from prison.

Given the existing evidence of the growing problems of injection drug use and HIV/AIDS in prisons in Eastern Europe and the fSU, it is clear that the time to act is now. A failure to implement effective drug treatment and HIV prevention measures could result in further spread of HIV infection among IDUs, the larger prison population, and could potentially lead to generalized epidemics in the local non-IDU population. Further spread of HIV would lead not only to greater suffering for affected individuals and their families, but also would be result in substantial and avoidable health care costs. Despite the controversy concerning MMT, the evidence is clear. MMT is effective, and should be considered an essential response to the dual epidemics of injection drug use and HIV/AIDS.

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