Partner notification to prevent pelvic inflammatory disease in women: cost-effectiveness of two strategies
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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
Two strategies designed for notification of sex partners to prevent pelvic inflammatory disease (PID) in women. The two strategies were: (1) primary prevention of PID in women by contacting the female sex partners of male index patients infected with C. trachomatis and providing early diagnosis and treatment for them; (2) secondary prevention of PID in women by contacting male sex partners of female index patients and providing diagnosis and treatment for them.

Type of intervention
Primary prevention; secondary prevention; treatment.

Economic study type
Cost-effectiveness analysis.

Study population
Patients infected with C. trachomatis.

Setting
Clinic. The economic study was carried out in the USA.

Dates to which data relate
The clinical probabilities were derived from papers published between 1980 and 1997. The resource and cost data were extracted from studies published between 1986 and 1995. 1994 prices were used.

Source of effectiveness data
The clinical probabilities used in the models were derived from published literature and expert opinion. A decision model was used to estimate the final outcomes associated with each strategy.

Modelling
A decision model was constructed utilizing SMLTREE decision software to estimate the final benefits and costs associated with each strategy.

Outcomes assessed in the review
A wide range of clinical probabilities was assessed in the review. The clinical probabilities consisted of the percentage of named male and female partners receiving treatment, the percentage of male and female partners presenting and testing positive, percentage of untreated initial and recurrent C. trachomatis infected women who will develop PID, percentage of infected male partners being asymptomatic, the percentage of infected male partners being symptomatic
who do not seek care in the absence of intervention, and female reinfection in the absence of intervention.

Study designs and other criteria for inclusion in the review
Not specified.

Sources searched to identify primary studies
Not specified.

Criteria used to ensure the validity of primary studies
Not specified.

Methods used to judge relevance and validity, and for extracting data
Not specified.

Number of primary studies included
The clinical probabilities were extracted from at least 11 published papers.

Methods of combining primary studies
Not specified.

Investigation of differences between primary studies
Not specified.

Results of the review
The results of the review are as follows: the percentage of named male and female partners receiving treatment was (range in parentheses) 0.67 (0.67-0.97) and 0.55 (0.55-0.97), respectively; the percentage of male and female partners presenting and testing positive was 0.37 (0.35-0.75) and 0.58 (0.25-0.65), respectively; the percentage of untreated initial and recurrent C. trachomatis infected women who will develop PID was 0.20 (0.15-0.40) and 0.30, respectively; the percentage of infected male partners being asymptomatic was 0.43 (0.25-0.86); the percentage of infected male partners being symptomatic who do not seek care in the absence of intervention was 0.05; the percentage of female reinfection in the absence of intervention was 27%.

Measure of benefits used in the economic analysis
The decision model was used to estimate the measures of benefits including expected cases of PID per 1,000 index patients and cases of PID prevented per 1,000 index patients.

Direct costs
The costs were discounted. Quantities were not reported separately from the costs. The cost items were reported separately. The total cost consisted of the direct programme (partner notification (PN)) costs including cost of PN interview and cost of locating one partner, and direct medical costs including cost of PID weighted by sequelae and public clinic cost for one dose of azithromycin. The total cost per 1000 index patients and cost saved (incremental costs) by PN per 1000 index patients were reported. Cost calculations were performed adopting a health care system perspective. The cost data were extracted from studies published between 1986 and 1995. 1994 price data were used.
Indirect Costs
Not reported.

Currency
US dollars ($).

Sensitivity analysis
Threshold analyses were performed on model parameters to identify the break-even points.

Estimated benefits used in the economic analysis
Expected cases of PID per 1,000 index patients for no-partner notification for men, Strategy 1, no-partner notification for women, and Strategy 2 were 116, 62, 30, and 10, respectively. The cases of PID prevented per 1,000 index patients for Strategy 1 and Strategy 2 (incremental benefits) were 64 and 20, respectively.

Cost results
The discount rate was 5%. The total costs per 1,000 index patients were:

no-partner notification for men $567,000;
Strategy 1 $319,000;
no-partner notification for women $147,000;
Strategy 2 $114,000.

Synthesis of costs and benefits
Incremental analysis was performed. The cost saved per cases of PID prevented was used as the measure of cost-effectiveness. The values of the measure of cost-effectiveness for strategy 1 and 2 were $3,900 and $1,700, respectively. The break-even points were reported for a wide range of parameters.

Authors' conclusions
Partner notification of both male and female index patients is a cost-effective public health strategy for prevention of PID. In most settings, both strategies can and should be implemented.

CRD COMMENTARY - Selection of comparators
The reason for the choice of the comparator is clear.

Validity of estimate of measure of benefit
As no criteria were mentioned to ensure the validity of the primary studies, there is insufficient information with which to judge the internal validity of the estimate of the benefits.

Validity of estimate of costs
The resource quantities were not reported separately from the costs. As inadequate details about the design and validity of published papers from which the cost data were extracted were given it is almost impossible to assess the internal validity of the estimation of the costs.
Other issues
In general, given the lack of systematic review of the literature and quality assessment of the primary studies, the results need to be treated with some caution.

Implications of the study
On the basis of the data presented in this study it would appear that partner notification of male and female index patients is cost-effective for the prevention of PID. However, a great deal more work needs to be done on the epidemiology of Chlamydia trachomatis infection and its sequelae. Additionally assessment of the effectiveness of notification procedures needs to be carried out.

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