The cost-effectiveness of HIV prevention targeting: how much more bang for the buck?

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Record Status
This is a critical abstract of an economic evaluation that meets the criteria for inclusion on NHS EED. Each abstract contains a brief summary of the methods, the results and conclusions followed by a detailed critical assessment on the reliability of the study and the conclusions drawn.

Health technology
HIV prevention targeting.

Type of intervention
Primary Prevention.

Economic study type
Cost-effectiveness analysis.

Study population
The analysis uses nine "target population scenarios". Each of these corresponded to real populations, which were defined by a combination of demographic, behavioural and geographic criteria.

Setting
Community, USA.

Dates to which data relate
Effectiveness data were, in part, based on studies published between 1992 and 1995. Cost data were based on studies published between 1992 and 1996. It was not stated to which years prices refer.

Source of effectiveness data
The estimate for the effectiveness of prevention was taken from previous reviews and assumptions.

Modelling
An HIV epidemic model was used to determine the impact of HIV prevention targeting.

Methods used to derive estimates of effectiveness
The author's assumptions were in part based on previous reviews of the literature.

Estimates of effectiveness and key assumptions
The author defined 9 target populations and the prevalence and incidence of HIV for each, using data from previously published articles. He then assumed that interventions would reduce the frequency of risk behaviours in each group by 10%, since 3 previous reviews suggested that the figure was between 10% and 50%.
Measure of benefits used in the economic analysis
The number of HIV infections averted.

Direct costs
The cost perspective was that of the health service. The analysis assumed an annual cost of $200 per person, which included testing and counselling. This estimate was based on previously published data over the period 1992 -1996.

Currency
US dollars ($).

Sensitivity analysis
The estimate of effectiveness was varied from 10% to 50% reduction in risk behaviour and the cost data was halved in the sensitivity analysis.

Estimated benefits used in the economic analysis
Prevention reduces risk behaviour by 10%.

Cost results
A cost of $200 per patient.

Synthesis of costs and benefits
The number of HIV infections averted, over 5 years and 20 years, with $1 million to spend on prevention targeting was calculated. Over 5 years the number of HIV infections averted ranged across the 9 target population scenarios, from 164 in the high-risk steady state group to 0.4 in the very low-risk, steady state group. Over 20 years these figures were between three and nine times as high. If the reduction in the frequency of risk behaviour was 50% the number of infections averted in the high risk steady state, over 5 years,increased to 830. Over 20 years it rose to 3750. In the very low-risk steady state target group, the number of infections averted over 5 years was 2 and over 20 years it was 9. If prevention was half as expensive, then twice as many infections would have been averted. For prevention to avert as many infections in low-risk steady state groups, as in high-risk steady state, the cost of intervention would have had to fall to $5 per person. To be comparable with other low-risk groups the annual cost would have had to fall to $1.

Authors' conclusions
Targeting high-risk groups provides substantial benefits.

CRD Commentary
The estimates of effectiveness were based on the author's assumptions which were derived from reviews but the reliability is not known. The assumption of equal efficacy in each risk group was not justified. The author could have provided more information on how cost information was arrived at. More information could have been provided on the sensitivity analysis of costs and benefits and the methodology used.

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