

Take-home naloxone should be an additional standard of care for prevention of heroin overdose deaths

Death from opioid overdose is preventable through timely administration of the antidote naloxone. Several countries now provide take-home naloxone (THN) to opioid users for emergency use, but mostly as pilot schemes and without formal evaluation. A new study published today by the scientific journal *Addiction* found that take-home naloxone programs reduce overdose mortality and have a low rate of adverse events. The study recommends take-home naloxone as a new standard of care for prevention of heroin overdose deaths.

The study estimates that naloxone successfully reversed heroin overdose in 96 to 99% of cases. The study also found no empirical evidence that THN programs encourage heroin use.

The evaluation of THN programs is challenging: randomized controlled trials are often considered the gold standard of scientific study, but conducting trials for THN would often be unethical and fraught with difficulties given the infrequency and unpredictability of overdose.

To get around that problem, this study used the Bradford Hill criteria: a standard tool for assessing the impact of broad-based public health interventions where it is ethically not feasible or operationally impractical to conduct randomized controlled trials. The Bradford-Hill criteria were devised in 1965 by British epidemiologist and statistician Sir Austin Bradford Hill to assess causality when only correlational data are available.

The application of the Bradford Hill criteria to the current evidence base from non-randomized studies found that THN programs have improved survival rates among program participants and reduced heroin overdose mortality rates in the community, with a low rate of adverse events.

Co-author Professor John Strang, Head of the National Addiction Centre at King's College London, said: "This study is the first to assess the international evidence-base on take-home naloxone, and we found that the antidote successfully reversed overdose in the large majority of cases where the drug was administered.

"These findings strongly support the distribution of take-home naloxone to carers, drug users and their friends and families to prevent deaths from heroin overdose."

Professor Strang added: "The vast majority of studies included in this review reported on heroin overdoses, so future research will need to examine the impact of take-home naloxone for overdoses from long-acting opioids, such as methadone or prescription opioid medications."

The study, conducted by researchers at the National Addiction Centre at King's College London, used data from 22 observational studies of THN programs in the USA, Canada, UK and Germany. The number of participants in each study averaged 203, ranging from 24 to 2,912.

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utilizing application of the Bradford Hill criteria. *Addiction*, [doi:10.1111/add.13326](https://doi.org/10.1111/add.13326)

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