Consensus double reading of mammograms was more effective and less costly than single reading


Objective
To determine whether a second independent reading of mammograms by a radiologist was a cost-effective means of detecting additional cases of breast cancer.

Design
Clinical and cost-effectiveness evaluation of 3 alternative policies for reading mammograms and recalling women with abnormal results.

Setting
St. Margaret's Hospital, Epping, England.

Patients
33 734 consecutive women aged 50 to 64 years going to hospital for breast cancer screening. A separate sample of 150 consecutive women was surveyed to provide data on private costs.

Intervention
3 strategies for reporting and recall were compared: 1) recall for assessment based on a single reading of mammograms by 1 radiologist; 2) nonconsensus double reading of mammograms by 2 radiologists with recall if recommended by either radiologist; and 3) consensus double reading of mammograms with recall if the radiologists agreed; if they disagreed, a decision was made by the senior consultant radiologist or by discussion between the 2 readers (the strategy in place at St. Margaret's Hospital).

Main cost and outcome measures
Number of cases of cancer detected, recall rates, and cost-effectiveness ratios. All costs were standardised to April 1994 prices.

Main results
Consensus double reading detected 9 additional cases of cancer per 10 000 women screened (95% CI 5 to 13) compared with single reading of mammograms. Nonconsensus double reading detected 10 additional cases of cancer per 10 000 women screened (CI 6 to 14) compared with single reading. No difference existed in the number of additional cases of cancer detected between consensus and nonconsensus double reading (1 additional case of cancer detected per 10 000 women screened, CI –0.2 to 2.2). The recall rate after consensus double reading was lower than after single reading (difference 2.7%, CI 2.4% to 3.0%). The recall rate after nonconsensus double reading was higher than after single reading (difference 3.0%, CI 2.5% to 3.5%). Consensus double reading cost less than single reading (a saving of £4853 per 10 000 women screened with private costs included and £2882 per 10 000 women with private costs excluded). Nonconsensus double reading cost more than single reading (a difference of £19 259 per 10 000 women screened). A threshold analysis was done where the cost of reading, reporting, and consensus had to be increased by 42% before the cost of single reading and consensus double reading were the same; and by 47% before the cost of single reading and nonconsensus double reading were the same.

Conclusion
Consensus double reading of mammograms was more effective and less costly than single reading.

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References

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