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## [The effectiveness of opioid maintenance treatment in prison settings: a systematic review.](#)

**Hedrich D., Alves P., Farrell M. et al.**  
**Addiction: 2012, 107(3), p. 501–517.**

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*Largely due to the treatment's health benefits, this review argues that failure to implement effective opioid maintenance programmes in prison represents an important missed opportunity to engage high-risk drug users in treatment, at possibly substantial costs both to individuals and to the community.*

**SUMMARY** Long-term or maintenance prescribing of substitute opiate-type drugs is the mainstay of treatment for heroin and other forms of opioid dependence, except in prisons, where implementation has been limited. Offering effective treatment in prisons is important because many prisoners have opioid-related problems but were not in treatment at the time of their imprisonment. While the frequency of drug use and injecting decreases after incarceration, some prisoners continue to use opioids (including by injection) and a few initiate injecting, and when drug use does occur it tends to be riskier than in the community. Having been imprisoned appears to increase one's risk of becoming infected with hepatitis C. On release, relapse is common, rates of treatment contact are low, and there is an elevated risk of overdose.

Given its potential importance, the featured review aimed to assess the evidence on opioid maintenance in prisons in terms of its impacts while patients are in prison, the difference is makes after release, and whether continuity of treatment from before to during and after imprisonment influences its effectiveness. Impacts reported in the literature include substance use, crime, and health. The review extended beyond formally published journal articles to 'grey literature' such as project reports.

In all 21 studies were found of which 15 simply observed the effects of programmes implemented in the normal way, while another six randomly allocated prisoners to a maintenance programme versus a comparison programme or none at all. Ten studies had been conducted in North America, five Australia, four Europe (but none in the UK), and two in Iran. Generally the medications were methadone or buprenorphine.

### Main findings

In summary (details below) there is consistent evidence that while patients are in prison opioid maintenance programmes reduce opioid use, injecting, and sharing of injecting equipment. Such programmes consistently promote treatment entry and retention after release from prison, and generally too are associated with reduced opioid use. In respect of other desired impacts assessed by the studies, the evidence is inconsistent (reducing cocaine use, crime, and re-imprisonment rates) or weak (preventing deaths and hepatitis C infections).

### During imprisonment

Eight of the 21 studies documented the possible benefits of opioid maintenance programmes while the patient is in prison. All six which included these assessments found significant reductions in illicit opioid use, primarily heroin. In the three studies which compared opioid maintenance programmes against no such programmes the differences were large: 21% using illicit opioids versus 94%, 25% versus 67%, and 6% versus 65%. In the two dose-comparison studies, illicit opiate use was significantly less common when methadone doses exceeded 50mg daily.

All five studies reporting on drug injecting found that opioid maintenance was associated with reduced heroin injecting in prison. All five reporting on syringe sharing also found significant reductions. Differences were large in the three studies which compared opioid maintenance programmes against no such programmes, for example, in the case of injecting, 11% versus 42%, 34% versus 70% and 15% versus 38%. Behaviours like these which risk infection diminished substantially among programme patients but remained unchanged or increased among comparison prisoners. One study found risk levels lower when patients were in high-dose (over 60mg daily) continuous methadone programmes than in low-dose, time-limited programmes. Another found significant reductions in syringe-sharing only after six months' treatment.

The one study to examine whether prisoners actually became infected with HIV or hepatitis C in prison found no difference between programme and comparison prisoners, while the single study which looked at prison infractions found that serious drug violations in prison fell among offenders in opioid maintenance programmes but increased in the non-treated group over the same period.

### Impact of pre-release treatment on post-release outcomes

Post-release outcomes were documented by 13 studies over periods from one month to four years. All four relevant studies found that compared to no such programmes, opioid maintenance in prison was strongly associated with entering and staying in treatment on release. Across these studies, about 85% of maintenance patients continued treatment compared to just 15% of comparison prisoners, and six months after release over 50% versus less than 5% were in treatment.

Over up to a year, four of the five relevant studies found significant reductions in heroin use among programme patients versus comparison prisoners. The exception concerned a low-dose (30mg daily) methadone programme. In the two relevant studies cocaine use was also less among programme patients, but not as markedly as for heroin.

Of the four relevant studies. one found that programme patients reported significantly less criminal activity than

comparison prisoners (but only up to six months after release), two non-significantly less, and one no difference. In four of nine studies patients who had received opioid maintenance in prison were less likely than comparison prisoners to return to prison over generally the following year; the remaining five found no such advantage, including one which found programme patients were more likely to later be re-convicted.

Of the two dose-comparison studies, one found high-dose (over 60mg daily) methadone reduced re-imprisonment rates significantly more than low-dose (under 30mg) methadone; the other found dose made no difference. No differences were found also in a randomised trial of buprenorphine versus methadone.

Two studies reported on whether after release programme patients were more or less likely to die than comparison prisoners. One found prisoners offered either maintenance in prison and continuation on release, or guaranteed, seamless transfer to a methadone programme on release, were far less likely to die over the following year than prisoners offered neither.

### Impact of continuity with community-based treatment

Four observational studies reported results relevant to the impact of continuity or disruption of opioid maintenance as a result of transitions in and out of prison. They variously found more continuous and/or longer treatment was associated with reduced risk of infection, re-imprisonment and death and a greater likelihood of continued treatment. However, one Australian study found that injectors in a prison methadone programme were more likely to have become infected with hepatitis C over the past 12 months than those who were not in a programme, possibly because they were at greater risk.

