Naloxone programme to prevent overdose deaths in Estonia

Summary

Objectives: To evaluate the effectiveness, cost-effectiveness and budget impact of naloxone programme for prevention of opioid-related overdose deaths in Estonia.

Methods: Literature reviews for evidence on effectiveness and cost-effectiveness were carried out in the PubMed database in August to November 2014. Studies were selected using predefined selection criteria. For effectiveness, 9 articles from the reference list met the inclusion criteria. In addition, 4 articles were found through hand search. For cost-effectiveness, 2 studies plus 1 conference paper met the criteria and were included in the report.

A Markov cohort model was used to estimate the cost-effectiveness of naloxone distribution compared to no distribution scenario. In the base-case scenario, a hypothetical cohort of 10,000 injecting drug users was followed for one year. Data for input parameters and ranges was obtained from published literature and expert estimates. The cost-effectiveness findings of naloxone distribution programme were expressed in terms of averted overdose deaths in one year using incremental cost-effectiveness ratio (ICER).

Results: The literature review shows that very few studies have examined the impact of naloxone distribution on overdose-related mortality. Despite of the methodological limitations, the current studies suggest that naloxone distribution programmes may be effective in preventing deaths attributable to opioid overdose. There are also few studies examining the cost-effectiveness of naloxone distribution. Available research evidence has suggested that naloxone programmes are cost-effective.

The results of cost-effectiveness analysis showed that Estonian naloxone distribution programme would prevent 20 opioid-related overdose deaths in a year compared to no distribution. In the base-case scenario, ICER was €3,083 per one prevented death. In the sensitivity analysis, ICER ranged from €2,055 to €5,605 per one prevented death, most influenced by the likelihood of surviving an overdose without medical assistance or lay naloxone. In budget impact analysis, the total cost of naloxone programme is approximately €62,756.

Conclusions: There is very little evidence to determine the effectiveness of naloxone distribution programmes in reducing fatal overdoses. However, based on evidence from published studies and cost-effectiveness analysis, naloxone distribution has the potential to prevent opioid overdose mortality.

Citation: Männisalu A, Nikitina N, Võrno T, Reile R. Naloksooniprogramm üledoosidest põhjustatud surmade ennetamiseks. Tartu: Tartu Ülikooli tervishoiu instituut; 2015.