EDITORIAL

Take-home naloxone provision cuts opioid overdose deaths

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TAKE-HOME NALOXONE PROGRAMMES SIGNIFICANTLY REDUCE FATAL OUTCOMES OF opioid overdose, a systematic review has found.[1]

In these programmes illicit opioid injectors, their peers, friends, relatives and carers are provided with overdose management training together with naloxone kits for emergency injection if someone they are with is suspected of having symptoms of opioid overdose, with a view to preventing death.

The investigators, from the National Addiction Centre, London, carried out a systematic literature review of take-home naloxone programmes to study the impact of take-home naloxone on overdose-related mortality. They also assessed the safety of take-home naloxone and any related adverse events.

PubMed, MEDLINE and PsychINFO were searched for relevant papers published in English language peer-reviewed journals. Data were evaluated using the widely recognised Bradford Hill criteria, a tool devised to assess a potential causal relationship between public health interventions and clinical outcomes when only observational data are available. There was a supplementary analysis using a further five criteria described by the WHO.

Overall, 22 observational studies met the researchers' eligibility criteria. In 21 out of the 22, provision of naloxone was followed by administration to reverse opioid overdose. After exclusions because of possible duplication of samples, 2,336 take-home naloxone administrations, across 17 studies, were included in the analysis.

Because of the variability of the included studies, the authors elected to perform a narrative synthesis of the data rather than a meta-analysis.

There were at least 2,249 successful overdose reversals among 2,336 take-home naloxone administrations: 96.3% (95% CI: 95.5-97.1%).

In each study included in the review take-home naloxone met all nine Bradford Hill criteria, strongly supporting a causal association between take-home naloxone programmes and reductions in opioid overdose-related deaths. With regard to the five additional WHO criteria assessing feasibility and implementation, take-home naloxone fully or partially met all five criteria.

Take-home naloxone programmes were also found to have a very low rate of adverse events, and when reactions were reported, they were most frequently symptoms of opioid withdrawal, an inevitable consequence of naloxone administration in an overdose situation. Analysis of adverse effects associated with take-home naloxone programmes must include consideration of the life-threatening emergency in which naloxone was administered.

> **'We conclude that take-home naloxone distribution to at-risk users should be introduced as standard of care'**

The authors quoted separate modelling data showing that there is consistent evidence for the cost effectiveness of take-home naloxone programmes.

Figures from the Office for National Statistics, published earlier this year, show a steep rise in drug-related deaths, with deaths involving heroin and/or morphine (the most commonly mentioned opiates) doubling between 2012 and 2015 in England and Wales, from 579 to 1,201.[2] The mortality rate last year was the highest since records began in 1993.

The authors of this systematic review state: 'In the absence of RCTs, we conclude that take-home naloxone distribution to at-risk users should be introduced as standard of care for the community-based prevention of heroin overdose deaths.'

REFERENCES
1 McDonald R, Strang J. Are take-home naloxone programmes effective? Systematic review utilizing application of the Bradford Hill criteria. *Addiction* 2016;111:1177-87
2 Office for National Statistics. Deaths related to drug poisoning in England and Wales: 2015 registrations. 2016. https://www.ons.gov.uk/releases/

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