Using Incentives to Improve Health-related Behaviours: A Review of Incentive-based Trials

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**Background**
- Positive changes in health-related behaviours may help to reduce the risk of illness and hence the burden of preventable disease.
- Interventions that successfully promote healthier behaviours are therefore beneficial both for individuals and healthcare systems.
- Incentive-based interventions aim to improve health outcomes by rewarding individuals for specific health-related behaviours such as exercise, medication adherence or smoking cessation.
- To assess the feasibility and effectiveness of such interventions, incentive-based trials targeting a variety of health-related behaviours have been conducted across different geographical regions.

**Objective**
- To review the characteristics of recent and ongoing incentive-based trials, with a focus on incentives targeting behaviours in relation to lifestyle (diet, physical activity and weight management), HIV/AIDS-related behaviours and smoking cessation.

**Methods**
**ClinicalTrials.gov Search**
- A preliminary search of ClinicalTrials.gov was performed to scope currently active incentive-based trials. A targeted search was conducted for these areas in PubMed.
- Targeted searches were then conducted for the target areas of interest, respectively.

**PubMed Searches**
- PubMed was searched for incentive-based trials published in the English language in the last 5 years, by combining terms for the following topics:
  - Diet, physical activity and weight management
  - HIV/AIDS-related behaviours
  - Smoking cessation

- Studies were selected for inclusion if they presented primary research conducted in humans, and investigated the effectiveness of incentives in modifying behaviour in relation to a topic of interest.

**Results**
- Of the 1,492 PubMed search results, 121 met the pre-specified inclusion criteria: 46 were related to diet, physical activity and weight management, 19 were related to HIV/AIDS-related behaviours and 56 were related to smoking cessation.
- Examples of the positive behavioural changes assessed in each target area are presented in Table 1.

**Discussion**
- The relatively high prevalence of incentive-based trials in North America, particularly the USA, is likely a reflection of the particular public health problems and state of economic development in this region. The greater number of African-based trials in HIV/AIDS-related behaviours relative to other target areas is likely to be reflective of the prevalence of HIV/AIDS in this region.
- Financial and voucher-based incentives were the most commonly used rewards across all target areas. It is possible that these may be particularly effective at targeting low-income groups, where financial barriers may exist to attaining improved health outcomes.
- The majority of the studies had a relatively short duration, with very few reporting outcomes for >1 year. As such, the evidence suggests that incentives may be effective in the short term, but there is a lack of evidence for their effectiveness over longer periods of time.
- Publication bias, in which positive trial results are more likely to be reported, may have inflated the proportion of included trials that reported successful incentive-based interventions. The reporting of negative trial results is important in order to avoid unnecessary expenditure in target areas where incentives are ineffective.

**Conclusion**
- Although a number of studies were identified across different health-related behaviours and geographical regions, further research is needed to assess the feasibility and effectiveness of incentive-based interventions. For example, few studies compared the effectiveness of different types of intervention, or assessed whether improved outcomes were sustained in the long term (eg. >1 year).
- Studies investigating the cost-effectiveness of incentive-based interventions were not considered here; however, given the reliance on financial rewards as incentives and the potential long-term benefits of successful interventions to healthcare systems, such studies are required to assess the overall impact and feasibility of incentive-based interventions.