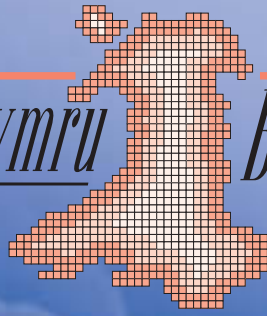


*Bron Brawf Cymru* *Breast Test Wales*



**The Report of the DIRECTOR**  
**2005**

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## FOREWORD FROM THE DIRECTOR

**Breast Test Wales has been established for 17 years and continues to provide mammographic screening to the very highest standards. The results presented in this Report show that once again, Breast Test Wales is effective in meeting its aims. Staff in all disciplines show a continuing commitment to achieve the highest standards and to offer a sensitive and responsive service.**

I am thankful to the forward thinking and careful planning of the Advisory Committee chaired by The Hon Mrs Lindy Price, whose Report was published in 1990. The following extracts set out the core principles, which hold true today:

- In Wales the programme is being centrally directed through Breast Test Wales.
- The service should be provided through three static centres supported by mobile screening units, in order to ensure accessibility to the service given the sparse population of large areas of Wales.
- Great importance is placed on the provision of a service of the highest technical quality delivered by professional, friendly and understanding staff from high standard, non-institutionalised premises. The aim is to emphasise throughout that the women attending for screening are well.
- Meticulous quality control and assurance are at the forefront of the service.
- Following the detection of abnormalities through the screening programme further examination is carried out by a skilled multi-disciplinary assessment team linked to the static screening centres. All the members of the team (which comprises of a surgeon, a radiologist, a pathologist, a radiographer and a nurse) are trained in specialist skills which together facilitate the diagnosis of breast disease and the treatment and care of women who have cancer and the reassurance of those found on assessment not to have cancer. Where cancers are confirmed and are treated by surgery, women are able to choose whether to remain with the Breast Test Wales surgeon or be referred for treatment and care to the district general hospital services.
- Health Promotion through education and publicity is an important role of the breast screening service not only to encourage women to come forward for screening but also to inform professionals involved in the programme. Action is being taken forward on several fronts notably through raising awareness on the part of the general public, targeting women particularly those in the age range identified for screening, emphasising the quality of service and careful selection of staff which all contribute to an understanding and re-assuring service.
- The Advisory Group is confident that the breast cancer screening programme now being developed in Wales provides an excellent basis for achieving maximum benefits for women in the Principality and will make a major contribution to the local strategies for Health Gain for Cancers.



Once again, I should like to express my thanks to colleagues within the National Health Service and other agencies who continue to support us. We are especially grateful to the Local Health Boards, general practices, Health Commission Wales, the companies and organisations who allow us to site our mobile units, the screening programmes in England, Scotland and Northern Ireland and to the UK and Welsh National Screening Committees.

*Hilary Fielder.*

**Dr Hilary Fielder**  
*Director of Screening Services*



## INTRODUCTION

**Breast Test Wales (BTW) was established in 1988 to deliver the National Health Service breast screening programme in Wales. Screening started in February 1989. BTW is divided into three geographical divisions with centres in Cardiff, Swansea and Llandudno (with its satellite centre in Wrexham). Ten mobile units work across Wales to support these centres, visiting over 100 sites in every three year round of screening.**

BTW is part of the Screening Services Directorate of the Public Health Division of Velindre NHS Trust. Previous Reports of the Director describe the managerial arrangements for delivering and monitoring the service and its relationship with the UK National Health Service Breast Screening Programme (NHSBSP). These Reports can be viewed on our website [www.screeningservices.org/btw](http://www.screeningservices.org/btw).

This report presents the programme results for the two financial years from April 2003 to March 2005. We are committed to providing direct and comprehensive information so that women may choose whether to take up the offer of screening. This report adds to the information already available to women in Wales to support them in making that choice.

### THE BREAST SCREENING PROGRAMME

**In the UK, all women aged 50 and over are eligible for routine breast screening every three years. BTW is responsible for the service up to the point of diagnosis, that is, for:**

- inviting women in the age range 50 to 64 (up to the age of 70 from early 2006)
- arranging appointments on request to women over this age at intervals of no less than three years
- carrying out the screening test - a set of X-rays of the breasts known as mammograms
- reviewing the mammograms ("reading" them) for appearances that could be cancer
- providing further assessment for those women whose mammograms show an appearance which could be cancer
- examining breast tissue and cells in laboratories
- providing specialist nurse support for women who need further tests or treatment
- carrying out surgical diagnostic procedures if required
- referring women with cancer to treatment services.

**BTW is also responsible for:**

- raising public and professional awareness of breast cancer and the screening programme
- evaluating the programme in Wales and contributing to the UK-wide evaluation
- providing specialist training for radiographers undertaking mammography in the screening and symptomatic services.

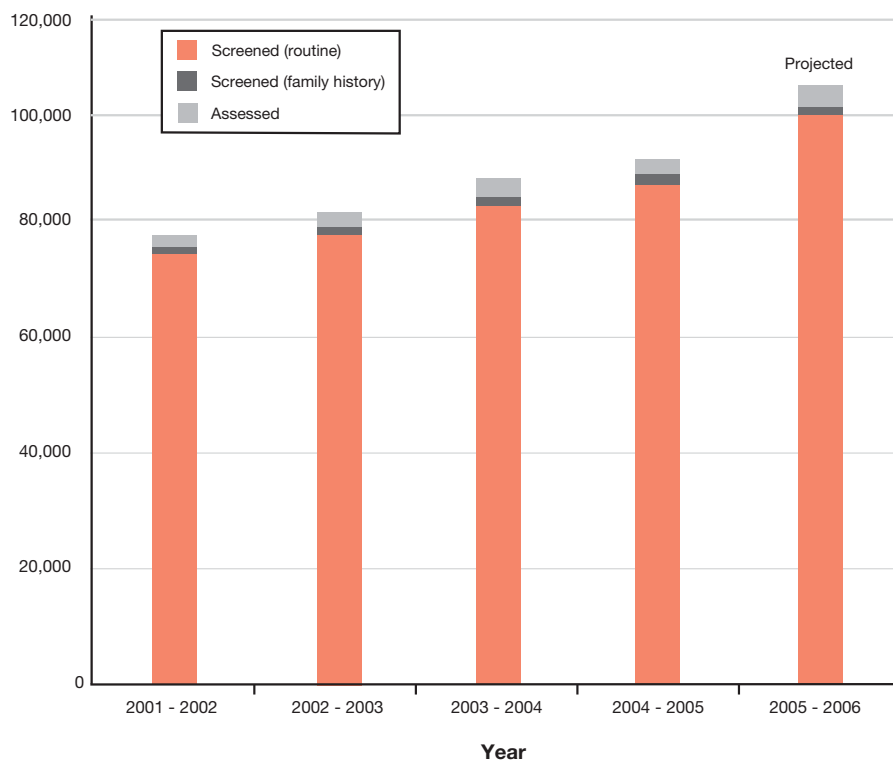
**BTW is not responsible for the symptomatic breast services.**



## INTRODUCTION

More women in Wales are screened each year.

**Figure 1: BTW Activity**



This rise is due to four main factors:

- the population in the older age groups continues to rise
- programme slippage is being reduced
- BTW started inviting women up to the age of 67 in 2003 (see page 32)
- BTW's service for women referred from the Genetics Service started in 2001.



## MILESTONES FOR BREAST SCREENING IN WALES

DATE	EVENT	REFERENCES
1979	The UK Trial of Early Detection of Breast Cancer is set up to investigate the effect on mortality of both mammographic screening and education on breast self-examination.	UK Trial of Early Detection of Breast Cancer Group (1981). <i>Trial of early detection of breast cancer: description of method</i> . Br J Cancer, 44: 618-27.
1985	Following reports from randomised control trials, the UK Government sets up a group chaired by Professor Sir Patrick Forrest to consider breast screening policy.	1. Shapiro S, Venet W, Strax P, Venet L, Roeser R. (1982) <i>Ten to fourteen year effect of screening on breast cancer mortality</i> . J Natl Cancer Inst., 69:349. 2. Verbeek AL, Hendriks JH, Holland R, Mravunac M, Sturmans F, Day NE. (1984) <i>Reduction of breast cancer</i>





## INTRODUCTION

		<p>mortality through mass screening with modern mammography. First results of the Nijmegen project, 1975-1981. <i>Lancet</i>, 1:1222-1224</p> <p>3. Tabar L, Gad A, Holmberg LH, Ljungquist U, Eklund G, Pettersson F, Fagerberg CJG, Baldetorp L, Grontoft O, Lundstrom B, Manson JC, Day NE. (1985) <i>Reduction in mortality from breast cancer after mass screening with mammography. Randomised trial from the Breast Cancer Screening Working Group of the Swedish National Board of Health and Welfare.</i> <i>Lancet</i>, 1:829-32.</p>
November 1986	The "Forrest Report" is published. This concluded that deaths from breast cancer in women aged 50 - 64 years who are offered screening by mammography could be reduced by one third or more. It set out the working group's recommendation for implementing a UK-wide NHS breast screening programme.	Forrest APM. (1986) <i>Report to the health ministers of England, Wales, Scotland and Northern Ireland by a working group chaired by Sir Patrick Forrest.</i> London: HMSO.
September 1987	The Welsh Office sets up the Welsh Breast Screening Advisory Group to consider the implementation of the screening programme in Wales.	Breast Test Wales (1990). <i>Report of the Welsh Breast Screening Advisory Group chaired by The Hon. Mrs. Lindy Price.</i> (Unpublished)
August 1988	Breast Test Wales (BTW) is established at 18 Cathedral Road, Cardiff under the Directorship of Dr (now Dame) Deirdre Hine.	
1988	First analysis of the UK Trial shows a possible reduction in the risk of dying from breast cancer for women offered screening. However, the results are inconclusive.	UK Trial of Early Detection of Breast Cancer Group (1988). <i>First results on mortality reduction in the UK trial of early detection of breast cancer.</i> <i>Lancet</i> , 2(8608):411-6
February 1989	Screening begins at BTW's Cardiff Centre.	
October 1989	Mobile screening starts in South East Wales.	
1990	BTW (South East) starts taking part in the UK-wide Frequency Trial which is evaluating the best interval between screens.	
June 1990	Dr R Elizabeth Roberts takes over as BTW's Director.	








