



## NEWS ANALYSIS

## Breast cancer screening error: fatal mistake or lucky escape?

Last week it emerged that a cohort of older women had missed out on mammography invitations. **Nigel Hawkes** looks behind the headlines

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### How was the error found?

Public Health England says that it spotted anomalies when it analysed data from the AgeX trial, a cluster randomised trial run from Oxford University to investigate the benefits and risks of extending screening to younger and older ages. “The numbers randomised to screening in the older group were too low,” a PHE spokesperson said.

Every year 350 000 women ought to have had invitations to screening, but over the previous nine years, the average had fallen short by 50 000 a year, making up the 450 000 missed invitations quoted by Jeremy Hunt in parliament on 2 May.

### What caused it?

Nobody’s saying. Hunt blamed IT system failures, including “how age parameters are programmed into the system.” One suggestion is that the cut-off had been set at 70, not 71, thereby excluding women who had not yet reached their 71st birthday and should have been included. PHE couldn’t confirm this when asked by *The BMJ*, instead blaming “several different IT issues.”

### How many extra deaths have occurred as a result?

Hunt said that PHE modelling indicated that between 135 and 270 women had had their lives shortened. A calculation by David Spiegelhalter, Winton professor of risk at the University of Cambridge, reached roughly the same conclusion. The screening programme claims that 1 in 1400 women has an early death prevented per screen. Dividing 450 000 by 1400 equals 321, but only 70% of women would have gone to the screening if they had received the invitation, and 70% of 321 is 225, within Hunt’s bracket.

Others are more sceptical. Paul Pharaoh, professor of cancer epidemiology at the University of Cambridge, says that Hunt’s estimate amounts to not much more than hand waving. “We have little good evidence of the benefit of screening in older women,” he says. “And there is no evidence at all of how much benefit or harm is associated with a single screen at the end of

screening an individual for 20 years—in other words, the effect of missing this screen is unknown.”

### Are there any benefits from not being screened?

Yes. In older women screening is more likely to detect ductal carcinoma in situ, leading to biopsies and operations that aren’t needed. As many as 800 women may have been spared this as a result of not being screened.

### Why weren’t the missed appointments spotted for nine years?

The numbers for each year were divided between 79 screening units, and women of all ages between 50 and 70 pass through them. A unit of average size would have seen only a dozen fewer women a week in the 68-70 age group, a shortfall that would not necessarily have been obvious.

That said, some trusts did report lower than expected numbers in March 2017, which were investigated and dismissed, PHE says, after the IT contractor Hitachi Consulting said that they were a local issue. Hitachi contests this, saying that it passed on concerns but PHE failed to act on them.

### Would the missed screen have made much difference?

Not necessarily. The system works on a three year cycle, so some women will have their last mammogram at 68, some at 69, and some at 70. Are those who have their last at 68 or 69 being cheated? Any woman who thinks so can request further mammography, as can those with suspicious symptoms. Around 140 000 women over the age of 71 have mammography every year outside the routine programme.

## What will happen now to the women who missed appointments?

PHE has promised to contact those still alive (309 000 according to Hunt) by the end of May, with the aim of providing mammography to all who want it by the end of October. Extra capacity is being identified so that routine screening will not be affected, says PHE.

### Is this possible?

There are doubts. Caroline Rubin, vice president for clinical radiology at the Royal College of Radiologists, says: "This does mean that breast screening units across the country may have to arrange additional appointments for thousands of missed patients, which will undoubtedly put even more strain on units that are already stretched to the limit owing to staff shortages."

### Should women jump at the chance?

No, they should look this gift horse in the mouth and carry on with their lives, say Susan Bewley, professor of women's health at King's College London, and 14 co-signatories in a letter to the *Times*. "The breast screening programme mostly causes more unintended harm than good, has no impact on all cause mortality, and claims of lives 'saved' are counteracted by deaths resulting from interventions," they say.

### How have women reacted?

The emergency phone line set up for worried women (0800 169 2692) had more than 8000 calls on its first day, and many other women said that they had been unable to get through. Peter Walsh, chief executive of Action against Medical Accidents, said that communication had been poor.

"These women should not have had to find out about this through the media," he said. "They are now faced with waiting to see whether they receive a letter telling them they are one of those affected. That is a dreadful position for anyone to be in."

### Are there legal implications for the government?

Women who missed invitations that might have detected their cancers earlier, and the families of those who have died as a result, may have a claim if it can be shown they had regularly attended screening. Leigh Day, solicitors specialising in medical negligence, thinks that the damages could run into millions. But proving the case will not be easy.

### If the benefits of screening are so equivocal, why should any damages be payable?

The government and the breast screening programme are victims of their own rhetoric on the subject. Having claimed that breast screening saves lives, they cannot now argue that the benefits are more nuanced or even non-existent.

Some media outlets are upping the ante by calling the errors a "calamity" or a "national tragedy." The *Daily Record* called for Hunt's resignation even though none of its readers were affected—it is a Scottish paper. Hunt's penitent tone in the Commons, though sensible for public relations, lends support to the idea that this is a truly dreadful event. Seldom have the medical authorities been so elegantly hoisted by their own petard.