Improving uptake of breast screening in multiethnic populations: a randomised controlled trial using practice reception staff to contact non-attenders

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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
Training general practice reception staff in order to improve the attendance rate for breast screening in women who failed to attend after original invitation.

Type of intervention
Screening. Specifically a staff training programme to improve attendance for breast screening.

Economic study type
Cost-effectiveness analysis.

Study population
Women aged 50-64 of different ethnic backgrounds (white, Indian, Pakistani, black, Bangladeshi, Chinese, other) who were eligible for breast screening.

Setting
General practices. The economic study was carried out in London, England.

Dates to which data relate
The effectiveness data were collected between January and August 1995. No dates for resources and prices data were reported.

Source of effectiveness data
Effectiveness data were derived from a single study.

Link between effectiveness and cost data
The costing was undertaken on the same patient sample as that used in the effectiveness study. It was not stated whether the costing was undertaken prospectively or retrospectively.

Study sample
Power calculation determined the sample size. The study sample included 2,064 women aged 50-64 years and 26 general practices. There were 1,069 women and 14 practices in the control group and 995 women and 12 practices in intervention group. 30% of the practices invited refused to participate.

Study design
The study was a randomised controlled trial. The duration of follow-up was 1 year. The subject allocation method was stratified allocation, randomized by general practice. The loss to follow up was 30%.

**Analysis of effectiveness**
The analysis of the clinical study was based on intention to treat (in this case “intention to intervene”). The primary health outcome measures used in the analysis were overall attendance rate and attendance rate for breast screening in relation to ethnic groups in women who had not taken up their original invitation. At analysis, the groups were shown to be comparable. In a logistic regression model the effects of confounding variables such as effects of practice characteristics and individual characteristics of women were adjusted.

**Effectiveness results**
The overall rate of attendance in the intervention group was 9% and in the control group 4%. In the logistic regression model, the adjusted odds ratio was 2.3 (95% CI: 1.1 - 5.3, p=0.04) for overall rate of attendance in the intervention group compared with the control group. The rate of attendance in Indian women (who had the best response among ethnic groups) was 19% in the intervention group and 5% in the control group, the adjusted odds ratio being 2.2 (95% CI: 1.3 - 3.8, P= 0.005).

**Clinical conclusions**
The training programme produced a statistically significant improvement in attendance for breast screening.

**Measure of benefits used in the economic analysis**
The outcome measures used in the economic analysis were overall attendance rate and attendance for breast screening in relation to ethnic groups of women who had not taken up their original invitation. The subjects were contacted either by letter alone or by telephone alone or by both letter and telephone.

**Direct costs**
The costs were not discounted. Resource quantities were not reported. Costs of receptionists’ time and administration were calculated. The cost of health service were considered. The date to which the price data related was not specified.

**Currency**
UK pounds sterling (GBP).

**Sensitivity analysis**
No sensitivity analysis was carried out.

**Estimated benefits used in the economic analysis**
The overall rate of attendance in the intervention group was 9% and in the control group 4%. In the logistic regression model, the adjusted odds ratio was 2.3 (95% CI: 1.1 - 5.3, p=0.04) for overall rate of attendance in the intervention group compared with the control group. The rate of attendance in Indian women (who had the best response among ethnic groups) was 19% in the intervention group and 5% in the control group, the adjusted odds ratio being 2.2 (95% CI: 1.3 - 3.8, P= 0.005).

**Cost results**
The total intervention cost was 690 more than the control cost.
Synthesis of costs and benefits
The costs per additional woman screened was the measure used to combine benefits and costs. The costs per additional woman screened was approximately 13.

Authors' conclusions
The authors concluded that this simple, low cost intervention produced a modest improvement in breast screening rates. Improvement was greatest in Indian women, probably because many practice staff shared their cultural and linguistic background. This intervention could be effective as part of a multifaceted strategy to improve uptake in areas with low rates.

CRD COMMENTARY - Selection of comparators
The reason for the choice of comparators is clear (training versus not training).

Validity of estimate of measure of benefit
The estimates of measures of benefits are likely to be internally valid because the impacts of confounding variables were taken into account. The resource quantities were not reported separately from the costs.

Validity of estimate of costs
Adequate details of the cost estimation were not given. As no statistical analysis of costs or sensitivity analysis was undertaken the results need to be treated with some caution.

Other issues
The issue of generalisability to other settings or countries was not addressed. The authors noted that the best results were obtained from Indian women and that the majority of the staff in the study were from this ethnic grouping. As such the results for other ethnic groupings may be different given other participant or staff backgrounds.

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