## INTRODUCTION

October 1991	BTW's Llandudno Centre opens and begins screening.	
January 1992	BTW's Swansea Centre opens and begins screening.	
February 1992	Mobile screening starts in North and West Wales.	
April 1993	BTW leaves the South Glamorgan, West Glamorgan and Gwynedd Health Authorities to join the Welsh Health Common Services Authority.	
1993	Second analysis of the UK Trial shows a statistically significant reduction in the risk of dying from breast cancer for women offered screening.	Ellman R, Moss SM, Coleman D, Chamberlain J. (Trial Co-ordination Centre for UK Trial of Early Detection of Breast Cancer Group) (1988). <i>Breast Cancer mortality after 10 years in the UK trial of early detection of breast cancer.</i> <i>Breast</i> , 2:13-20
1995	Carrying out two view screening the first time a women is screened (as is BTW policy) is confirmed as best practice.	Wald NJ, Murphy P, Major P, Parkes C, Townsend J, Frost C. (1995). <i>UKCCCR multicentre randomised controlled trial of one and two view mammography in breast cancer screening.</i> <i>BMJ</i> , 311(7014):1189-93.
1995	BTW and the Welsh Cancer Intelligence and Surveillance Unit commence the CROPS Project to evaluate the effect of pathology reporting guidelines and a computerised proforma on the completeness of data.	Branston LK, Greening S, Newcombe RG, Daoud R, Abraham JM, Wood F, Dallimore NS, Steward J, Rogers C, Williams GT. (2001) <i>The implementation of guidelines and computerised forms improves the completeness of cancer pathology reporting. The CROPS project: a randomised controlled trial in Pathology.</i> <i>European Journal of Cancer</i> , Issue 16.
September 1995	All eligible women in Wales have been invited for screening at least once (end of first round).	
October 1995	BTW joins Velindre NHS Trust.	
December 1995	BTW is awarded its first Charter Mark.	
January 1996	BTW (West) starts participating in the UK-wide Age Trial which considers what benefit, if any, is gained by inviting women annually from age 40.	





## INTRODUCTION

1996	The first full version of the BTW Quality Manual is approved.	
1997	BTW (South East) starts contributing to the TRACE Study which is evaluating the management of women with familial breast cancer.	Gray J, Brain K, Norman P, Anglim C, France L, Barton G, Branston L, Parsons E, Clarke A, Sampson J, Roberts E, Newcombe R, Cohen D, Rogers C, Mansel R, Harper P. (2000) <i>A Model Protocol in Evaluating the Introduction of Genetic Assessment for Women with a Family History of Breast Cancer. "TRACE". J Med Genet, 37:192-196.</i>
1997	BTW, as part of Velindre NHS Trust, achieves the Investors in People award.	
November 1997	Dr Cerilan Rogers takes over as BTW's Director.	
December 1998	BTW is awarded its second Charter Mark.	
1999	Third analysis of the UK Trial shows a 27% reduction in the risk of dying from breast cancer for women offered screening.	UK Trial of Early Detection of Breast Cancer Group (1999). <i>16-year mortality from breast cancer in the UK Trial of Early Detection of Breast Cancer. Lancet, 353(9168):1909-1914</i>
1999	BTW's aim to reduce mortality is met; in women aged 55 to 69, mortality from breast cancer has fallen 32% since 1988.	
2000	Velindre NHS Trust re-achieves the Investors in People award.	
July 2000	The National Assembly for Wales announces that BTW is to introduce two view screening at every round and extend the invited age range to 70 years.	<ol style="list-style-type: none"> <li>Horton Taylor D, McPherson K, Parbhoo S, Perry N. (1996) <i>Response of women aged 65-74 to invitation for screening for breast cancer by mammography: a pilot study in London, UK. Journal of Epidemiology &amp; Community Health, 50(1):77-80.</i></li> <li>Van Dijck J, Verbeek A, Hendriks J, Holland R, Mravunac M. (1996) <i>Mammographic screening after the age of 65 years: early outcomes in the Nijmegen programme. Br J Cancer, 74:1838-42.</i></li> <li>Blanks RG, Moss SM, Wallis MG. (1997) <i>Use of two view mammography compared with one view in the detection of small invasive cancers: further results from the National Health</i></li> </ol>








## INTRODUCTION

		<p><i>Service breast screening programme.</i> Journal of Medical Screening, 4; 2: 98-101.</p> <p>4. Blanks RG, Given-Wilson RM, Moss SM. (1998) <i>Efficiency of cancer detection during routine repeat (incident) mammographic screening: two versus one view mammography.</i> J Med Screen, 5(3):141-5.</p> <p>5. Hackshaw AK, Wald NJ, Michell MJ, Field S and Wilson AR. (2000) <i>An investigation into why two-view mammography is better than one-view in breast cancer screening.</i> Clinical Radiology. 55(6):454-8.</p>
March to October 2001	Two view mammography at every round is introduced across Wales.	
2001	BTW begins offering screening to women under 50 if referred from the Welsh Cancer Genetics Service with a moderate or high risk of developing breast cancer because of their family history.	<p>1. Brain K, Gray J, Norman P, France E, Anglim C, Barton G, Parsons E, Clarke A, Sweetland H, Tischkowitz M, Myring J, Stansfield K, Webster D, Gower-Thomas K, Daoud R, Gateley C, Monypenny I, Singhal H, Branston L, Sampson J, Roberts E, Newcombe R, Cohen D, Rogers C, Mansel R, Harper P. (2000) <i>A randomised trial of a Specialist Genetic Assessment Service for Familial Breast Cancer.</i> J Natl Cancer Inst., 92:1345-51.</p> <p>2. Mackay J, Rogers C, Fielder H, Blamey R, Boggis C, Brown J, et al. (2001) <i>Development of a protocol for evaluation of mammographic surveillance services in women under 50 with a family history of breast cancer.</i> Journal of Epidemiology and Biostatistics. July 2001.</p> <p>3. Brain K, Norman P, Gray J, Rogers C, Mansel R, Harper P. (2002) <i>A randomized trial of specialist genetic assessment: psychological impact on women at different levels of familial breast cancer risk.</i> British Journal of Cancer. 86(2):233-8.</p> <p>4. McIntosh A, Shaw C, Evans G, Turnbull N, Bahar N, Barclay M, Easton D, Emery J, Gray J, Halpin J, Hopwood P, McKay J, Sheppard C, Sibbering M, Watson W, Wailoo A, and Hutchinson A (2004). <i>Clinical guidelines and evidence review for the classification and care of women at risk</i></p>






## INTRODUCTION

			<i>of familial breast cancer</i> . London: National Collaborating Centre for Primary Care/University of Sheffield. [National Institute for Clinical Excellence Clinical Guideline 14].
December 2001	BTW is awarded its third Charter Mark.		
2002	Results of the Frequency Trial are published. The authors conclude that, based on the results of this Trial, shortening the screening interval to less than 3 years would have a relatively small effect on breast cancer mortality.		<i>The frequency of breast cancer screening: results from the UKCCCR Randomised Trial</i> . European Journal of Cancer, 2002; 1458 - 1464.
March 2002	The World Health Organisation's International Agency for Research on Cancer (IARC) publishes its evaluation of the evidence on breast cancer screening. IARC concludes that trials have provided sufficient evidence for the efficacy of mammography screening of women between 50 and 69 years. For women aged 40 - 49 years, the group concludes there is only limited evidence for a reduction in mortality.		World Health Organization International Agency for Research on Cancer (2002). <i>Breast cancer screening</i> . IARC Handbooks of Cancer Prevention, Volume 7. Lyon: IARC Press.
January 2003	BTW hosts and starts recruiting to the UK-wide FH01 Study which is evaluating mammographic surveillance services in women under 50 with a family history of breast cancer.		
April 2003	BTW's Wrexham "satellite" Screening Centre is opened.		
May 2003	Dr Hilary Fielder takes over as BTW's Director.		
2003	BTW starts contributing to the UK-wide PIMMS Study, a psycho-social evaluation of the mammographic surveillance of women under 50 at moderate or high risk of familial breast cancer.		
September 2004	Velindre NHS Trust achieves the Investors in People award again.		
2004	The results of a study to estimate the effect of service screening, as provided by BTW, on breast cancer mortality in Wales, is published. The authors conclude that BTW is achieving a reduction in breast cancer		Fielder HM, Warwick J, Brook D, Gower-Thomas K, Cuzick J, Monypenny I, Duffy SW. (2004) <i>A case-control study to estimate the impact on breast cancer death of the breast</i>