### The authors' conclusions

These studies show that opioid maintenance in prison reaps benefits similar to programmes outside prison. Prison-based programmes offer an opportunity to recruit problem opioid users in to treatment, reduce illicit opioid use and behaviours which risk infection in prison, and potentially also reduce overdoses on release. In liaison with community programmes, prison programmes can also facilitate continuity of treatment after release. Conversely, failure to implement effective opioid maintenance in prison represents an important missed opportunity to engage high-risk drug users in treatment, at possibly substantial costs both to individuals and to the community. As outside prison, dosages need to be adequate (over 60mg) and programmes long-term.

Prison discipline may also improve, consistent with accounts from prisoners or staff who believe the programmes help reduce tension and involvement in the prison drug trade.

After prisoners leave prison those who have been on opioid maintenance are less likely than comparison prisoners to use heroin, though the impact on cocaine use appears more limited. Evidence on post-release crime, arrests and re-incarceration is equivocal, just one study reported on deaths (fewer among former patients), and no study has yet investigated whether prison programmes reduce the numbers who after release become infected with blood-borne viruses.

Despite this being under-investigated, continuity with pre-arrest treatment may be critical, in particular in the prevention of hepatitis C infections.

The variety of countries and prison systems covered in this review suggests that the broad conclusions may apply to quite a wide range of settings. However, most studies had important methodological shortcomings.

**COMMENTARY** The featured review documents a consistent picture of potential health benefits in prison from methadone and buprenorphine programmes and similar and other benefits after release, largely contingent on the treatment being seamlessly continued. However, post-release continuity often proves difficult to secure. In Britain prisoners released on licence can be required to attend certain treatment services, but currently this applies only to sentences of over a year, and methadone-maintained offenders leaving prison have no automatic and immediate access to similar treatment in the community.

For prisons, UK policy espouses an equality principle, meaning that prisoners should expect the same standard of health care inside as outside prison in the same circumstances, but in the case of addiction treatment, the circumstances are clearly not the same because of impeded access to illegal drugs and discipline and control requirements. This meant that long-term opioid substitute prescribing in prisons was relegated to an exception and detoxification was the norm, a pattern which [seems to have reversed](#) in the early 2010s. In the future the policy emphasis on 'recovery', interpreted as entailing an end to treatment rather than long-term maintenance, could mean that the equality principle reduces access to maintenance prescribing in prison. This could happen partly to mirror trends outside, and partly because it might become more difficult to secure continued maintenance prescribing on release, seen in some policy documents as a prerequisite to offering the treatment in prison. More on policy considerations below.

In 2006 Department of Health [clinical guidelines](#) on prison treatment in England suggested that pre-prison opioid maintenance programmes should normally be continued in prison, and that the treatment should be offered to dependent opiate users on short sentences. They also advised considering raising pre-release doses to previous maintenance levels as a form of post-release overdose protection for offenders prone to relapse. An ['update'](#) published in 2010 was concerned that "some prescribing may be clinically inappropriate" and in particular to "ensure that prisoners do not remain on open-ended maintenance regimes when detoxification or a gradual reduction tailored to the individual's need would be the more appropriate option". In line with policy outside prison, it sought to tip the balance towards non-drug based treatment, most firmly for prisoners on sentences exceeding six months who "should be made aware [that] they will be expected to work towards becoming drug free".

From April 2013 the commissioning landscape changed in ways which may also erode the modest gains made in recent years in securing a place for methadone maintenance in English prisons. National expertise, specialist national services and advice and support are being provided by [Public Health England](#), which has absorbed the [National Treatment Agency for Substance Misuse](#). Locally the treatment budget formerly administered by that agency [has been allocated](#) to local authorities to help fund their new public health responsibilities, including the prevention and treatment of alcohol and drug problems. Criminal justice treatment-support funding is now under the control of the new [police and crime commissioners](#), and prison health services (including drug and alcohol treatment) have become the responsibility of [NHS England](#), formerly known as the NHS Commissioning Board.

This fragmentation of commissioning for treatment in prison, as part of community sentences, and in routine medical care, was in 2012 [seen by](#) the National Treatment Agency for Substance Misuse as a "potential threat to the gains made through integration" which might "jeopardise existing improvements to the continuity of care created through the local integration of commissioning". At the time of writing it is too soon to assess whether there has indeed been an impact on continuity of care in respect of opioid substitute prescribing of the kind which would undermine the benefits of prison programmes identified by the featured review.

Health care [standards](#) for Scottish prisons say that opioid substitute prescribing "should be offered where appropriate

and where a community prescriber has been identified to continue treatment after release", **interpreted** in practice as not offering the treatment unless it can be confirmed that a community prescriber will continue it on release. It was hoped that transfer from November 2011 of prison health care from the Scottish Prison Service to local NHS boards would improve continuity of treatment between prison and the community, **identified** as a priority by Scotland's National Forum on Drug-related Deaths.

*Thanks for their comments on this entry in draft to Dagmar Hedrich of the European Monitoring Centre for Drugs and Drug Addiction in Lisbon, Portugal. Commentators bear no responsibility for the text including the interpretations and any remaining errors.*

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