Costs and effectiveness of routine therapy with long-term beta-adrenergic antagonists after acute myocardial infarction

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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
Beta-adrenergic therapy.

Type of intervention
Secondary prevention.

Economic study type
Cost-effectiveness analysis.

Study population
Low-risk group, men aged 45, 55 or 65 years; medium-risk group, men aged 45, 55 or 65 years; high-risk group men aged 45, 55 or 65 years.

Setting
The study was carried out in the USA.

Dates to which data relate

Source of effectiveness data
Informal meta-analysis of RCTs.

Study design
Informal meta-analysis of RCTs.

Modelling
Epidemiological cohort model (model of survival and disease).

Measure of benefits used in the economic analysis
Life years gained.

Direct costs
Direct costs were to the health service and were the cost of the drug. Price information related to 1987.
Currency
US dollars ($). In the DH Register of Cost-effectiveness Studies, the original results were converted to UK pounds sterling (£) using GDP purchasing power parities and reflated to 1991 using the NHS pay and prices index.

Sensitivity analysis
Sensitivity analysis was carried out using the method of single parameter variation.

Synthesis of costs and benefits
Outcome duration was life long. Intervention and comparator costs duration were life long. Incremental cost per life-year gained with beta-adrenergic therapy to prevent recurrence of myocardial infarction (costs and benefits discounted at 5%) for: low-risk group, men aged 45 was 10034; low-risk group, men aged 55 was 10200; low-risk group, men aged 65 was 10593; medium-risk group, men aged 45 was 2784; medium-risk group, men aged 55 was 2824; medium-risk group, men aged 65 was 2917; high-risk group, men aged 45 was 1816; high-risk group, men aged 55 was 1840 and; high-risk group, men aged 65 was 1894.

The range of incremental cost per life year with treatment with beta-adrenergic therapy to prevent recurrence of myocardial infarction (costs and benefits discounted at 5%) for: low-risk group, men aged 45 was 10034 (baseline), highest value 18310; low-risk group, men aged 55 was 10200 (baseline), highest value 18301; low-risk group, men aged 65 was 10593 (baseline), highest value 18278; medium-risk group, men aged 45 was 2784 (baseline), highest value 4598; medium-risk group, men aged 55 was 2824 (baseline), highest value 4593; medium-risk group, men aged 65 was 2917 (baseline), highest value 4583; high-risk group, men aged 45 was 1816 (baseline), highest value 2828; high-risk group, men aged 55 was 1840 (baseline), highest value 2825 and; high-risk group, men aged 65 was 1894 (baseline), lowest value negative, and highest value 2817.

Sensitive parameters were duration of increased survival.

CRD Commentary
(This commentary was not written by CRD, but by the authors of the DH Register.)
1) Side-effects of therapy are not included. 2) Study inclusion criteria for the pooled estimates of efficacy are not fully known. 3) The unstratified estimates have been applied to different risk groups. 4) The validity of the pooled estimates is uncertain. 5) The authors make the conservative assumption of not including cost-savings due to reduced CHD disease, these will be offset by costs of complications and extra health costs due to increased survival.

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