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	mortality of 25% in women attending for screening, which is consistent with the results of the randomized controlled trials of mammographic screening.	<i>screening programme in Wales. Journal of Medical Screening. 11(4):194-8.</i>
December 2004	BTW and Cervical Screening Wales are together awarded a Charter Mark (BTW's fourth).	
January to March 2006	The upper age for automatic invitation to screening is raised to 70 across Wales.	
June 2006	Two view screening is shown to improve programme standards in Wales.	Osborn GD, Beer H, Wade R, Brook D, Stevens G, Evans J, Fielder H, Gower-Thomas K. (2006) <i>Two-view mammography at the incident round has improved the rate of screen-detected breast cancer in Wales. Clinical Radiology. 61(6):478-82</i>





# INTRODUCTION

## BTW'S WEBSITE ( [www.screeningservices.org/btw](http://www.screeningservices.org/btw) )



The internet has become an increasingly important medium for disseminating health information and as an additional point of contact with services for the public. Our bilingual website has evolved over the years from simple text-only, print-replicated pages to visually appealing, web-specific content.



version 4, 2005

While the site has always undergone periodic revision the latest design has seen the most radical changes. These include:

- shifting the focus from a public/health professional dual audience to content geared towards women using the service
- identifying common questions asked of the service and pushing these to the fore with a 'Your Questions Answered' section prominent on every page
- simplifying content at the initial level (one-click) but allowing users to access more subject detail should they wish
- signposting new content with an 'Updates' section on every page
- ensuring the site complies with disability access and web-coding guidelines
- an attractive visual makeover that remains quick to appear onscreen

All of this is produced "in house" by our own staff and webmaster.

The website now undergoes continual design and content review. An online questionnaire surveys those browsing the site for their opinions on the changes mentioned above and suggestions for how the site can further develop.



version 1, 1997



version 2, 1999



version 3, 2001





## INTRODUCTION

### INVOLVING, LISTENING AND RESPONDING

“Designed for Life”<sup>1</sup> sets out the Welsh Assembly Government’s commitment to ensure patients and the public have a real say in how NHS services are planned and delivered.

“Signposts II”<sup>2</sup> recognises that public and patient involvement is a core priority for the NHS because it is about the quality of care and the experience that patients have.

When women are invited for breast screening they need to know that the service is focused on their needs. We aim to provide a high quality, equitable service, supported by the following principles:

- People should be well informed about the benefits and risks of breast screening.
- The breast screening programme must be acceptable to our diverse users.

To help us in reaching these aims, we continually seek the views of our users and others who have an interest in our service. We work in partnership with groups and organisations across Wales to understand what people want from us.

### HOW DO WE DO THIS?

#### In the community

Our Screening Promotion Officers work with GPs, health centres, health professionals, carers and diverse communities across Wales. They arrange talks and workshops to gather information and suggestions about the service.

An example of our work is the production of a new video/DVD for the service. This involved women from south Wales together with voluntary organisations, coming together to help in its development.

Lay members of the public are involved in our public information group contributing and advising us on the language usage, layout, readability and availability of our written information.

#### Assessing language needs

In 1999 we produced our first “multilingual information leaflet” to tell women whose first language was not English or Welsh about breast screening. This provided information in nine languages, identified as those most commonly used in south east Wales.<sup>3</sup>

Subsequently, the need for a routine review, the knowledge of changing migrant populations and closer working with minority ethnic organisations led to an audit and consultation exercise across Wales throughout 2005. We carried out a postal review in Wales to seek the views of:

- health professionals working in primary care
- equality and health and social care facilitators
- staff working with minority ethnic community groups.

The response rates ranged from 43% to 51% amongst the three groups. Overall, 46 responses were analysed and reported on.

Across all three groups, the majority of respondents were in favour of the concept of a multilingual information leaflet. Negative comments related to the colour of some of the text making it difficult to read and the omission of Eastern European languages. It also didn't tell them enough about what to expect.

There are new migrant populations in Wales, particularly in north Wales, whose languages were not covered in the current leaflet. It was apparent from the review that





## INTRODUCTION

the language needs for women varied greatly across our three BTW Divisions.

The outcome of the review has been to develop a series of new multi language information leaflets that cover the main language groups spoken in Wales: Arabic, Asian, Eastern European, European and Oriental/ Far Eastern.

In total, the series of leaflets will provide basic breast screening information in 21 languages. These follow a similar design and layout to our old leaflet, but contain more information and our local telephone numbers.

The new leaflets will be in circulation during 2006. They will be available free of charge on request and will be on our BTW website.

### Listening and Responding

The nature of screening is such that some women will always feel that the service has failed them. An awareness of this aspect always tempers our reports on our successes.

A key indicator for satisfaction is the number of women who re-attend for screening at subsequent rounds. BTW's attendance (uptake) and re-attendance rates are excellent, both in the age group who automatically receive invitations and amongst older women who self refer.

In 1998, a BTW researcher conducted telephone interviews with 684 women who had not attended for screening to identify any relevant factors.<sup>4</sup> There were few indications that these women were dissatisfied with the service, although it did confirm that the fear of pain/discomfort and difficulties with access were issues for some, in line with research elsewhere.

Our regular **consumer satisfaction surveys** show that by far the majority of responders are very satisfied with all aspects of the service. We can only sample a comparatively small number of women, but their replies support our view that high standards are being maintained.

We also use complaints and comments to monitor satisfaction. **Comment sheets** are available on the mobile units and at our screening centres. Women are encouraged to complete them honestly describing their experience. A written response is given to every comment sheet if the woman has left her name and address. These comments are collated and reviewed by our management teams in each division.

Our complaints leaflet tells women how to let us know if they are dissatisfied. Women are encouraged to talk to our staff at the time or on the telephone after their visit. Often, they will be able to deal with the problem straight away or they may be referred to a more senior member of staff. BTW will not treat a woman differently from other people just because she has made a complaint.

All complaints are reviewed and acted on at a senior management level. Actual numbers of adverse comments and complaints are remarkably low, especially when considered against the thousands of women invited and screened each year. Nevertheless, we investigate these thoroughly, apologise sincerely when things go wrong and try to learn from them to improve our service.

### Improving Access

We are very committed to providing an equitable and high quality service. These are some of the ways we address this for women with disabilities.

#### 1. Communicating with patients in a variety of media

- We have "Textphones" ("Minicomms") in our Centres for deaf and hard





## INTRODUCTION

- of hearing women to access when they phone us.
- We have loop systems in our reception and clinical areas and portable units for use elsewhere.
- Our front-line staff use the Royal National Institute for Deaf People (RNID) factsheet 'Communicating with deaf people who lip-read'.
- Large print, audio materials, picture books and illustrated leaflets are widely available to women, carers, health professionals and support groups.
- Disability awareness training is ongoing with all staff.
- Our screening promotion officers provide information on request to local groups.

### 2. Liaison and involvement with disability groups in Wales

**Physical Disabilities:** We invited representatives of various disability groups to visit the Wrexham Satellite Centre while it was still under construction. Advice and comment on aspects of the building which could prove difficult for someone with a disability was sought during the tour. The visit highlighted some areas which needed alteration. This exercise provided us with valuable information to enable equity of access.

To support the objectives of the Disability Discrimination Act (DDA), we set up a DDA procedures group which included representatives from the Equality Unit and disability groups. We have now improved our service, with the help of hospitals across Wales and in England – see section 5 below.

**Learning Disabilities:** All general practices in Wales have been given Picture Books which explain the screening process.

We work in partnership with Learning Disabilities teams across Wales to provide information about the screening services. They work with the family carer, supporter or community nurse to decide how to use the pictorial information available to support women to decide whether they wish to be screened.

### 3. DDA Audits

An audit for compliance with the DDA was done in all of our Centres and on our mobile units. Improvements were then made to our Centres including:

- providing automatic opening systems to the entrance doors.
- replacing the lift in the Cardiff Centre.
- lowering a section of the reception desk in the Cardiff Centre.
- installing extra handrails.
- installing automatic taps.

### 4. Limitations of the mobile units

Using mobile units enables us to offer screening within many towns and cities across Wales. However, the units are inaccessible to people who have certain disabilities, especially wheelchair users, women with significant mobility problems and those who would like a carer with them. We ask these women to contact us and alternative arrangements are offered at our static Centres (see next section).

The entrance steps to the mobiles are steep and difficult. We considered two options to allow alternative access:

- **Ramps:** - The DDA requirements are:  
“that they not be too steep or too long. They need a level space at the top, so that the wheelchair user does not roll back if waiting or trying to open a door. Ramps should be limited to a gradient of 1 in 20 and have a level space 1.5m deep at the top, outside the swing of any door, for a wheelchair user to wait or rest on. If site conditions make this gradient impossible, the absolute maximum is 1 in 12, although 1 in 15 would be preferred. Ramps at 1 in 12 should have 1.5m long,





## INTRODUCTION

level landing spaces at not more than 2m apart. At 1 in 15 there should not be more than 5m between landings/resting places. Ramps at 1 in 20 should not be longer than 10m between landings.”<sup>5</sup>

A ramp at least three times the length of the mobile would be required. This option has been dismissed as impracticable.

