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► [Reduction in overdose mortality after the opening of North America's first medically supervised safer injecting facility: a retrospective population-based study.](#)



Marshall B.D.L., Milloy M-J., Wood EB. et al. [Request reprint](#)
Lancet: 2011, 377(9775), p. 1429–1437.

The safer injecting facility in Vancouver prevented overdose deaths but only in areas nearest the service, suggesting that often several facilities will be needed to make a city-wide impact.

Summary High rates of overdose mortality in the 1990s led to the establishment of North America's first medically supervised safer injecting facility in Vancouver's Downtown Eastside, a district known for its large open drug market and well described HIV epidemic [on which see [this Findings analysis](#)]. The facility was located centrally in this district, with the aims of reducing public drug injection, decreasing overdose and risk of infectious disease transmission, and improving access to healthcare services.

Despite public health and community benefits, such facilities remain controversial. As opposed to the accounts of drug users themselves, some have argued that objective data is required to establish their impacts, in particular on overdose deaths. To address these concerns, drug-related overdose death rates at a [population level](#) were compared before and after the establishment of the facility in Vancouver.

Data for these analyses were derived from coroners' records. All deaths deemed to be caused by an [accidental illicit drug overdose](#) were eligible for inclusion in the analyses. All such deaths which occurred during 2001 to 2005 inclusive were reviewed, allowing until 2009 for proceedings to be completed. Postal codes were used to locate the death by area and by proximity to the safer injection facility. Census population data provided the area populations. For each area the death rate for a time period was calculated as the number of deaths in that period per 100,000 years of life or 'person-years' – effectively expressing the risk of someone dying of an overdose per year of life. The time periods of interest were from 1 January 2001 to 20 September 2003 (before the facility opened)

and 21 September 2003 to 31 December 2005 (during which it was operational).

Main findings

The key issue was whether relative to other areas of the city, the death rate fell (or at least, rose less steeply) in the areas nearest the safer injecting facility and over which it had the greatest influence. Surveys had shown that over 70% of daily visitors lived within four blocks (ie, 500m) of the facility, so these nearby areas were deemed to be those which should have seen a relative reduction in overdose death rates after the facility opened.


Over the five years of the study, 290 accidental illicit drug overdoses occurred within the city, 10.4 per 100,000 person-years. Deaths were concentrated in Downtown Eastside where the facility was located. After it opened the death rate in the nearest areas fell 35% from 254 to 165 per 100,000 person-years, a statistically significant fall. By contrast, in the rest of the city the fatal overdose rate decreased by just 9% from 7.6 to 6.9 per 100,000 person-years – not statistically significant and significantly less than in areas adjacent to the facility, the key finding suggesting that opening the facility had reduced the overdose death rate in its main catchment areas.

This analysis was supplemented by another which related the death rate to an area's distance from the facility. It suggested that the impact on death rates was largely limited to areas whose centres were within 500m of the facility and negligible in areas beyond 1km.

The authors' conclusions

Overdose mortality was reduced after the opening of a safer injection facility, evidenced by a 35% reduction in the death rate nearby compared to 9% elsewhere in the city. These and other findings indicate that such facilities are safe and effective public health interventions, and should be considered in settings with a high burden of injecting-related overdose. The fact that there were no significant reductions in overdose mortality further than 500m from the facility is not surprising, since over 70% of frequent users of the service live in the nearest four blocks. Although the facility operates at capacity, it is a pilot programme with only 12 injection seats in a neighbourhood with about 5000 drug injectors. Studies have shown that waiting times and travel distance to the facility are barriers to its use, suggesting that larger reductions in overdose mortality would probably require greater coverage of the city by this or similar facilities.

The findings cannot be explained by any significant changes in drug supply or purity, drug use patterns, policing, access to methadone maintenance therapy, the nature of the neighbourhoods, or by the movement of injectors between areas. While other possibly influential factors cannot be excluded, these will probably also have affected the rest of the city, so will have been controlled for by comparing trends in the vicinity of the facility with those elsewhere.

 For any public health measure, sufficient 'coverage' is crucial to having an effect across a population. In turn this raises the issue of the circumstances in which not just one, but if necessary several injecting facilities will be acceptable to city and national politicians and to local residents and businesses.

From a chart in the featured report it seems that the reduction in fatal overdoses

attributed to the opening of the safer injecting facility was largely apparent in the two nearest census tracts, whose centres were within about 400m of the service. Of the next three nearest tracts, the reduction in one was near the average for the rest of the city while in the other two the overdose rate actually increased, highlighting the very localised nature of the reach of such services.

Though individuals who might otherwise have died have been saved, even within the neighbourhood, the effect of a single small and limited facility may (as in [Sydney](#) in Australia) not be noticeable at the population level. In [Germany](#) a study found reductions in drug-related deaths relative to the national average in four cities which opened drug consumption rooms, but in two of the cities this occurred only after the opening of a third or fourth facility. In larger cities, only the opening of several conveniently located facilities with suitable opening hours and sufficient capacity [can be expected](#) to noticeably dent the death rate. The same limitation applies to their longer term lifesaving impact via [reductions](#) in the sharing of injecting equipment which transmit infectious diseases such as HIV.

However, in one sense localised impact is a virtue because it means there is only a limited '[honeypot effect](#)'; relatively few injectors travel any distance to use such facilities, so the locality does not suffer from an even greater concentration of drug dealing and use which might threaten support for the facilities' continued operation.

In Vancouver the acceptability of the facility was aided by the highly visible and to local residents and workers, distressing and objectionable prevalence of public injecting and injecting-related litter. Both these it [helped reduce](#), consolidating public support.

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