The impact of maternal age on the cost effectiveness of Down's syndrome screening

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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
Down's syndrome screening.

Type of intervention
Screening.

Economic study type
Cost-effectiveness analysis.

Study population
Pregnant women between 15 and 50 years old.

Setting
The setting was not specified. Screening was probably performed in the primary care setting. The study was carried out in the UK.

Dates to which data relate
The effectiveness data were taken from a study published in 1992 and price data seem to have been derived from a study published in 1992.

Source of effectiveness data
Effectiveness data were based on a single study. (Cuckle, 1992).

Link between effectiveness and cost data
Costing was not performed on the same sample as that used in the effectiveness study. Costing was undertaken retrospectively.

Study sample
Not stated.

Study design
Not stated.

Analysis of effectiveness
The sensitivity of test detection rate (true positive and false positive rate) was considered as effectiveness data. The final health outcomes were the number of affected pregnancies detected.

**Effectiveness results**
The detection rate of positive cases was 0.375, and the false negative rate was 0.026 at age 25 years. The detection rate varied between 0.348 at age 15 and 0.998 at age 50 and the false positive rate varied between 0.021 at age 15 and 0.938 at age 50 years.

**Clinical conclusions**
The detection rate and false positive rate of the biochemical screening test increased with age given a risk cut-off point of 1:250.

**Measure of benefits used in the economic analysis**
The number of early diagnoses of Down's syndrome (genetic malformation).

**Direct costs**
The study used the direct medical costs of two types of screening test.

**Statistical analysis of costs**
No statistical analysis was performed.

**Currency**
UK pounds sterling ()

**Sensitivity analysis**
No sensitivity analysis was performed.

**Estimated benefits used in the economic analysis**
The number of affected pregnancies detected.

**Cost results**
The cost of the biomedical test was 15, and the cost of an amniocentesis was 150. 1992 prices seem to have been used.

**Synthesis of costs and benefits**
The cost per affected pregnancy detected varied between 82,390 and 789 at age 15 and 50 respectively.

**Authors' conclusions**
Altering the cut-off point for older women and using resources saved by not screening younger women would detect more affected pregnancies with the same amount of screening resources.

**CRD Commentary**
This is generally a good quality study. However the analysis could have been more complete had it taken into account a wider range of health outcomes and costs such as the possible adverse effects of amniocenteses. More information on
the study from which primary health outcome data were derived and sensitivity analysis of the costs would also have been useful.

**Implications of the study**
The future cost-effectiveness evaluation of Down's syndrome screening should report the age-specific cost-effectiveness values.

**Source of funding**
None stated.

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