Assessing the impact and cost-effectiveness of needle and syringe provision and opioid substitution therapy on hepatitis C transmission among people who inject drugs in the UK: an analysis of pooled data sets and economic modelling

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Almost half of people who inject drugs (PWID) have the hepatitis C virus (HCV), so preventing transmission is crucial to reduce inequalities in health. The provision of clean injecting equipment through needle and syringe programmes (NSPs) and opioid substitution therapy (OST) are the primary interventions by which to reduce HCV infection among PWID in the UK. We undertook a study to assess how effective both interventions are in preventing new cases of HCV infection and to examine the cost-effectiveness (i.e. value for money) of NSPs. To estimate effectiveness, we conducted a review of international evidence and analysed existing data that measure service use and HCV infection. We collected data on the costs of running NSPs. We applied findings to mathematical models to estimate the effect on the spread of HCV infection if we withdrew or increased the interventions, and assessed how cost-effective they are. Use of OST reduces the chances of being infected with HCV infection by 37–60%, having a clean needle or syringe for each injection reduces the chance of infection by 20–76%, and OST and having a clean needle or syringe in combination reduces the chance of infection by 35–87%. We found NSPs to be cost-effective and money saving in many settings: maintaining services could save up to £5.4M in HCV infection treatment costs, as well as improving quality of life. Findings from the mathematical modelling predict that removing either or both NSPs and OST would result in an increase in HCV infections over the next 15 years. Increasing participation in NSPs in line with OST could reduce new HCV infections by half.
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