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Nugget 10.7

First randomised trial reinforces the case for needle exchange expansion

Findings Attempts to evaluate needle exchange by comparing attenders to non-attenders have been hampered by the risk that outcomes are due to differences between injectors who choose to use the services and those who do not. Now the first randomised trial has overcome this problem and helped answer a major question about needle exchange – whether it reduces risk behaviour at the cost of promoting injecting.

Reports 1 and 2 are from a study in Anchorage, Alaska, which randomly assigned 600 injectors¹ to training in how to buy needles and syringes from pharmacies² or to receive a card entitling them to use two local exchanges. The exchange group could also use pharmacies but the pharmacy group could not use the exchanges. Typically participants were single, male, unemployed cocaine injectors. For report **1**, six months later 422 reported how they had obtained equipment during that period. About a quarter who could have used the exchanges had done so but it was enough to increase the proportion who had used safe sources (ie, exchanges or pharmacies) to 33% compared to 21% in the pharmacy-only group.

Report **2** showed that this had occurred without increased injecting or drug use. At the six- and the 12-month follow-ups both groups had made roughly equal reductions in past-month injection frequency and in the proportions of urine tests showing recent cocaine or heroin use. Though statistically insignificant, such differences as there were favoured the exchange group, who reduced injection frequency more quickly and made greater reductions in cocaine use.

In context The weight of international evidence is that exchanges reduce infection risk behaviours and HIV spread, save far more money than they cost,^{3 4 5 6 7 8 9} and do so without increasing the number of injectors or the frequency with which they inject.^{10 11 12 13 14 15 16 17}

Randomisation makes the featured study a unique addition to this literature, convincingly confirming¹⁸ that in this case opening an exchange did not promote injecting or drug use. Another report has shown that among those who could use the two exchanges, those who actually did were far more likely to be very frequent injectors who had recently shared injecting equipment,¹⁹ demonstrating the ‘magnet effect’ which makes exchanges seem ineffective because they attract high risk injectors. However, the reports provide little direct evidence of risk reduction. There is no indication of the exchanges’ impact on syringe/needle sharing nor do we know how many who used the exchanges or pharmacies *also* used potentially contaminated equipment and how often. The gap of 12% in use of safe sources is not large, but given easy access to pharmacy supplies, a large value-added effect is not to be expected. This effect may have been constrained by strict one-for-one exchange, because the exchange group were not also trained to buy from pharmacies, and because the exchanges did not increase treatment uptake.^{20 21 22 23 24 25}

^{26 27}

Practice implications Rather than suggesting new policy directions, the study reinforces recommendations in official policy documents for increased access to needle exchange to curb hepatitis C and to reverse recent rises in syringe sharing – see *Additional reading*.^{28 29 30} Even more so than before, authorities can now support needle exchange in the knowledge that it does not promote drug use or injecting, that overall it reduces the risk of infection with blood-borne diseases, conserves health resources, and can be worthwhile even where pharmacies sell equipment to injectors. The key tasks are to increase the coverage of exchange services³¹ and to sensitively use their contacts with injectors to further promote risk reduction without alienating attendees – see *Hepatitis C and needle exchange*.

Featured studies 1 Fisher D.G. *et al.* “Injection drug users’ use of pharmacies for purchasing needles in Anchorage, Alaska.” *International Journal of Drug Policy*: 2003, 14(5–6), p. 381–387 **2** Fisher D.G. *et al.* “Needle exchange and injection drug use frequency: a randomized clinical trial.” *Journal of Acquired Immune Deficiency Syndromes*: 2003, 33(2), p. 199–205 Copies: apply DrugScope.

Additional reading 1 *Hepatitis C strategy for England*. Department of Health. Download from <http://www.dh.gov.uk> **2** Health Protection Agency [etc]. *Shooting up; infections among injecting drug users in the United Kingdom 2002*. 2003. Download from <http://www.hpa.org.uk>

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Links Nuggets **8.2 5.8 1.8 1.7** • Hepatitis C and needle exchange parts **one, two, three, four**

1 From 653 contacted and eligible for the study.

2 Legal in the area.

3 Gold M, *et al.* “Needle exchange programs: an economic evaluation of a local experience.” *Canadian Medical Association Journal*: 1997, 157, p. 255–262.

