

# Drug substitution programmes

Designed to control the amount or type of drugs consumed by drug-dependent offenders.

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Effect scale	Quality of evidence				
	Effect Impact on crime	Mechanism How it works	Moderator Where it works	Implementation How to do it	Economic cost
 Mixed findings	 Strong	 Moderate	 Moderate	 Moderate	

## Focus of the intervention

Drug substitution programmes are designed to control the amount or type of drugs consumed by drug-dependent offenders.

Some drug substitution programmes focus on substituting illegal drugs for legal alternatives (such as methadone), while others legally prescribe drugs such as heroin to prevent users from acquiring them illegally.

A reduction in the use of drugs is assumed to increase the quality of life of the drug user, as well as decrease their offending. This offending may be in order to gain funds to purchase the drugs, or other related illegal activities such as drug dealing.

This narrative is based on two reviews: Review one, covering 46 studies, contributes evidence to all sections of the narrative. Review two, based on 14 studies, contributes to the Effect, Moderator, Implementation and Economics sections. The reviews focused on the overall effect of drug substitution programmes on offending.

Both reviews consider a range of different drug substitutes compared to non-pharmacological interventions such as counselling, probation or no treatment and also comparisons of different drug substitutes, for example, heroin compared to methadone.

The geographic settings for the primary studies included in Review one and Review two were not always reported but included the United Kingdom, Switzerland, France, and the United States.

## **Effect – how effective is it?**

Overall, the evidence from Review one and two suggest that drug substitution programmes can reduce crime, but the evidence is mixed and dependent on the drug used as a treatment.

## **How strong is the evidence?**

Reviews one and two were sufficiently systematic that many forms of bias that could influence the study conclusions can be ruled out.

The search strategy for Review one was well-designed and transparent, with appropriate statistical tests conducted. However, it did not take into account any publication bias or unanticipated outcomes. Some potential biases were identified within some of the primary studies; including small sample sizes and unmatched control groups. However, these were minimal and the review authors only considered studies using strong research designs (experimental or quasi-experimental).

The findings in Review two are based on a small number of trials, many of which were considered to have a high risk of bias and generalisation of the findings should be limited to male, adult offenders.

## **Mechanism – how does it work?**

Review one suggested a number of mechanisms by which drug substitution programmes might have an effect on crime.

- It is assumed that drug addicts commit many offences to finance the purchase of drugs. It follows, then, that offending will decrease if drugs or products (for example, methadone) that suppress the physical effects of withdrawal and, indirectly, the immediate need to consume drugs, are supplied to addicts through official channels.
- Drug substitution programmes aim to improve the quality of life of drug users by reducing risks of overdose and contagious diseases, by controlling the quality of drugs available to them, preventing marginalisation and improving social integration. Public order problems are assumed to be reduced as addicts acquire drugs (or substitutes) through official channels thereby spending less time searching for drugs and concentrating in places where addicts and drug dealers are known to regularly gather. They should also have more time to earn money and resources legitimately.

However, information was not available from the primary studies to test whether these mechanisms were responsible for the outcome patterns observed.

## Moderators – in which contexts does it work best?

A number of moderators were highlighted in the reviews including the type of drug used as a substitute, dosage used and the community where the intervention took place.

The meta-analysis from Review one found that heroin maintenance reduces crime significantly more than methadone maintenance and that those prescribed naltrexone (medication that blocks the effects of drugs such as opiates helping patients to remain abstinent) were less likely to be involved in criminal behaviour than individuals receiving counselling or behaviour therapy. However, when methadone or buprenorphine were used as a substitute compared to non-pharmacological interventions or other drugs, although there was a tendency for positive results, there was no significant reduction in criminal behaviour.

Review two found that when compared to non-pharmacological treatments, methadone and buprenorphine substitution were not effective in reducing criminal activity but naltrexone treatment did significantly reduce criminal activity.

Review two identified the setting as a possible moderator, that is a secure setting or the community. However very few studies were conducted in the community and it was not possible to perform subgroup analysis.

## Implementation – what can be said about implementing this initiative?

Review two noted several points concerning the implementation of drug substitution programmes. The dosage of methadone given to drug addicts varied across studies. Evidence from another review suggested that low dosages of methadone maintenance may lead to a compromise in the effectiveness of treatment and that slow tapering with temporary substitution of long-acting opioids can reduce withdrawal severity. However, most participants still relapsed into heroin use (Amato 2013).

One study on oral naltrexone found that in order for treatment to be successful, use of oral naltrexone by probationers and parolees required increased and higher quality supervision by parole officers than is typically available within the criminal justice system. However, for naltrexone the evidence is sparse and this makes it difficult to assess potential problems associated with the different methods of administering the drug (for example, oral vs implants).

## Economic considerations – how much might it cost?

While none of the reviews conducted a cost-benefit analysis, Review two mentioned one prison study which noted that approximately ten times as many inmates can be provided with methadone than buprenorphine using the same staff resources. The authors noted that this is not just seen in prisons, but may also apply in community settings, where physicians have difficulty in obtaining reimbursement for buprenorphine treatment for released prisoners, making the continued use of buprenorphine problematic post release.

## General considerations

- Other research (Gibson, 2007) suggests that there may be an increased risk of death after receiving naltrexone treatment when compared with those using methadone over the same time period. Therefore generalised use of naltrexone and the associated supervision of those taking naltrexone (in its oral form) requires careful consideration.

## Summary

Overall, the evidence suggests that drug substitution programmes can reduce crime, but the evidence is mixed and dependent on the drug substitute or treatment used.

One review reported that heroin prescription was associated with greater reductions in offending compared to methadone prescription. Both reviews found no significant reduction in criminal behaviour when methadone or buprenorphine were used as a substitute compared to non-pharmacological interventions or other drugs, although there was a tendency for positive results. Both reviews found significant reductions in criminal behaviour when naltrexone was prescribed compared to counselling or behaviour therapy but this is based on a small number of studies. Some evidence suggests that there is a greater likelihood of death in those treated with naltrexone and increased supervision is required in the community for its administration.

Drug substitution programmes are assumed to reduce crime by lessening public order problems associated with drug users frequenting social spaces and reduce crimes undertaken to fund drug use.

The dosage, the context (either secure or community- based), the method of administration and the amount of support provided to released prisoners were all suggested as potentially affecting the outcome of drug substitution programmes

## Reviews

### Review one

Quality of evidence			
Mechanism How it works	Moderator Where it works	Implementation How to do it	Economic cost What it costs
 Low	No information	No information	No information

### Reference

Egli, N., Pina, M., Skovbo Christensen, P., Aebi M. F. and Killias, M. (2009) '[Effects of drug substitution programs on offending among drug-addicts](#)', Campbell Systematic Reviews, 2009:3

## Review two

Quality of evidence			
Mechanism How it works	Moderator Where it works	Implementation How to do it	Economic cost What it costs
No information	 Moderate	 Moderate	No information

## Reference

- Perry, A. E., Neilson, M., Martyn-St James, M., Glanville, J. M., McCool, R., Duffy, S., Godfrey, C. and Hewitt, C. (2013) '[Pharmacological interventions for drug-using offenders](#)', Cochrane Database of Systematic Reviews 2013, Issue 12

## Summary prepared by

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