The social costs of inadequate contraception
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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
Contraceptive methods.

Type of intervention
Primary prevention.

Economic study type
Cost-effectiveness analysis

Study population
Hypothetical cohort of sexually active women of reproductive age who were eligible for social programs.

Setting
Primary care/hospital. The economic study was carried out in the United States.

Dates to which data relate
Effectiveness data were derived from studies published between 1979 and 1994. Costs related to 1993.

Source of effectiveness data
Effectiveness data was adopted from the study by Trussell et al (1995) which included a synthesis of studies.(This record is included in the NHS Economic Evaluation Database).

Outcomes assessed in the review
Failure rates.

Study designs and other criteria for inclusion in the review
Long-term clinical trials, other prospective studies, a review and data on soft marketed capsules were used.

Sources searched to identify primary studies
Not stated.

Criteria used to ensure the validity of primary studies
Not stated.
Methods used to judge relevance and validity, and for extracting data
Not stated.

Number of primary studies included
Four clinical trials, one not unspecified prospective study and a review.

Methods of combining primary studies
Not specified.

Investigation of differences between primary studies
Where applicable, these were not investigated.

Results of the review
The failure rates were as follows:

tubal ligation 0.17%;
oral contraceptives 3%;
implant 0.32%;
injectable contraceptive 0.30%;
Copper-T IUD 0.42%;
diaphragm 18%;
male condom 12%;
no method 85%.

Measure of benefits used in the economic analysis
Failure rates were measured as health benefits.

Direct costs
Direct costs and quantities were not reported separately. Direct costs of the different contraceptive methods were estimated as purchase prices to public health clinics negotiated by a large metropolitan family planning purchasing agent. The cost of tubal ligation represented the California Medicaid payment for this treatment. 1993 prices were used. Social costs were calculated as expenditures on four social programmes, namely: Aid to Families with Dependent Children; Special Supplemental Food Program for Women, Infants, and Children; Food Stamp Program; and Medicaid. Participation rates in these programmes were estimated for the first 5 years after the birth of the child by applying multiple-spell analyses (anyone still on the rolls at year's end were counted as having been in the programme all year).

Marginal social costs were calculated for two family types. Marginal cost represented social benefits received by the mother and the baby in the case of the two-member family type, and social benefits received by the baby in the case of the three-member family type. Costs were calculated for both 1 year period and 5 year period of time. 1993 prices have been used.

Currency
US dollars ($).

**Sensitivity analysis**
One-way sensitivity analyses were carried out on the participation rates in the social programmes, contraceptive method acquisition costs, and method failure rates to test the rank ordering of contraceptive methods by their total societal costs.

**Estimated benefits used in the economic analysis**
The failure rates were as follows:

- tubal ligation 0.17%;
- oral contraceptives 3%;
- implant 0.32%;
- injectable contraceptive 0.30%;
- Copper-T IUD 0.42%;
- diaphragm 18%;
- male condom 12%;
- no method 85%.

**Cost results**
The total cost at 5 years of no method is $13,396 in Model 1 (mother and child) and $8,988 in Model 2 (child only). The total savings at 5 years when applying contraceptive methods compared to no methods were reported:

- a) in Model 1: Copper-T IUD $13,159; implant $12,924; oral contraceptives $12,838; injectable contraceptive $12,649; tubal ligation $12,137; male condom $11,475; diaphragm $10,169.
- a) in Model 2: Copper-T IUD $8,772; oral contraceptives $8,585; implant $8,530; injectable contraceptive $8,255; tubal ligation $7,733; male condom $7,689; diaphragm $6,694.

**Synthesis of costs and benefits**
Failure rates were taken into account when calculating the costs of contraceptive methods. The rank ordering of the 7 contraception methods by cost-effectiveness at the 5 year period in the case of Model 1 is:

Copper-T IUD, implant, oral contraceptives, injectable contraceptive, tubal ligation, male condom, diaphragm, no method.

In the case of Model 2: Copper-T IUD, oral contraceptives, implant, injectable contraceptive, tubal ligation, male condom, diaphragm, no method.

The results were sensitive to variations in programme participation rates, contraceptive costs, and failure rates.

**Authors’ conclusions**
All contraceptive methods are cost saving compared to no method among women who qualify for entitlement programmes and who carry their unintended pregnancies to term. Contraceptive methods with low failure rates are
particularly cost-effective. More programmes providing contraceptives should be funded publicly.

**CRD Commentary**
This cost-effectiveness study is based on a selected range of benefits and costs. Side-effects of contraceptive methods, for example, are not taken into account as health outcomes. On the cost side, social costs are represented by the expenditures on four main social programmes. A part of these expenditures (such as some of the Medicaid expenditures) are, however, not closely related to unintended pregnancies. Rank orderings of the contraceptive methods by their cost-effectiveness were highly sensitive to changes in the prices of the different methods. The results of the study, therefore, should be handled especially carefully when comparing contraceptive methods if their relative prices vary significantly.

**Implications of the study**
Since among women who are considered to be living in poverty 75% of pregnancies are unintended, this study has implications for social policy decision making. Public provision of certain new contraception methods would be not only cost-effective but it would also help to prevent child poverty.

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Funded in part by a grant from Wyeth-Ayerst Laboratories.

**Bibliographic details**

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**Other publications of related interest**

**Indexing Status**
Subject indexing assigned by NLM

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