

# Breast cancer screening causes more harm than good

## YES

### Good intentions

After the NHS Breast Cancer Screening Programme began in 1988, I gradually began to notice that I was seeing a number of women whose cancers had been diagnosed by mammography and who were doing remarkably well. They had undergone traumatic and invasive treatment and had had no sign of recurrence. They were convinced that their lives had been saved and were profoundly grateful. Slowly, however, I was becoming uncomfortable. Only when I read the report of the Nordic Cochrane Centre<sup>1</sup> did I begin to understand my discomfort and to wonder how many of my patients could have been harmed by over-diagnosis.

This report was the first major challenge to the assumption of unalloyed benefits from the programme and, by coincidence, it was published on 8 January 2000, the day after my fiftieth birthday when I became eligible for a screening invitation. I looked at the invitation leaflet with renewed and now personal interest. Entitled *Breast Screening: The Facts*, the leaflet only described benefits and made no mention at all of any possible harms. I decided to decline my invitation.

Human fallibility means that good intentions can easily fall victim to wishful thinking and it is difficult for good people with good intentions to acknowledge the possibility that they might be causing harm. And when these good intentions have developed into what amounts to an industry, professional, commercial and even political reputations are at stake. Yet it has become increasingly clear that all screening causes harm alongside the possibility of benefit.<sup>2</sup>

There have been many claims that breast cancer screening improves survival and of course it appears to do so because of the inevitable combination of two well-recognised types of bias—lead-time bias and over-diagnosis. However, the impact on breast cancer mortality has been small and the effect on all-cause mortality even smaller.

### Dichotomising a continuum

Contemporary diagnosis is rooted in the sophisticated measurement and assessment of biometric parameters and/or images. These are almost always normally distributed along a continuum and, at one extreme, the aberrant measurements correlate with symptoms that can be ameliorated by medical treatment. The problem is that the pressure for earlier diagnosis, in the attempt to prevent the development of serious disease, extends the range of what is perceived as abnormal further along the continuum. The ir-

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While evidence can help inform best practice, it needs to be placed in context. There may be no evidence available or applicable for a specific patient with his or her own set of conditions, capabilities, beliefs, expectations and social circumstances. There are areas of uncertainty, ethics and aspects of care for which there is no one right answer. General practice is an art as well as a science. Quality of care also lies with the nature of the clinical relationship, with communication and with truly informed decision-making. The **BACK TO BACK** section stimulates debate, with two professionals presenting their opposing views regarding a clinical, ethical or political issue.



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BACK TO BACK this issue:

reducible problem for medical science is the need to dichotomise this biological continuum into normal and abnormal. Within the grey area of demarcation, an admixture of harms and benefits is inevitable.

This ambiguity is directly translated into the uncertain findings of the Independent UK Panel on Breast Cancer Screening, chaired by Sir Michael Marmot. The panel's report, published in October 2012,<sup>3</sup> acknowledges both benefit and harm from the breast cancer screening programme, with an estimate of the extent of benefit in terms of reduced breast cancer mortality and harm in terms of over-diagnosis. The report concedes that both estimates are uncertain because of their basis in flawed or inadequate data and that, because of this, women should be provided with information about the possibility of both benefits and harms. As a direct result, the most recent iteration of the leaflet that accompanies the screening invitation offers a more balanced picture and is entitled *NHS Breast Screening: Helping You Decide*.<sup>4</sup> The rates of possible harm and benefit are still hotly contested, but the new leaflet is certainly a more honest attempt to communicate the complexities of the situation.

### Ductal carcinoma in situ: an impossible dilemma

Ductal carcinoma in situ (DCIS) is the nub of the ambiguity at the heart of the whole endeavour of breast screening. The abnormal cells look malignant but are not invasive. The impossible dilemma is that some DCIS progresses to become invasive (the Marmot reports estimates that this occurs in less than 10% of cases<sup>3</sup>), while other similar lesions remain in situ, and some even appear to regress. Faced with this decision, what should a woman do? It takes a lot of existential courage to resist treatment at this stage.

There has been a tendency to minimise the importance of the psychological sequelae of such decisions and of the experience of false positives; and there has been an argument that a life extended is worth any amount of harm to those subjected to excessive anxiety,<sup>5</sup> or to unnecessary and potentially mutilating treatments. Although this has become increasingly untenable, I suspect

that it remains at the root of some of the more vehement insistence on the benefits of screening.

### Cost

The NHS Breast Screening Programme<sup>6</sup> estimates that it costs £96 million in England alone. Paul Pharaoh and colleagues<sup>7</sup> have attempted to assess the cost-effectiveness of the programme. While acknowledging the degree of uncertainty around the estimates of benefits, harms and costs, they concluded that there is only a moderate probability of the programme being cost-effective at the standard threshold set by the National Institute for Health and Care Excellence—£20,000 per quality-adjusted life year gained.

In any publicly funded universal health care system, every substantial expenditure imposes opportunity costs. An expensive screening programme that fails to reach reasonable standards of cost-effectiveness inflicts harm on other parts of the health service and on other patients, by depriving them of funds to which they might otherwise have access.

### Conclusion

I have declined to attend for screening mammography. I have done so because my understanding of the whole confusing situation is that there is a reasonable probability that, yes, breast screening causes more harm than good.

### References

1. Gotzsche PC, Olsen O. Is screening for breast cancer with mammography justifiable? *Lancet*. 2000;355:129–34.
2. Gray JAM. New concepts in screening. *Br J Gen Pract*. 2004;54:292–298.
3. Independent UK Panel on Breast Cancer Screening. The benefits and harms of breast cancer screening: an independent review. *Lancet*. 2012;380:1778–86.
4. Informed Choice about Cancer Screening. NHS breast screening: helping you decide. King's Health Partners. June, 2013. [cited 2013 Nov 13]. Available from: <http://www.cancer-screening.nhs.uk/breastscreen/publications/nhsbsp.pdf>
5. Bond M, Pavey T, Welch K, Cooper C, Garside R, Dean S, et al. Psychological consequences of false-positive screening mammograms in the UK. *Evid Based Med* 2013;18(2):54–61.
6. Public Health England. NHS Breast cancer screening programme: how much does the breast screening programme cost? [cited 2013 Nov 14]. Available from: <http://www.cancer-screening.nhs.uk/breastscreen/cost.html>
7. Pharaoh PDP, Sewell B, Fitzsimmons D, Bennett HS, Pashayan N. Cost effectiveness of the NHS breast screening programme: life table model. *BMJ*. 2013;346:f2618.