Costs and cost effectiveness of different strategies for chlamydia screening and partner notification: an economic and mathematical modelling study
Turner K, Adams E, Grant A, Macleod J, Bell G, Clarke J, Horner P

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.

CRD summary
This study examined the cost-effectiveness of the English National Chlamydia Screening Programme, with increased coverage of primary screening for men or increased efficacy of partner notification, from the perspective of the national health care payer. The authors concluded that increasing the efficacy of partner notification improved the cost-effectiveness of the programme, while increasing the screening coverage for men was not cost-effective. The cost-effectiveness framework was conventional and this should ensure the validity of the authors’ conclusions.

Type of economic evaluation
Cost-effectiveness analysis

Study objective
This study examined the cost-effectiveness of a chlamydia screening programme, with increased coverage of primary screening for men or increased efficacy of partner notification.

Interventions
The National Chlamydia Screening Programme (NCSP) that was implemented in England in 2008 to 2009 was compared with the same programme with increased screening coverage for men or with increased efficacy of partner notification.

Location/setting
UK/primary care.

Methods
Analytical approach:
The analysis was based on a mathematical model developed to estimate the costs and effects of the chlamydia screening programme. The authors stated that the perspective of the health care provider was taken.

Effectiveness data:
Most of the clinical and epidemiological data, such as the patient characteristics and the coverage rate, were from a report of the NCSP. Other official databases, such as the Vital Signs Index, were also used. The efficacy of partner notification was a key input for the model and was from a subgroup of the primary care trusts in which the NCSP was implemented.

Monetary benefit and utility valuations:
Not considered.

Measure of benefit:
The number of infections treated was the summary benefit measure.

Cost data:
The economic analysis was restricted to the costs of screening and partner notification. A breakdown of cost items was presented in an appendix. The cost of partner notification included the time for discussion of partner notification when notifying the patient or delivering the treatment, the provider referral by health professionals, and follow-up telephone
calls. All economic inputs were estimated using data from the NCSP, for seven primary care trusts. Semi-structured interviews were conducted in 2008 to 2009 for the cost of partner notification. All costs were in UK pounds sterling (£).

Analysis of uncertainty:
Deterministic one-way sensitivity analyses were carried out to examine how robust the model findings were to variations in the partner notification costs, partner notification efficacy, and male screening coverage. The range of values for the cost per screening episode was based on available rates, while the other ranges were assumed by the authors.

Results
In the target population of three million men or women younger than 25 years old, the total costs were £46.26 million with the NCSP (24% of eligible women and 8% of eligible men screened; median of 0.4 partners notified per index case), £49.57 million with increased partner notification efficacy (from 0.4 to 0.8), and £69.17 million with increased screening coverage for men (from 8% to 24%).

The cost per infection treated was £506 (range 381 to 621) with the NCSP, £449 (range 345 to 545) with increased efficacy of notification, and £528 (range 397 to 648) with increased coverage for men.

The sensitivity analysis showed that increasing the cost of partner notification increased the cost per case treated linearly, but increased notification remained the most cost-effective option, in general, for reasonable cost values.

Authors’ conclusions
The authors concluded that increasing the efficacy of partner notification improved the cost-effectiveness of the national screening programme, while increasing the screening coverage for men was not cost-effective.

CRD commentary
Interventions:
The selection of the comparators was appropriate as potential changes in the implemented English screening programme were assessed.

Effectiveness/benefits:
Most of the data were from NCSP reports and other databases that recorded the actual implementation of the programme, but few details of the estimates and their sources were reported. Some assumptions appear to have been required. Administrative databases usually include a large and representative sample of individuals. These data reflected the English setting for epidemiology and other related inputs, such as coverage and partner notification policies. The authors acknowledged some issues in the estimation of partner notification efficacy and this was varied in the sensitivity analysis. The summary benefit measure was disease specific and might not be generalisable to other health care interventions.

Costs:
The economic analysis was consistent with the perspective. Extensive information on the cost calculation, the unit costs, and the quantities of resources used was presented in the appendix. The data were from medical centres, in which the screening was implemented. The estimates appear to have been treated deterministically, but ranges of values were considered for the key economic inputs. The time horizon was not explicitly reported, but appears to have been short. The price year was not explicitly reported, but appears to have been 2008 to 2009. Discounting was not necessary given the short time horizon.

Analysis and results:
The only the cost-effectiveness ratios were reported in the main text, but the expected costs and benefits were reported in the appendix. The uncertainty was partly investigated by varying individual inputs. The authors acknowledged that a limitation of their analysis was its short horizon, but an assessment of the long-term economic and clinical consequences of screening would have required a dynamic transmission model. The model was presented in detail in the appendix, together with all the key data sources.
Concluding remarks:
The cost-effectiveness framework was conventional and this should ensure the validity of the authors’ conclusions.

Funding
Supported by a grant from the Bristol Sexual Health Centre Capacity Building Research Fund, and by funding from the National Institute for Health Research (K Turner).

Bibliographic details

PubMedID
21205807

DOI
10.1136/bmj.c7250

Original Paper URL
http://www.bmj.com/content/342/bmj.c7250.abstract

Indexing Status
Subject indexing assigned by NLM

MeSH
Chlamydia Infections /economics /epidemiology; Contact Tracing /economics; Cost-Benefit Analysis; England /epidemiology; Female; Humans; Male; Mass Screening /economics /methods; Models, Economic; Sexual Partners

AccessionNumber
22011000034

Date bibliographic record published
09/02/2011

Date abstract record published
27/04/2011