### ● Wheelchair lifts:

A few mobile units in England and those in Scotland have a lift leading either to the reception area or directly into the X-ray room. Special arrangements have to be made to use these lifts as when they are in operation they replace the entrance or fire exit steps. For lifts leading directly into the Xray room, the lift has to be dropped to its lowest position so that the Xray doors can be shut during the examination. At this time, neither stairs nor lift are quickly accessible, so a transport officer stays outside ready to operate the lift, throughout the examination.

A radiography manager, a wheelchair user and her husband visited an English mobile with one of these lifts some years ago. Their verdict was that the lift was unsafe and the user felt very exposed. They advised that we should continue to offer the alternative of the static centres.

We have reconsidered this decision many times but feel that, even if access were to be provided, other limitations make carrying out mammography on the mobile units to the standards required for breast screening inadvisable at the present time.

The existing mobile units are restricted in width according to road transport regulations and in length by the need to negotiate local roads and car parks. The X-ray room is very small and accommodates the mammography unit, the film handling equipment, a sink and a work surface. We recommend that two radiographers should work together on the more demanding examinations. Carrying out mammography on a woman who is sitting down is particularly difficult. Working in a restricted space adds to the health and safety risks for the radiographers, particularly those relating to physical strain. There is very little room for a carer or companion.

The radiographers’ options for modifying the radiographic technique are limited and it might not be possible to achieve an examination of the required standard. Delivering a radiation dose for a sub-standard examination, when there are alternatives available, could be unethical. There are no film processing facilities on the mobiles as this would take up further room, make quality control, environmental and safety regulations much more difficult to meet and would significantly reduce throughput. The radiographers are therefore not able to check the mammograms at the time. This is particularly desirable when there are technical difficulties. The current rate for women who need to return for technical repeats is less than 1.5% but would be much higher for these women.

Finally, in order for the screening programme to be cost-effective, the time allowed during routine screening sessions has to be quite short. When any women who need more time are examined during routine screening clinics, unplanned delays occur, with extra waiting time and anxiety for the other women in the clinic.

### 5. Alternative arrangements

In the past, we have felt that the over-riding consideration should be that all women receive an equitable service in terms of technical and clinical quality. The invitation letter and accompanying leaflet therefore stress that women with any significant disabilities should ask for an appointment at their nearest Breast Screening Centre, that is in Cardiff, Swansea, Llandudno or Wrexham. Extra time and staff are then arranged within





## INTRODUCTION

dedicated clinics. We can arrange and fund transport if required.

However, such limited options are not equitable in terms of physical access and could be perceived as discriminatory. We have now developed a service in conjunction with the hospital-based services across Wales.

We cannot use all of the hospitals. 13 of the 19 hospital mammography units in Wales have changed to digital imaging. Digital equipment is not yet approved for screening mammography in the UK. Some of these are “direct digital” systems which can only produce electronic images, which we are not able to access, or printed images which are of unacceptable quality. However, some use a computerised system that can be removed and replaced with conventional film.

Arrangements are now in place for us to offer screening in the following hospitals:

- Royal Glamorgan Hospital, Llantrisant
- Bronglais Hospital, Aberystwyth
- Withybush Hospital, Haverfordwest
- Ysbyty Gwynedd, Bangor
- County Hospital, Hereford.

We are deeply grateful to the radiographers and managers in these hospitals for their willing and enthusiastic co-operation and support.

### 6. Future plans

We will continue to consider how screening can be offered at hospitals with direct digital mammography. This is dependent on producing images of acceptable quality to our film readers, either as hard copy prints (which can be read in the same way as other BTW films) or in electronic form (which will require special computer workstations).

In the longer term, we are considering how direct access to our mobile units may be achieved. The units are due to be replaced from the year 2009 onwards. Digital mammography units don't need film handling equipment so more space will be available. A complete redesign will then be considered.



#### Key Messages:

- People should be well informed about the benefits and risks of breast screening.
- The breast screening programme must be acceptable to our diverse users.
- We are committed to providing an equitable and accessible service and will continue to work towards this aim.



## RESULTS

### COVERAGE AND UPTAKE STATISTICS IN BREAST SCREENING

The prime objective of screening is to reduce mortality from breast cancer. Two key measures are:

- **Coverage** – the proportion of eligible women in the population who are screened in a given time period
- **Uptake** – the proportion of invited women who attend their screening appointment in a given time period

High rates in both measures are needed to ensure screening has the desired effect.

BTW only offers screening to women who are resident in Wales. Of these:

**Eligible women** are all those registered with a GP or registered with the Local Health Board (LHB) for other services.

**Ineligible women** are those with a bilateral mastectomy and those who have opted out of the programme permanently.

BTW has a policy to ensure women not registered with a GP or LHB are also offered screening where they can be identified, e.g. some women in long-stay care and women linked to the military services. These women are not included in the counts of eligible or ineligible women.

Although it appears as if coverage and uptake are the same measure, for reasons particular to the breast screening programme, this is not the case.

In breast screening, the eligible group (age 50 to 64 to 2006, now 50 to 70) is not the same as the invited group. Women are invited every three years, each general practice being screened in turn, so there are always women who have become eligible, i.e. reached age 50, who have not yet been invited.

Therefore the coverage rate of those screened includes:

- the number of eligible women not yet invited (aged 50 to 52)
- eligible women who have not been invited due to other reasons such as round length slippage
- women invited who chose not to attend.

It is therefore not a simple measure.

**The annual coverage statistics** are a snapshot of the current eligible population on a particular date.

They **exclude** women who were invited and screened in the period who were then aged less than 65 (now 70) but are now over that age.

They **include** women who were not yet 50 but have become 50 or more since, and will not yet have been invited in many cases.

**Therefore, coverage cannot ever be 100%.**

**Uptake rates** count only invited women and are normally a view of the previous screening year.

They **include** all women who were invited during that time whether or not they have now exceeded the invitation age.

They **exclude** the women aged 50 to 52 who have yet to be invited and women in



# RESULTS

the eligible age band who have self-referred after not attending their original invitation.

The rate could theoretically reach 100%.

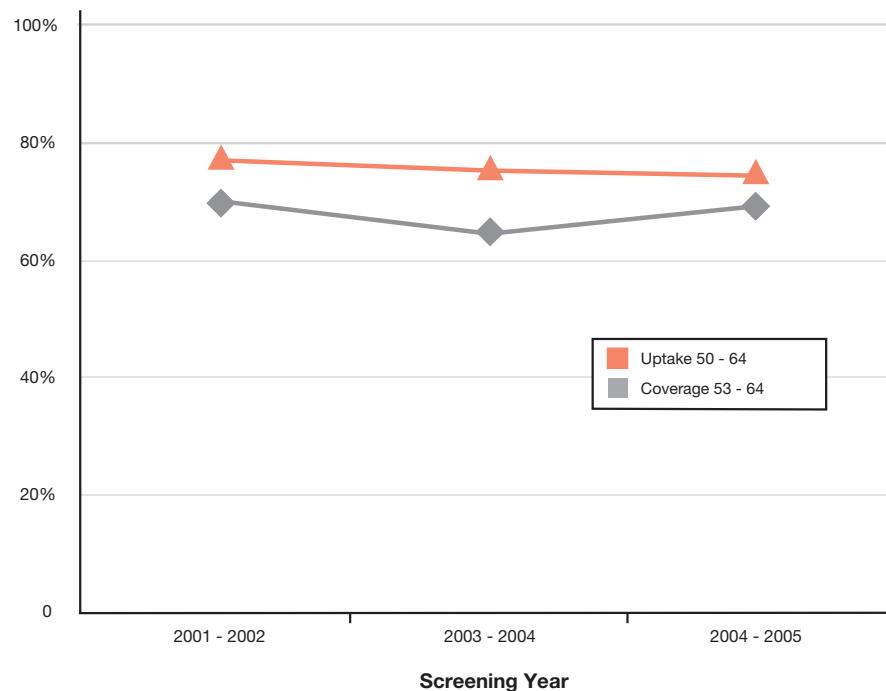
## NHSBSP Standards for Coverage and Uptake

Breast screening standards have been set at 70% or more for both coverage and uptake.<sup>6</sup> It has now been realised that coverage cannot match uptake due to the women waiting to be invited in the 50 to 52 age band. Coverage statistics in England and Wales are now being published for the 53-64 or 53-70 age band.

The average difference between coverage and uptake for the 50-64 age band is about 5% to 7% so an uptake of at least 75% is needed for a coverage of 70%.

Figure 2 shows BTW's coverage and uptake over the last three years. Uptake has been very good at about 77%. Coverage dropped for some years due to unavoidable slippage in round length, but this is being addressed and has begun to improve in 2004-2005. We are indebted to the team of radiologists from the Nottingham Breast Institute who are supporting our North Wales Division to meet our targets.

