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## Third of breast cancer 'harmless'



### Mammogram

A mammogram is used to detect breast lesions

One in three breast cancers detected by mammogram screening may actually be harmless, a study has suggested.

Data from five countries, including the UK, suggest some women may have had unnecessary treatment for cancers that were unlikely to kill them or spread.

As it is not possible to distinguish between lethal and harmless cancers, all are treated.

But advocates of screening insist it is a vital tool for early detection of cancerous cells.

It means that screening for cancer, in this case breast cancer, is a much closer call than has been previously advertised

Professor Gilbert Welch  
Dartmouth Institute for Health Policy

Researchers from the Nordic Cochrane Centre in Denmark said their results showed cancer screening programmes could lead to "overdiagnosis".

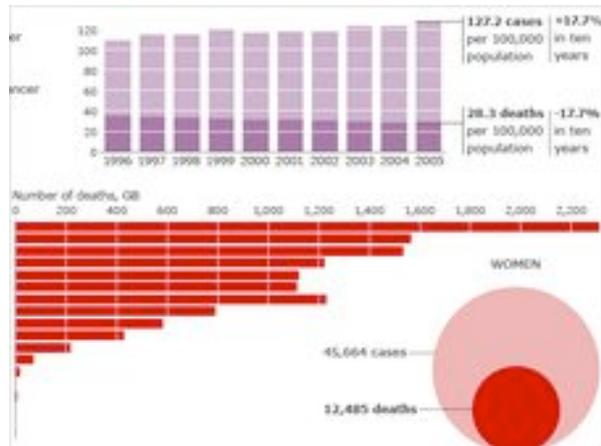
Writing in the British Medical Journal (BMJ), they said: "Screening for cancer may lead to earlier detection of lethal cancers but also detects harmless ones that will not cause death or symptoms.

"The detection of such cancers, which would not have been identified clinically in someone's remaining lifetime, is called over-diagnosis and can only be harmful to those who experience it."

Closer call

Professor Gilbert Welch, of the Dartmouth Institute for Health Policy, wrote an editorial on the finding in the BMJ.

He said: "It means that screening for cancer, in this case breast cancer, is a much closer call than has been previously advertised.



## BREAST CANCER STATISTICS

Grab of statistics page

Our guide to breast cancer and comprehensive statistics

"It has the opportunity to help some women but it also has the consequence of leading others to be treated needlessly for cancer and that's not a trivial thing."

But Professor Julietta Patnick, director of NHS Cancer Screening Programmes, said one in eight women diagnosed with breast cancer through the NHS programme would have been missed without screening.

She said screening was estimated to save 1,400 lives a year in England alone.

Professor Patnick said: "Thanks to screening, one extra woman's life will be saved for every eight women diagnosed with breast cancer.

"By bringing forward the date of diagnosis (through early detection), we find those cancers that would otherwise not be caught until later in life by which time they could be fatal."

She also criticised the research, suggesting it made highly selective use of statistics, and ignored lifestyle changes which had increased breast cancer incidence, such as women waiting longer before having their first child.

The researchers looked at a range of statistics from five countries which had implemented screening programmes, including data for England and Wales from between 1971 and 1999.

Based on all the current evidence, we believe the benefits of detecting breast

cancer early still outweigh the risks  
Dr Sarah Cant

Common cancer deaths 'falling'

The findings seem to confirm research published by the same team earlier this year.

Other recently compiled figures also show that UK death rates from breast, bowel, and male lung cancer are at their lowest since 1971.

The figures showing the fall in deaths from three of the most common cancers were compiled by Cancer Research UK, and are being put down to improved screening and better care.

'Don't be put off'

Dr Sarah Cant, from Breakthrough Breast Cancer, said she hoped the research on the incidence of harmless breast cancers would not discourage women from attending screening.

"Unfortunately, it is currently not possible to predict which cancers found through screening will develop aggressively and which will grow very slowly," she said.

"Based on all the current evidence, we believe the benefits of detecting breast cancer early still outweigh the risks."

She added that women needed to be given clear information about breast screening and it was important to remember that "while survival rates have increased greatly in recent years, just under 12,000 women still die from this disease each year in the UK."

