Cost-effectiveness of colorectal cancer screening in renal transplant recipients
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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
The aim was to assess the cost-effectiveness of colorectal cancer screening, with annual immunochemical faecal occult blood testing (IFOBT), in renal transplant recipients. The authors concluded that IFOBT was cost-effective, under the most favourable conditions. They also stated that future research was needed into the uncertainty in the model, to confirm these results. The methodology appears to have been appropriate and, on the whole, was clearly and transparently reported. The conclusions reached by the authors appear to be appropriate.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
The aim was to assess the cost-effectiveness of colorectal cancer screening, with annual immunochemical faecal occult blood testing (IFOBT), in renal transplant recipients.

Interventions
The annual IFOBT screening was compared with no screening for colorectal cancer in renal transplant recipients aged between 50 and 70 years.

Location/setting
Australia/primary care.

Methods
Analytical approach:
A Markov model was developed to determine the costs and benefits of the alternative strategies. A time horizon of 20 years was considered. The authors stated that the perspective of the health care system was adopted.

Effectiveness data:
A literature search was conducted in order to identify the estimates for the transition probabilities. The data on colorectal cancer prevalence were derived from the Australia and New Zealand registry. The relevant mortalities were collected from publicly available sources in Australia.

Monetary benefit and utility valuations:
None.

Measure of benefit:
The summary benefit measure was the number of life-years (LYs) gained with the screening strategies, which was defined as the years of deaths averted. The future health benefits were discounted at an annual rate of 5%.

Cost data:
The economic analysis included the costs of screening and treatment for colorectal cancer. The cost data were collected from various sources, including government data and published literature. Future costs were discounted at an annual rate of 5%. All costs were in Australian dollars (AUD) and were adjusted to the 2004 price year using the medical component of the consumer price index.

Analysis of uncertainty:
The issue of uncertainty was addressed by carrying out extensive one-way and two-way sensitivity analyses, and scenario analyses.

Results
The base-case analysis indicated a total cost of AUD 5,076 for screening and AUD 3,606 for non-screening. The total benefits were 7.917 LYS for screening and 7.851 LYS for no screening. The incremental cost per LY gained with the screening was AUD 22,309.

The sensitivity analyses demonstrated that these results were most sensitive to the prevalence of disease, test specificities, and the participation rate.

Authors' conclusions
The authors concluded that IFOBT was cost-effective in renal transplant recipients, under the most favourable conditions. They also stated that future research was needed into the uncertainties in the model estimates, in order to confirm their results.

CRD commentary
Interventions:
: The interventions were clearly reported.

Effectiveness/benefits:
: The effectiveness data were derived from published studies, but no systematic search of the literature was reported. Although the sources of the literature were provided neither the methods used to identify the primary studies nor the inclusion criteria were reported. Therefore it is difficult to ascertain if the best available evidence was used. The use of life years gained as the benefit measure was appropriate as it captured the most relevant dimensions of health for the disease.

Costs:
: The analysis of the costs was consistent with the authors' stated perspective. The sources of the cost data were reported, but information on resource consumption was limited as the costs were reported at aggregate level and a breakdown of the cost items was not provided. Other details such as the price year and discount rate were reported, which will assist in replicating the analysis for other time periods.

Analysis and results:
: The model structure was presented graphically along with all the relevant details and modelling assumptions. The authors conducted an incremental analysis and the results were adequately presented. Sensitivity analyses were conducted on the modelling assumptions and parameters, enhancing the generalisability of the study findings. The authors provided a thorough discussion on the limitations and weaknesses of their study.

Concluding remarks:
: The methodology of the study appears to have been appropriate and, on the whole, was clearly and transparently reported. The conclusions reached by the authors appear to be appropriate.

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Other publications of related interest


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