**Figure 2: Coverage and uptake**



### Key Messages

Coverage - % of ELIGIBLE POPULATION screened  
 Uptake - % of INVITED screened





# RESULTS

## PROGRAMME PERFORMANCE

BTW's results are presented in two sections:

1. Results of screening for the years 2003-2004 and 2004-2005 in the same format as previous Reports of the Director. See Tables 1, 2 and 3.
2. A comparison of these results with those for the rest of the UK. See Table 4.

For a detailed discussion of each standard, see the previous Report of the Director, 2003.<sup>7</sup>

The fourth complete round of screening in Wales will be completed in January 2006 and will be included in a future report.

**Table 1: 2003 - 2004 and 2004 - 2005 Screening Results**

	2003 - 2004				2004 - 2005			
	Invited women, aged 50-64			Self-referrals	Invited women, aged 50-64			Self-referrals
	Total	Not previously screened	Previously screened		Total	Not previously screened	Previously screened	
Women Invited	86021	26782	59239	-	91138	28386	62752	-
Women Screened	66127	14799	51328	9289	69178	15719	53459	8821
Referred for assessment	3392	1252	2140	432	3348	1229	2119	411
Total cancers detected	549	126	423	126	522	130	392	110
Invasive cancers	424	89	335	104	413	93	320	92
In situ cancers (DCIS)	125	37	88	22	109	37	72	18
Invasive cancers <15mm	217	38	179	60	226	49	177	49
Benign operative biopsies	63	33	30	3	70	26	44	10
Women put on early recall	79	23	56	11	82	29	53	9
Non-operative diagnosis	507	111	396	120	492	114	378	106

NOTE: Up to early 2006, BTW was inviting women in the age group 50 - 64.  
 From 2006, BTW is inviting women of 50 - 70. Results will continue to be given for ages 50 - 64 until a full round of screening at the extended age group has taken place.

## RESULTS

Table 2 shows BTW's performance against the UK quality targets in use in March 2005. All screening units in the UK aim to achieve these targets. UK minimum standards, which represent the minimum acceptable standard and which BTW meets, are not shown. First screens are referred to as "prevalent" and subsequent screens as "incident".

Criteria		Targets	2003 - 2004	2004 - 2005
<b>Uptake</b>	1st Invitation		74.3	72.9
	Prevalent		55.3	55.4
	Incident		86.6	85.2
	<b>All invited</b>	<b>≥70% of invited</b>	<b>76.9</b>	<b>75.9</b>
<b>Assessment rate</b>	Prevalent, first invite only, age 50 - 52	< 7% of women screened	8.5	7.7
	Incident, screened in last three years, age 53 - 64	< 5% of women screened	4.1	3.9
<b>Benign biopsy rate</b>	Prevalent, first invite only, age 50 - 52	< 1.8 per 1,000 women screened	2.3	1.8
	Incident, screened in last three years, age 53 - 64	< 1.0 per 1,000 women screened	0.6	0.8
<b>Invasive cancer detection rate</b>	Prevalent, first invite only, age 50 - 52	≥ 3.6 per 1,000 women screened	5.9	4.9
	Incident, screened in last three years, age 53 - 64	≥ 4.0 per 1,000 women screened	6.5	5.8
<b>Small cancer detection rate &lt;15mm</b>	Prevalent, first invite only, age 50 - 52	≥ 2.0 per 1,000 women screened	2.6	2.5
	Incident, screened in last three years, age 53 - 64	≥ 2.2 per 1,000 women screened	3.5	3.3
<b>Expected rate of ductal carcinoma in situ (DCIS)</b>	Prevalent, first invite only, age 50 - 52	≥ 0.4 - ≤0.9 per 1,000 women screened	2.5	2.4
	Incident, screened in last three years, age 53 - 64	≥ 0.5 - ≤1.0 per 1,000 women screened	1.7	1.3
<b>SDR (Standardised Detection Ratio)</b>	Prevalent	≥ 1.0	1.5	1.5
	Incident	≥ 1.0	1.6	1.5
	Overall	≥ 1.0	1.6	1.5
<b>Early recall</b>	All invited	≤ 0.25%	0.12	0.12
<b>Non-operative diagnosis of cancer rate (Needle biopsy)</b>	All ages, all screening groups	≥ 90%	93.3	94.5
<b>Waiting time to assessment*</b>	All recalled women	100%	33.0	28.3

\* Waiting Time to Assessment is defined as the interval from the screening mammogram to assessment, measured as the percentage of women (recalled) who attend an assessment centre within three weeks of attendance for the screening mammogram.

NOTE: Some standards and targets were changed in April 2005 so that future reports will be shown against some differing targets.



## RESULTS

Table 3 demonstrates that BTW continues to comply with the technical standards for image quality and radiation dose. This means that details within the breast show up clearly on the mammogram, whilst at the same time the risk from the X-rays is low. The radiographers cannot process and view the mammograms to check the quality on the mobile units. Nevertheless, the number of women who were asked to return for further films for technical reasons was minimised.

**Table 3: Technical Standards**

Criteria	Minimum Standards	BTW Performance	
		2003 - 2004	2004 - 2005
High contrast spatial resolution	≥ 12 lp/mm	13.3	13.3
Minimum detectable contrast: 5-6 mm detail	≤ 1.2 %	0.8	0.9
Minimum detectable contrast: 0.5 mm detail	≤ 5 %	3.1	3.2
Minimum detectable contrast: 0.25 mm detail	≤ 8 %	–	6.4
Aim film density	1.5 - 1.9	1.80	1.81
Mean glandular dose per film for standard 4.5cm breast (pre September 2003 standard)	≤ 2 mGy	1.5	–
Mean glandular dose per film for standard 5.3cm breast at clinical settings	≤ 2.5 mGy	–	1.8
Number of repeat examinations	< 3% of total examinations	1.7%	1.6%

NOTE: standards revised in September 2003 therefore some data not available.

Table 4 compares BTW's results with those for the rest of the UK as reported in the NHSBSP Annual Review for 2005.<sup>8</sup>

**Table 4: UK Screening Results**

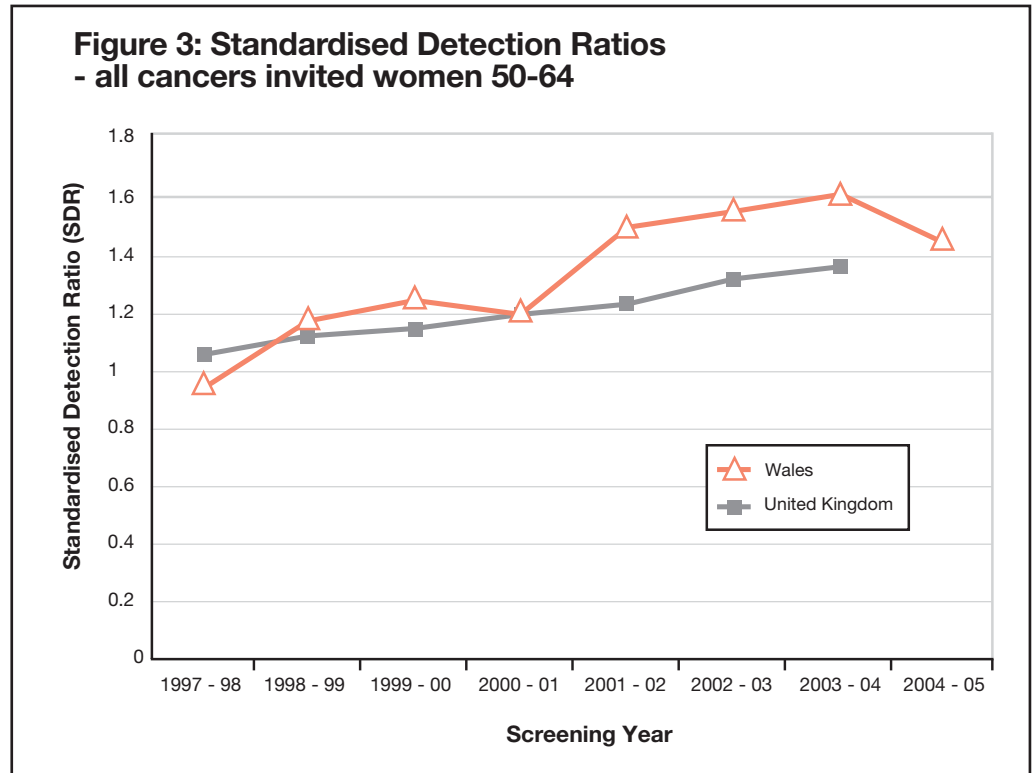
		2003 - 2004			
		Prevalent (first) screen age 50 to 64		Incident (subsequent) screen age 50 to 64	
		Wales	UK	Wales	UK
Acceptance rate (prevalent rate is following first invitation only, incident rate includes any previous attendance)	% of invited	74.3	72.8	86.7	85.4
Recall rate	% of screened	8.5	8.7	4.2	3.8
Benign biopsies*	per 1000 screened	2.2	2.0	0.6	1.0
Invasive cancer detection rate	per 1000 screened	5.9	5.1	6.5	N/A
In situ rate	per 1000 screened	2.4	1.9	1.6	1.4
Small cancer detection rate	per 1000 screened	2.6	N/A	3.5	2.9
Non-operative diagnosis rate*	per 1000 screened	88.1	80.2	93.6	86.3
Standardised Detection Ratio (SDR)*		1.53	1.39	1.63	1.38

\* Includes prevalent women with previous non-attendance and incident women with any previous attendance.  
N/A - Not available

## RESULTS

BTW exceeds the UK performance in almost all categories and continues to perform exceptionally well in the detection of invasive and small invasive cancers. In addition, the Welsh programme does not have exceptionally high recall rates and has an excellent non-operative diagnosis rate.

