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Does opioid substitution treatment in prisons reduce injecting-related HIV risk behaviours? A systematic review.

Larney S.

Addiction: 2010, 105(2), p. 216–223.

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Maintenance prescribing of drugs like methadone to heroin-dependent prisoners seems to reduce injecting and the sharing of injecting equipment, changes which should reduce the risk of becoming infected with HIV.

SUMMARY Many people enter prison with HIV infection, and further infections have been associated with risk behaviours while incarcerated – in particular, injecting with shared needles and syringes. Outside prisons, opiate substitute prescribing programmes such as methadone maintenance have been associated with significant reductions in illicit opioid use, injecting drug use, and sharing of injecting equipment, appearing to result in fewer new HIV infections. The World Health Organization has recommended these programmes both in and out of prison. However, whether prison programmes will have the same impacts as those outside prison will be affected one important difference. In community settings, patients who nevertheless continue to inject can often obtain sterile needles and syringes. This is rarely the case in prisons, where as a result, injecting usually involves re-use of needles and syringes among a group of inmates. The featured review sought studies of prison prescribing programmes to establish whether the spread of HIV is or might be reduced there as it is in the community.

Knowing research was scarce, the reviewers included not just trials which had randomly allocated prisoners to substitute prescribing versus other provision, but any study which compared inmates with a history of illicit opioid use treated in these programmes versus those not treated, and which reported differences in injecting drug use, needle and syringe sharing, or the spread of HIV infections in prison.

Still, just five such studies were found. Of these, two (from Iran and Australia) attempted to follow-up prisoners, but follow-up rates were poor. The remainder (from Canada, Puerto Rico and Australia) just assessed prisoners at one point in time, and it was unclear what proportion of the relevant prison population agreed to join the studies.

Key points

Opiate substitute prescribing programmes such as methadone maintenance help prevent spread of HIV but these findings may not apply to prisons, where any residual injecting is often particularly risky due to lack of sterile injecting equipment.

A search for relevant prison-based studies found just five with a non-treated comparison group.

Consistently, opiate substitute prescribing was associated with a lower level of illicit opioid use, injecting, and re-use of potentially infected injecting equipment.

No study documented the incidence of new HIV infections. Nevertheless, the evidence suggests opiate substitution programmes do help prevent spread of HIV in prisons.

Main findings

All four studies which reported this found treatment was associated with a significantly lower level of illicit opioid use in prison. The proportion of treated prisoners who used illicit opioids was from 62% to 91% lower than among untreated study participants.

Of the three studies which provided this data, two found the proportion who said they had injected in prison was significantly lower (by 75% and 55%) among treated than untreated prisoners, while the third also found a substantial but not statistically significant reduction.

Three studies also reported prisoners' accounts of their sharing of needles and syringes while in prison. All found the proportion engaging in this risky practice was significantly lower (by from 47% to 73%) among treated than untreated prisoners

No study was found which actually documented the incidence of new HIV infections, though in one Australian study HIV prevalence was zero at both baseline and follow-up, reflecting the very low prevalence of the virus in that country.

The authors' conclusions

This review has highlighted the paucity of evidence in relation to the effects of opiate substitute prescribing in prisons on HIV risk behaviours and infections. The few studies that have been conducted have been methodologically flawed, and care should be taken not to overstate the evidence. Nevertheless, what evidence we have suggests these programmes contribute to the prevention of the spread of HIV in prisons.

Across the reviewed studies, the proportions of prisoners using heroin were 62–91% lower in treated than untreated prisoners, and injecting, 55–75% lower. Most importantly, the proportions sharing needles and syringes were 47–73% lower. However, no study has yet shown these apparent risk-reduction gains result in fewer new HIV infections.

Opiate substitute prescribing can only affect the overall level of HIV transmission in prisons if it is available to most heroin-dependent inmates; in many countries which offer these programmes in prison, fewer than 1% of inmates are in treatment. Even if widely implemented, it may be unrealistic to expect opiate substitute prescribing alone to affect HIV transmission, as it does not address the needs of inmates using non-opioid drugs, nor non-drug-related HIV risks such as tattooing and unprotected sex. Comprehensive HIV prevention also requires provision of condoms, sterile injecting equipment and sterile tattooing equipment.

COMMENTARY The featured review on opiate substitute prescribing can be placed in the context of other ways the risk of infection related to drug injecting can be reduced in prisons. The options have been reviewed for the World Health Organization and other UN agencies. With respect to opiate substitute prescribing, the review agreed with the featured review that it led to fewer injections and presumably fewer chances for infection to spread, but said this required high-dose (60mg methadone or more daily) and long-term programmes. Though evidence is in short supply for methadone and allied programmes, it is, the review found, entirely lacking for other types of prison-based addiction treatments such as therapeutic communities or counselling programmes, and lacking too for mandatory testing of prisoners for drug use. In contrast, the review found relatively strong evidence for needle exchange provision in prison. Again, how it was done seemed critical: ensuring easy and confidential access to sterile injecting equipment were seen as key factors.

Given this context, rejection of needle exchange in UK prisons leaves opiate substitute prescribing as the main, at least modestly evidence-based, way to reduce the spread of infections related to drug injecting, one for which there is some circumstantial evidence.

In 2013/14 in English and Welsh prisons, 29,717 opioid maintenance treatments were provided, apparently maintaining the substantial increase since 2007/8. Over roughly the same period, the number of seizures of heroin in the same prisons fell steeply from 1,152 in 2007 to 330 in 2011, as did the number of times prisoners tested positive for opiates, down from 7,284 to 2,040. Less encouragingly, the number of finds of needles used for drugtaking in prisons across England and Wales increased from 96 in 2007 to 148 in 2011.

A report on hepatitis C in Scottish closed prisons explicitly made the links between the high coverage of methadone maintenance in the prisons, the resulting low level of injecting, and the very low incidence of new infections. About a third of prisoners surveyed nationally in 2010 and 2011 had a history of injecting drugs, of whom 57% were currently in prison-based opiate substitute prescribing programmes. Just three of over 5000 prisoners were likely to have become infected with hepatitis C during their current spells in prison, thought related to the fact that very few (2.5%) said they had injected during this period, and those who had, had usually done so only a few times. However, when injecting happened, most (58%) of the time it was with equipment previously used by another injector. The proportion of prisoners who had injected was unrelated to whether in the last six months they had been in a prison methadone programme.

Some of the reduction in heroin use in prisons since the mid-2000s may reflect diminishing dependent heroin use among young people in the general population, which has resulted in fewer heroin addicts entering non-prison treatment. But both in England and Wales and in Scotland, the figures cited above are consistent with the extension of opioid maintenance in prison having the effects noted in the featured review, in particular, reducing the proportion of prisoners who inject and the number of injections. The figures also seem to confirm the review's contention that substitute prescribing needs to be allied with needle exchange provision to maximally reduce risk.

In the name of abstinence-based recovery, opioid maintenance prescribing in prisons is under attack in England and Wales and in Scotland. For these critics, prison is a prime opportunity to break entirely from the use of opiate-type drugs, legal or illegal, an opportunity squandered by extended prescribing of substitute drugs.

See this Effectiveness Bank analysis for more on the wider impacts of opiate substitute prescribing in prisons and on UK policy.

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