Cholesterol, children, and heart disease: an analysis of alternatives

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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
Dietary counselling and education programmes to reduce serum cholesterol in children.

Type of intervention
Primary prevention.

Economic study type
Cost-effectiveness analysis.

Study population
10 year old males and females.

Setting
The study was carried out in the USA.

Dates to which data relate
Price related to 1975.

Source of effectiveness data
Review of published studies.

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 for universal and targeted screening these were screening and intervention counselling); for school education they were the school education program and for mass media education they were the mass media programme. Price information relates to 1975.

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**
Incremental cost per life year for: Universal screening of serum cholesterol in 10 year old males: dietary counselling for 4.01% of all 10 year olds was 19300 (costs and benefits discounted at 5%), and 1760 (costs discounted at 5%, benefits not discounted); for universal screening of serum cholesterol in 10 year old females: dietary counselling 2.90% of all 10 year olds was 16900 (costs and benefits discounted at 5%), and 1130 (costs discounted at 5%, benefits not discounted); for targeted screening of serum cholesterol in 10 year old males (family history): dietary counselling for 0.6% of all 10 year olds was 12200 (costs and benefits discounted at 5%); for targeted screening of serum cholesterol in 10 year old females (family history): dietary counselling for 0.46% of all 10 yr olds was 14000 (costs and benefits discounted at 5%); for school education to reduce serum cholesterol effect on a cohort of 10 year olds was 10400 (costs and benefits discounted at 5%) and for mass media education to reduce serum cholesterol effect on a cohort of 10 year olds was 5800 (costs and benefits discounted at 5%).

**CRD Commentary**
(This commentary was not written by CRD but by the authors of the DH Register).

1) Quality of life effects, pertinent to screening programmes, are not included. 2) Other health costs e.g. CAD related surgery could be included, however discounting would be expected to make the impact of these costs small. 3) Benefits from serum cholesterol reduction are estimated from observational data relating to adults rather than intervention data starting at age ten. 4) The paper reports separate C/E ratios for boys and girls. Since these are similar they have been combined assuming a 1:1 boy-girl ratio. 5) The parameters investigated by the sensitivity analysis were not adequately justified.

**Bibliographic details**

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**Indexing Status**
Subject indexing assigned by NLM

**MeSH**
Adult; Child; Child, Preschool; Cholesterol /blood; Cholesterol, Dietary /adverse effects; Cost-Benefit Analysis; Heart Diseases /etiology /prevention & control; Humans; Male; Mass Screening /economics; Surveys and Questionnaires

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