Standardised detection ratios (SDRs), a measure of overall programme performance for Wales and the United Kingdom are presented in Figure 3. Note that two-view screening in Wales was introduced in 2001-2002.



### Key Messages:

- BTW continues to achieve or exceed virtually all programme standards.
- BTW performs exceptionally well in the detection of invasive and small invasive cancers.
- BTW continues to minimise the harms from screening:
  - recall to assessment rates are acceptable
  - the non-operative diagnosis rate is excellent.

### PROGRAMME REVIEW

BTW has been monitoring its performance carefully over time to ensure rates remain at or above standard and are improving where possible.

Incident cancer detection rates have shown the most marked improvement over a number of recent years (see Figure 4). The rates for prevalent screens are stable - two views at every screen has been BTW policy since the start of screening. The introduction of two views for all screens in 2001 is shown in the increase in detection rates since that time. The very slight fall back in detection in 2004-2005 may be the

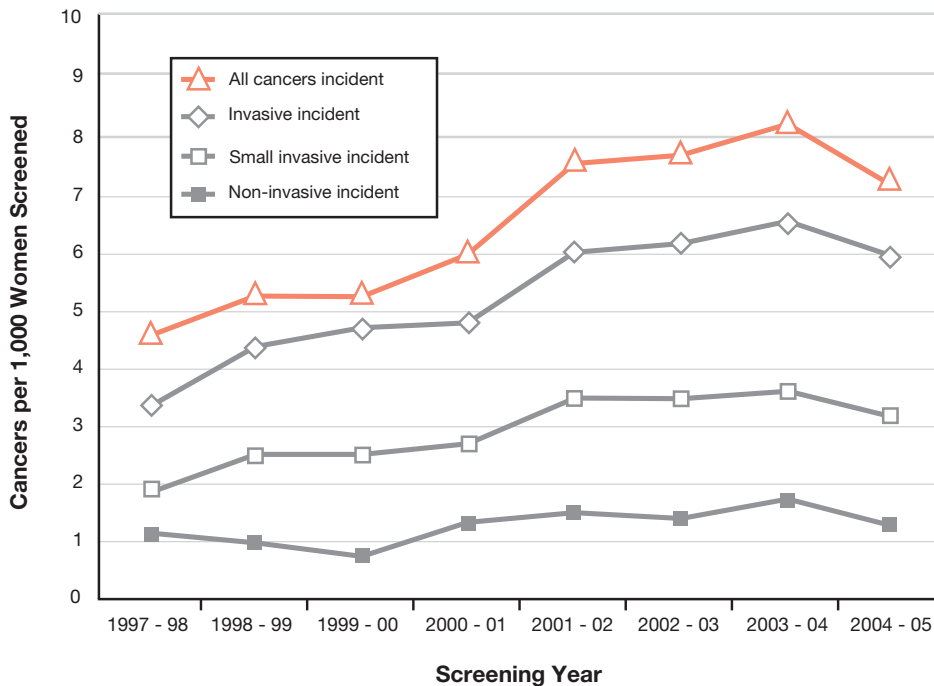




## RESULTS

result of two-view screening having been in place for a full three years so that women returning for their next screen have already all had two views at their previous screen.

**Figure 4: Incident Cancer Detection Rates  
- invited women aged 50 - 64**



## A YEAR'S COHORT

Every year since 1989 BTW has invited women aged between 50 and 64 to have a breast x-ray (mammogram). Every woman resident in Wales aged between 50 to 64 (up to age 70 from 2006) is entitled to receive a breast screening invitation. Research has found that this test is best done every three years.<sup>9</sup> So every year a third of the eligible women are invited.

Some women decide that they do not want to be screened. Some will let BTW know why, but others will just not attend their appointment. Approximately 20% of women each year decline their invitation.

99.4% of screens are negative. A breast cancer found at screening is counted as a **screen detected cancer**.

A woman who has had a negative screen will be recalled (invited again) in three years time as long as she is still eligible.

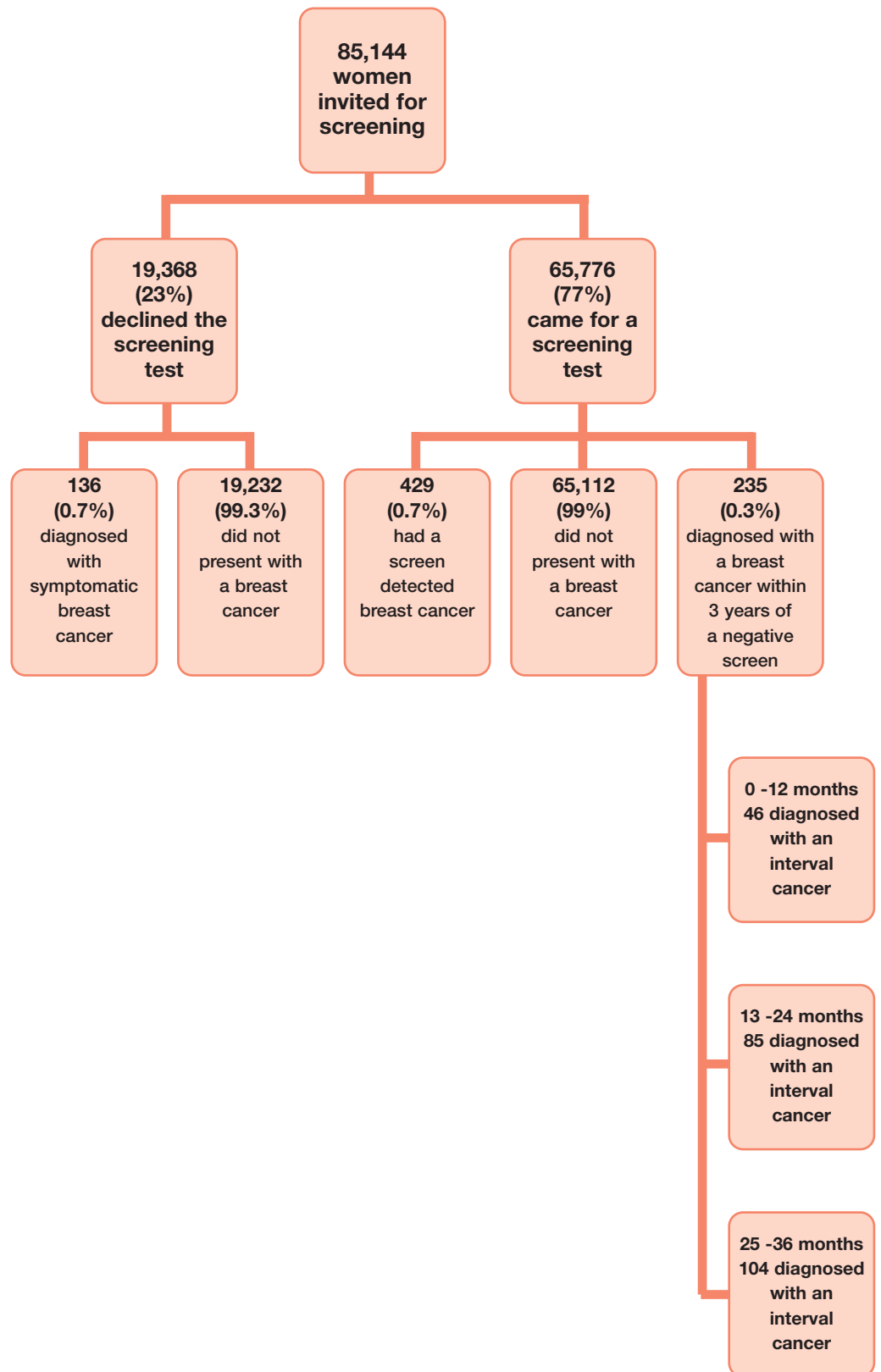
However, breast cancer is a disease which can present at any time, not just when a woman is screened. A woman may notice symptoms such as a lump. Breast cancer that is symptomatically diagnosed within three years after a woman has had a negative screening test is known as an **interval cancer**.

Women who declined their invitation for screening may also be diagnosed with breast cancer and these cancers are **non-attender cancers**.



## RESULTS

We looked at the records for all BTW women offered an invitation between 1st April 2000 and 31st March 2001. The following chart shows how many of those women were diagnosed with a breast cancer over the following three years.





## RESULTS

### WOMEN WITH A FAMILY HISTORY OF BREAST CANCER

Research studies have not yet shown a clear benefit in the general population for starting screening earlier than age 50. However, women at increased risk because of a family history of breast cancer may benefit from screening at an earlier age. The National Institute for Clinical Excellence (NICE) has published clinical guidelines for the classification and care of women at risk of familial breast cancer,<sup>10,11</sup> which contain the following recommendations for surveillance:

For women aged 40–49 years at moderate risk or greater, mammographic surveillance should be:

- annual
- to NHS Breast Screening Programme standards
- audited
- part of the NHS Research and Development Health Technology Assessment Programme evaluation of mammographic surveillance of women younger than 50 with a family history wherever possible
- only undertaken after provision of written information about the positive and negative aspects of surveillance.