Her view was echoed by Emma Pennery, of the charity Breast Cancer Care, who said: "Until it is possible to accurately determine the progression of cancers found through mammograms, screening remains an effective option for detecting breast cancers as soon as possible.

"As this review acknowledges this could lead to overtreatment in a percentage of cases.

"However, without screening women would face the prospect of having to wait for a visible symptom of cancer, such as a lump, to become apparent before treatment could start."

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Breast cancer

There were 45951 cases (287 men, 45664 women) and 12576 deaths (91 men, 12485 women) in 2005 In the same year there were 127.2 cases and 28.3 deaths

per 100,000 population

All data for UK in 2005 unless labelled GB in which case data for North

### Total figures

**45,951 cases**

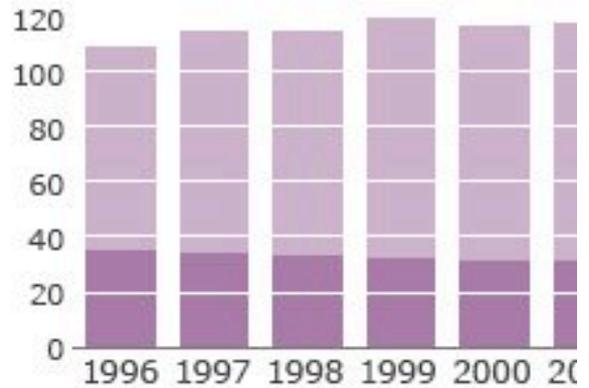
15.9% of all cases of cancer

**12,576 deaths**

8.2% of all deaths from cancer

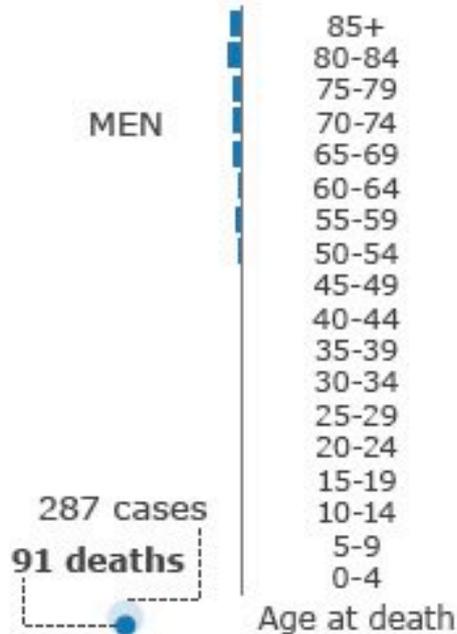
### Historical rates for women 1

Number of **cases** and **deaths** per 100

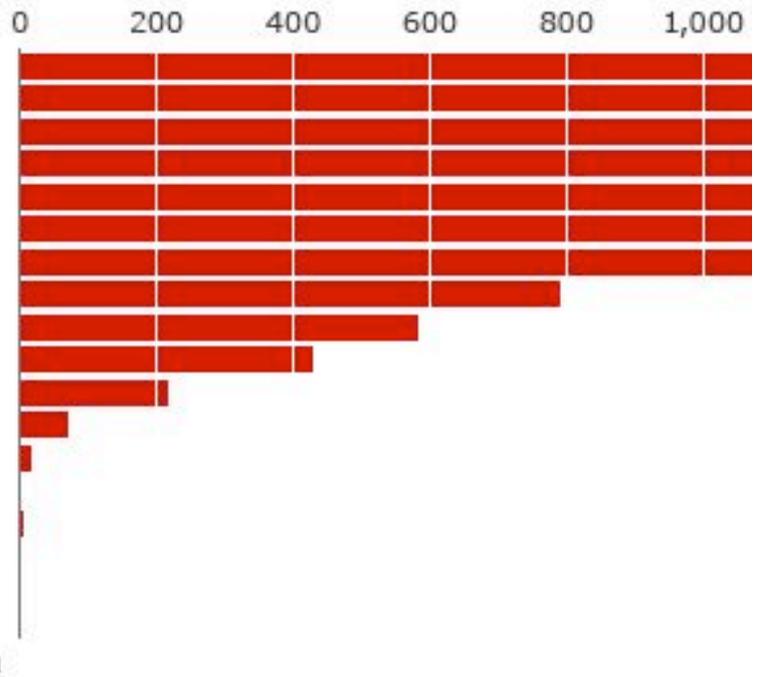


### Deaths by age group

Number of deaths, GB



Number of deaths, GB



Source: Cancer Research/NHS

One in every nine women in the UK will develop breast cancer at some point in her life - more than 41,000 cases are diagnosed each year.

