Cost-effectiveness comparison of breast cancer screening and vascular event primary prevention with aspirin in Wales

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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.

CRD summary
This study assessed the cost-effectiveness of a health education programme plus aspirin for the primary prevention of vascular events in the general population aged 50 years or older, and compared this with the cost-effectiveness of breast cancer screening. The results supported the implementation of an education programme that clearly presented the benefits and risks of aspirin. The analysis was simple, with some methodological limitations, and some evidence sources were not described. Caution is required when interpreting the conclusions.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study assessed the cost-effectiveness of a health education programme plus aspirin for the primary prevention of vascular events in the general population aged 50 years or older, and compared this with the cost-effectiveness of breast cancer screening.

Interventions
The lives saved and costs of breast cancer screening, compared with no intervention, were compared with those of a health education programme with aspirin to prevent a first vascular event, compared with no intervention.

Location/setting
UK/primary care.

Methods
Analytical approach:
The analysis was based on evidence from many sources. The author did not state the perspective adopted.

Effectiveness data:
The clinical data for both interventions were from Welsh databases and selected published sources. The effect of the interventions in lives saved was the main endpoint of the analysis.

Monetary benefit and utility valuations:
Not considered.

Measure of benefit:
The number of lives saved was the summary benefit measure.

Cost data:
The economic analysis included the costs of screening and an education leaflet and its distribution to those over 50 years old. The cost items were not listed nor presented separately from the quantities of resources. The cost of breast cancer screening was from Welsh and UK screening service websites, while the cost of the education programme was from a publication for Wales. It was assumed that aspirin was purchased by the individuals. The costs were in UK pounds sterling (£).

Analysis of uncertainty:
Ranges of values for the costs and effects were assessed.

Results
In the whole eligible population, the number of lives saved ranged from 50 to 500 with breast cancer screening and was 10 with the prevention programme. The total costs ranged from £32,000,000 to £64,000,000 for breast cancer screening and from £500,000 to £1,000,000 for prevention.

The average cost per life saved ranged from £6,000 to £130,000 for breast cancer screening and from £50,000 to £100,000 for vascular event prevention. These ranges of cost-effectiveness ratios overlapped, suggesting that the interventions were similarly cost-effective.

Authors' conclusions
The author concluded that these results supported the implementation of a health education programme that clearly presented the benefits and risks of aspirin. The author recommended further studies to investigate the economic and health impact of the existing use of aspirin in the community.

CRD commentary
Interventions:
The author justified the selection of the comparators; breast cancer and vascular events have different pathologies that affect different individuals in different ways, but the proposed education programme was compared against a well-established screening programme.

Effectiveness/benefits:
The clinical inputs were from published evidence, which was not described, limiting the possibility of judging their validity. The author stated that Welsh data were used, wherever possible. Ranges of values were reported, but it was unclear whether the clinical inputs were varied in a sensitivity analysis. The author justified the use of lives saved as the summary benefit measure because it was a common endpoint for the two different interventions, but morbidity and adverse events might have been important for the assessment of the benefits and risks of aspirin.

Costs:
The economic analysis was not extensively presented. The perspective was not stated, but appears to have been that of the UK NHS. The time horizon, a breakdown of costs, the unit costs, and the quantities of resources were not reported. The data sources were referenced or stated, but were not described. The price year was not reported, hindering reflation exercises. Ranges of values for the cost estimates were reported, but no sensitivity analysis was reported.

Analysis and results:
The results were clearly reported. Average cost-effectiveness ratios were calculated. The uncertainty was not explicitly investigated, but ranges of values from the literature were considered. The results appear to be specific to Wales and their transferability was not discussed. It was unclear whether a model was used to estimate the cost-effectiveness for the two interventions. In general, the information on the data sources and methods was limited.

Concluding remarks:
This study used a simplified cost-effectiveness framework, with some methodological limitations, and some sources of evidence were not described. Caution is required when interpreting the author's conclusions.

Funding
Not stated.

Bibliographic details