For women aged 50 years and older, surveillance should be:

- as part of the NHS Breast Screening Programme, screened every 3 years
- more frequent mammographic surveillance should take place only as part of a research study (ethically approved) or nationally approved and audited service.

BTW offers breast screening to women resident in Wales, who have been assessed by the Genetics Service and found to have an increased risk of developing breast cancer. Those of the appropriate age are recruited into the recommended Health Technology Assessment Programme sponsored project. The project aims are:

- To estimate the difference in breast cancer mortality in women under the age of 50 with a significant family history of breast cancer having regular mammography compared to those not being screened
- To estimate the cost-effectiveness of regular mammography in this group of women, compared to no screening.

In addition, BTW quality assures and audits its mammographic screening service for these women and those in the older age group in the same way as for the routinely screened population. Over 1,500 women with an increased risk of breast cancer because of their family history are now screened every year within this arrangement.



## IMPACT OF BREAST SCREENING

### THE IMPACT OF BREAST SCREENING IN WALES POPULATION-BASED EVALUATION

#### Incidence

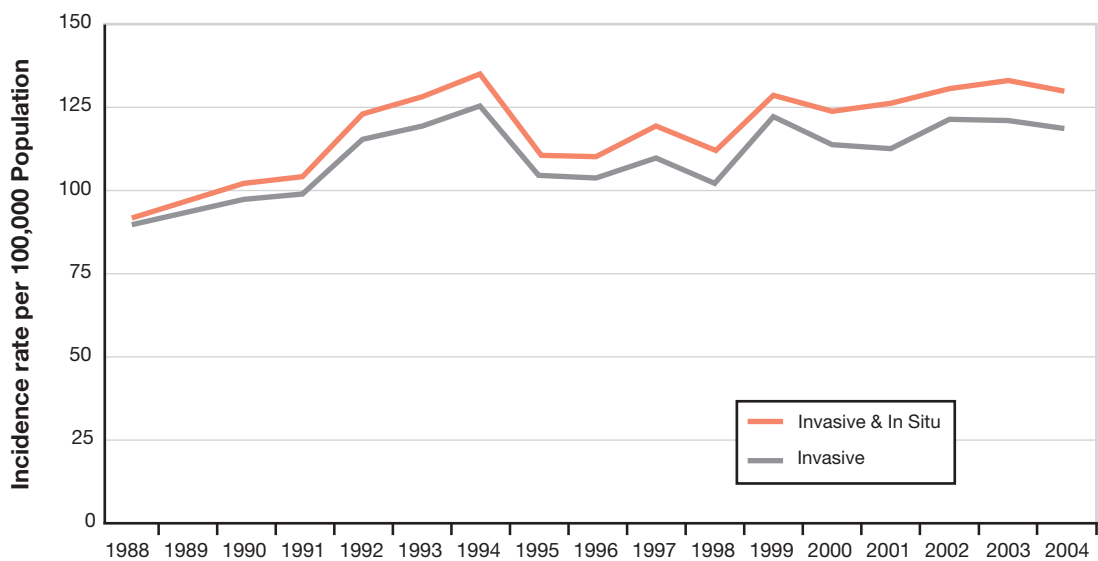
Between 1988 and 2004, the actual number of new diagnoses (incidence) of invasive breast cancer in Wales has fluctuated (Table 5) and the rate has increased but may be stabilising (Figure 5).

**Table 5: All Wales crude numbers of all incident breast cancers**

Year	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Incidence	1592	1709	1755	1789	2087	2133	2194	1922	1983	2072	1928	2273	2124	2130	2318	2355	2314

\* Note that the recent figures are subject to change as data is quality assured. Information source: Welsh Cancer Intelligence and Surveillance Unit, Velindre NHS Trust.

**Figure 5: Incidence rates per 100,000 women resident in Wales, age standardised to the European Standard Population**



Information source: Welsh Cancer Intelligence and Surveillance Unit, Velindre NHS Trust.

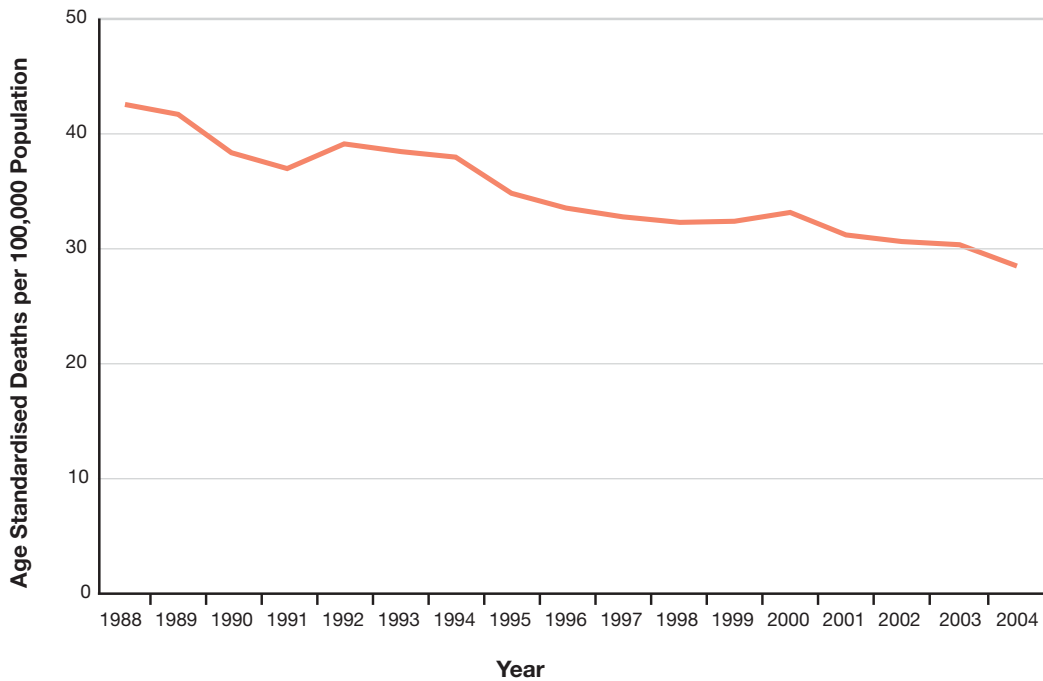
#### Mortality

Overall mortality rates continue to fall, as shown in figure 6. The crude number of deaths from breast cancer in Wales (all ages) fell from 844 in 1988 to 645 in 2004 – a 24% reduction. When standardised for age there was a 35% reduction in mortality, from 43 deaths per 100,000 in 1988 to 28 deaths per 100,000 in 2004.



## IMPACT OF BREAST SCREENING

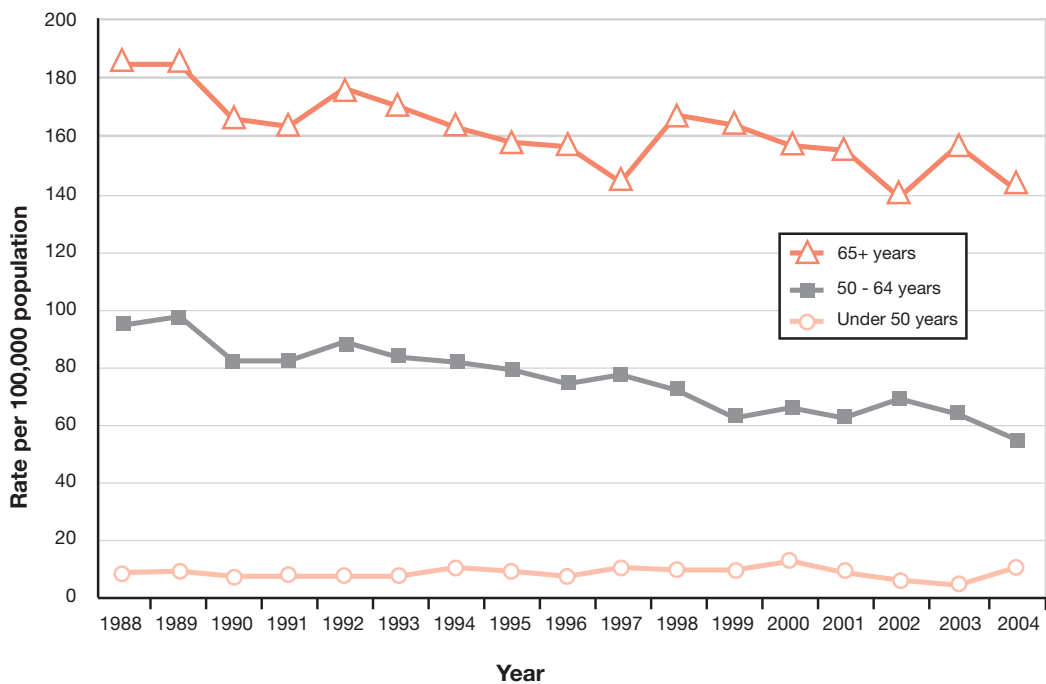
**Figure 6: Breast cancer mortality rates per 100,000 women of all ages resident in Wales, age standardised to the European Standard Population**



Information source: Welsh Cancer Intelligence and Surveillance Unit, Velindre NHS Trust.