It has become the most common cancer in the UK, and is the leading cause of death for women aged 34 to 54.

More rarely, men can also develop this cancer.

Despite recent improvements in the mortality rates, due to better treatments and earlier detection, the UK still has one of the highest mortality rates in the world.

But research is beginning to reap dividends in new ways of understanding how breast cancer cells work.

We are going, I think, to be looking at improved results over the next 20 or 30 years  
Professor Charles Coombes, Cancer Research UK

Professor Charles Coombes, who is director of Cancer Research UK's research laboratory at Imperial College London, says there is cause for optimism.

"The more we understand about how these cells behave, the more likely we are to understand what happens with breast cancer.

"That revolution is ongoing. We are going, I think, to be looking at improved results over the next 20 or 30 years."

## SYMPTOMS

The most common way that a potential problem is detected is when physical changes are noticed in the breasts.

Regular breast screening may also highlight changes in the breast.

The key is for the woman to know what "normal" is - then changes can be noticed.

Examples of the kind of things to look out for include:

- \* a change in outline, shape or size of the breast
- \* puckering or dimpling of the skin
- \* any lump or thickening in the breast or armpit
- \* any flaking skin or discharge from the nipple
- \* unusual pain or discomfort

Any changes should be reported to a doctor - although most will turn out not to be cancerous.

Many lumps will be picked up with mammograms - x-rays of the breast taken every few years as part of the NHS national screening programme.

If a lump is found, techniques used to investigate it include ultrasound and "fine needle aspiration", which will show whether the area is a solid lump or is a cyst.

A biopsy may also be carried out, so that a sample of the lump can be examined in a laboratory.

## CAUSES

The precise reasons why a woman develops breast cancer are still unknown, but are thought to be a combination of genetic, environmental and lifestyle factors.

Scientists have identified two genes which are more likely to be defective in a breast cancer patient than someone without breast cancer.

These genes are also blamed for some other cancers.

However, even the two mutated genes are thought only to be responsible for approximately 5% to 10% of breast cancer cases.

Hormones seem to have an important role in breast cancer. Research has shown a link between levels of the female sex hormone, oestrogen, and the risk of developing breast cancer.

Women who take certain types of hormone replacement therapy are at higher risk of breast cancer.

Women who have their first child later in life also appear to be at higher risk of developing breast cancer.

## TREATMENTS

If cancer is confirmed, then there are variety of treatments available, depending on the size of type of the tumour, and whether doctors believe it has or could have spread.

Most women with breast cancer do not need to have a breast removed.

The bigger the tumour relative to the size of the breast, the more likely that mastectomy will be recommended.

In a procedure known as a "lumpectomy", just the cancerous lump is removed.

After both kinds of operation, radiotherapy may be given to reduce the chance that the cancer will return.

If the tumour is very large, treatment may be given to reduce the size of the tumour before the operation takes place.

In most cases, the surgeon also removes lymph nodes under the arms to find out if the cancer cells have spread into the lymphatic system.

This is a network of vessels which link different parts of the body - if the cancer has reached the lymph nodes, it is more likely to have spread to other parts of the body.

The breast cancer cells may be tested to see if they are sensitive to the sex hormone oestrogen, and are more likely to grow if the hormone is present.

If this is the case, the woman may be given a drug which blocks the action of the hormone, restricting the cancer growth.

However, as some forms of this drug produce menopausal symptoms, younger women whose breast cancer is more likely to have spread could be offered a combination of surgery and chemotherapy instead.

Following breast surgery, or even breast removal, reconstructive surgery is possible to restore the appearance of the breast.

This could even be carried out at the same time as mastectomy.

Techniques have improved in recent years, and surgeons are able to more closely mimic the appearance of the other breast, giving a normal appearance in clothes.

Some of the techniques employed include the use of implants, fat from other parts of the body, such as the tummy, or even a back muscle which is bent round to form the new breast.