4 Laufer F. N. “Cost-effectiveness of syringe exchange as an HIV prevention strategy.” *Journal of Acquired Immune Deficiency Syndrome*: 2001, 28, p. 273–278.

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- 5 Lurie P. *et al.* "An economic analysis of needle exchange and pharmacy-based programs to increase sterile syringe availability for injection drug users." *Journal of Acquired Immune Deficiency Syndromes and Human Retrovirology*: 1998, 18(suppl. 1), p. S126–S132. Savings accrue only where the infection would otherwise be spreading by 2% a year.
- 6 Hurley S.F. *et al.*, eds. *An economic evaluation of aspects of the Australian HIV/AIDS strategies. Effectiveness of needle-exchange programmes for prevention of HIV infection*. Commonwealth Department of Health and Family Services, 1996. Cited in: Shiell A. *et al.* "The cost of hepatitis C and the cost-effectiveness of its prevention." *Health Policy*: 2001, 58, p. 121–131.
- 7 Health Outcomes International Pty Ltd in association with the National Centre for HIV Epidemiology and Clinical Research and Professor Michael Drummond, Centre of Health Economics, York University. *Return on investment in needle and syringe programs in Australia*. Australian Commonwealth Department of Health and Ageing, 2002.
- 8 Aitken C. *New Zealand needle and syringe exchange programme review. Final report*. Melbourne: Centre for Harm Reduction, 2002. 4.1 2728.
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- 11 Cross J.B. *et al.* "The effectiveness of educational and needle exchange programs: a meta-analysis of HIV prevention strategies for injecting drug users." *Quality & Quantity*: 1998, 32, p. 165–180.
- 12 Heimer R. "Syringe exchange programs: lowering the transmission of syringe-borne diseases and beyond." *Public Health Reports*: 1998, 113, suppl. 1, p. 67–74.
- 13 Hurley S.F. *et al.* "Effectiveness of needle-exchange programmes for prevention of HIV infection." *Lancet*: 1997, 349, p. 1797–1800.
- 14 Des Jarlais D.C. "Preventing HIV infection among injecting drug users: intuitive and counter-intuitive findings." *Applied and Preventive Psychology*: 1999, 8, p. 63–70.
- 15 Monterroso E.R. *et al.* "Prevention of HIV infection in street-recruited injection drug users." *Journal of Acquired Immune Deficiency Syndromes*: 2000, 25(1), p. 63–70.
- 16 Health Outcomes International Pty Ltd in association with the National Centre for HIV Epidemiology and Clinical Research and Professor Michael Drummond, Centre of Health Economics, York University. *Return on investment in needle and syringe programs in Australia*. Australian Commonwealth Department of Health and Ageing, 2002.
- 17 MacDonald M. *et al.* "Effectiveness of needle and syringe programmes for preventing HIV transmission." *International Journal of Drug Policy*: 2003, 14(5–6), p. 353–357.
- 18 Just 18% of randomised participants failed to complete one of the follow-ups, injection frequency was not divided into either/or categories but a continuous variable, and the urine test data was directly relevant to drug use.
- 19 Fisher D.G. *et al.* "Selection effect of needle exchange in Anchorage, Alaska." *Journal of Urban Health*: 2002, 79(1), p. 128–135.
- 20 Dolan K.A. *et al.* *A cohort study of syringe-exchange attenders and other drug injectors, 1989–1990*. Centre for Research on Drugs and Health Behaviour, 1992.
- 21 Dolan K.A. *et al.* "Reductions in HIV risk behaviour and stable HIV prevalence in syringe-exchange clients and other drug injectors in England." *Drug and Alcohol Review*: 1993, 12, p. 133–142.
- 22 Monterroso E.R. *et al.* "Prevention of HIV infection in street-recruited injection drug users." *Journal of Acquired Immune Deficiency Syndromes*: 2000, 25(1), p. 63–70.
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- 25 Normand J. *et al.*, eds. *Preventing HIV transmission. The role of sterile needles and bleach*. National Research Council and Institute of Medicine. National Academy Press, 1995.

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