Figure 7 shows the age group-specific mortality rates for 1988-2004 by different age ranges.

**Figure 7: Age group specific mortality rates from breast cancer per 100,000 women resident in Wales**



Information source: Welsh Cancer Intelligence and Surveillance Unit, Velindre NHS Trust.



## IMPACT OF BREAST SCREENING

Mortality rates in women aged under 50 remain stable. The mortality rate in the screening age band continues to fall as well as in the older age band.

In the combined age group 55-69 years, the European age standardised mortality rates from breast cancer fell by 39%, from 109 deaths per 100,000 in 1988 to 66 deaths per 100,000 in 2004.

### BREAST CANCER FACTS FOR WALES

- Breast cancer is the most common cancer in women in Wales and accounts for over a quarter of all cancers diagnosed.
- There are approximately 2,300 new cases of breast cancer diagnosed every year in Wales. In 2004, 118 women per 100,000 (European Age Standardised Rate) were diagnosed with breast cancer.
- Incidence rates for breast cancer have continued to rise since the 1970s but may be stabilising.
- Eight out of ten cases are diagnosed in women over the age of 50 years. As a woman gets older her risk of breast cancer increases.
- Five year survival rates for women diagnosed through breast screening are higher than for women diagnosed outside the screening programme.
- Every year around 690 women in Wales die of breast cancer, that is 31 per 100,000 women (European Age Standardised Rate).
- Mortality rates from breast cancer in women over 50 are continuing to fall. When standardised for age, there was a 35% reduction in mortality from 1988 to 2004.

**Source:** Welsh Cancer Intelligence and Surveillance Unit.





## NEW WAYS OF WORKING

### NEW WAYS OF WORKING

#### BREAST CLINICIANS

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The role of breast clinician was first developed to aid the introduction of the UK NHS Breast Screening Programme in 1987. When the service was first established there was a shortage of consultant specialists. Clinicians who have a medical degree and are trained in reading mammograms were required. The very first breast clinicians supported the pilot screening programme in Guildford. The role has continued to develop and breast clinicians are now important members of the multi-disciplinary team. Many doctors have started the pathway towards becoming a breast clinician by helping surgeons in their symptomatic breast clinics.

In July 1996, the Association of Breast Clinicians was founded to formalise and accredit this new specialty as a recognised branch of diagnostic medicine, bringing multi disciplinary skills together in the diagnosis of breast disease. The aim was to achieve this by acquiring the knowledge and experience of all appropriate disciplines to set, monitor and maintain standards by the interchange of information, training and technical expertise.

Much progress has been made towards these aims with the establishment of the Kingston University Post Graduate Diploma in Breast Evaluation. This can now be accessed by not only breast clinicians, but also breast care nurses and radiographers who wish to extend their roles.

Breast clinicians who are fully trained have expertise in reading screening films to detect small impalpable cancers, symptomatic films for patients with new symptoms and follow up films for patients who have had their disease treated. They also have assessment skills in ultrasound and biopsy techniques. Many have an interest in family history clinics and oncology clinics. A few breast clinicians will also have some skills which they are able to take to the surgical theatre. Most breast clinicians in the UK now are fully dedicated to breast disease and are invaluable members of the multi disciplinary team. Many services would struggle without this specialist clinician.

BTW has been highly supportive towards the role and now has three breast clinicians dedicated to the screening programme. They also support the local symptomatic services, making sure that women are seen within the appropriate time for referral allowing rapid diagnosis and treatment from the referral date.

This role of breast clinician will hopefully be taken further in the next few years with the establishment of a specialty in breast disease which can encompass both the training of doctors in this field and aid the training of nurses and radiographers towards advanced practitioner status, in line with the modernisation of the NHS.

#### RADIOGRAPHER-LED CORE BIOPSY

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Some BTW radiographers are now undertaking advanced practice roles in film reading and in carrying out core biopsies, having undertaken comprehensive post graduate training. In 2005, a multidisciplinary team consisting of an advanced practitioner radiographer, the head of medical physics, a consultant radiologist and an associate specialist breast clinician, carried out an audit to assess the effectiveness of radiographer-led core biopsy. The results were published in a poster presented at the Royal College of Radiologists Breast Group meeting. The team demonstrated convincingly that this role development releases radiologist time whilst maintaining and even exceeding the effectiveness of the test.



### RADIOGRAPHER LED STEREO CORE BIOPSY: AN AUDIT OF THE EFFECT ON RADIOLOGIST TIME WITHIN SCREENING ASSESSMENT CLINICS

Tina Edmunds, Senior 1 Radiographer, Dr Elizabeth Edwards, Anna Burch, Dr Kate Gower-Thomas. Breast Test Wales, Cardiff, UK

#### Introduction

Breast Test Wales (BTW) screens around 78,000 women in Wales per year. The programme has a recall rate of 8.4% (prevalent screen) and 4.1% (incident screen) with a standardised detection ratio of 1.63 (prevalent screen) and 1.49 (incident screen). The number of women recalled for assessment has increased since the introduction of two view mammography and is likely to increase further with the additional women screened due the age extension of the programme. BTW (Cardiff) has developed a team of radiographers who have extended their role in stereo imaging to include biopsy. This aids throughput of women in the assessment clinic and thereby easing pressure on the radiologist.

#### Aims

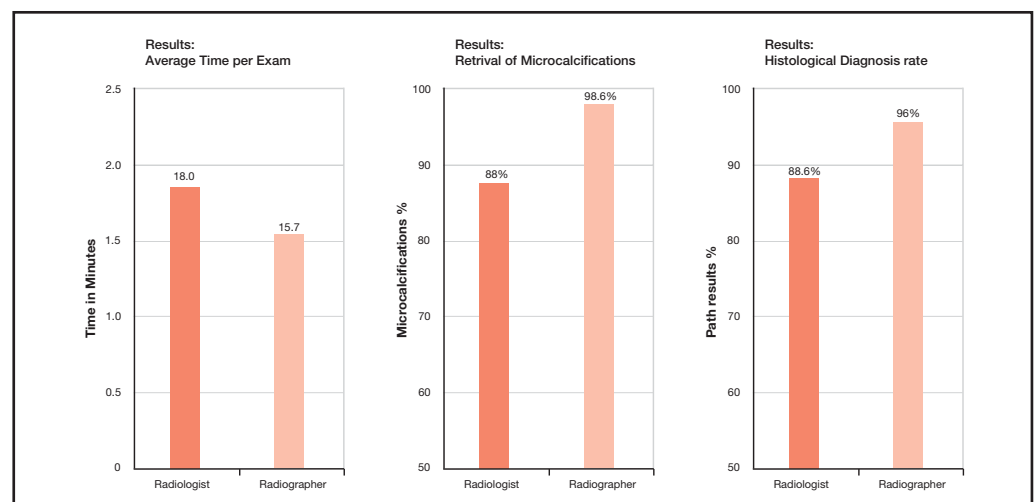
The aims of the audit were: to assess the effect on radiologist time in the assessment clinic; to show that the radiographers had a biopsy diagnostic rate equivalent to the radiologist; and to establish training and working protocols.

#### Method

Women assessed in clinic with R3/R5 microcalcification and needing stereo core biopsy were identified. The radiologist discussed with the radiographer the biopsy approach to be taken and area of interest needing biopsy which was then outlined with china pencil on the film. The equipment used for stereo core biopsy was a Siemens Mammomat 3000 with Opdim digital stereo. In the audit period January to July 2005, 150 biopsies for microcalcification were audited and compared to 150 previous screening women requiring stereo core biopsies for microcalcification, carried out by clinicians and radiologists. Examination times were compared to 48 examinations measured as part of a previous study.

The following were audited:

- Time taken to carry out the biopsy (from targeting to completion of sampling).
- Whether microcalcification was retrieved and seen on the specimen film.
- If a histological diagnosis was obtained from the biopsy within 2 visits (NHSBSP standards).





## NEW WAYS OF WORKING

### Discussion

A total of 45 hours of radiologist time was released during this period (150 cases at an average of 18 minutes per case). The percentage of examinations resulting in retrieval of microcalcifications and histological diagnosis did not decrease during radiographer-led biopsies. Note that a digital specimen radiography cabinet was installed shortly after the start of the audit but was not available during the previous study of examination times; this may have contributed to the slightly shorter average time for the radiographer-led procedures. Subjectively it was felt that the seamless nature of the radiographer-led procedure contributed to the higher retrieval rate by reducing the risk of patient movement while waiting for the radiologist.

### Conclusion

The audit demonstrates that radiographer-led stereo core biopsy can release radiologist time in assessment sessions without a negative impact on diagnosis and that current training and working protocols can be established to maintain QA standards.

### RADIOGRAPHER TRAINING

BTW offers post-graduate training modules in mammography to radiographers within the Cardiff University Postgraduate Diploma or Master of Science Degree in Radiography programme.

#### In 2003-2004:

- Seven radiographers registered - five BTW and two from the symptomatic service.

#### In 2004-2005:

- Ten radiographers registered - three BTW and seven from the symptomatic service.

BTW has now provided post-graduate mammography training to over 170 radiographers.

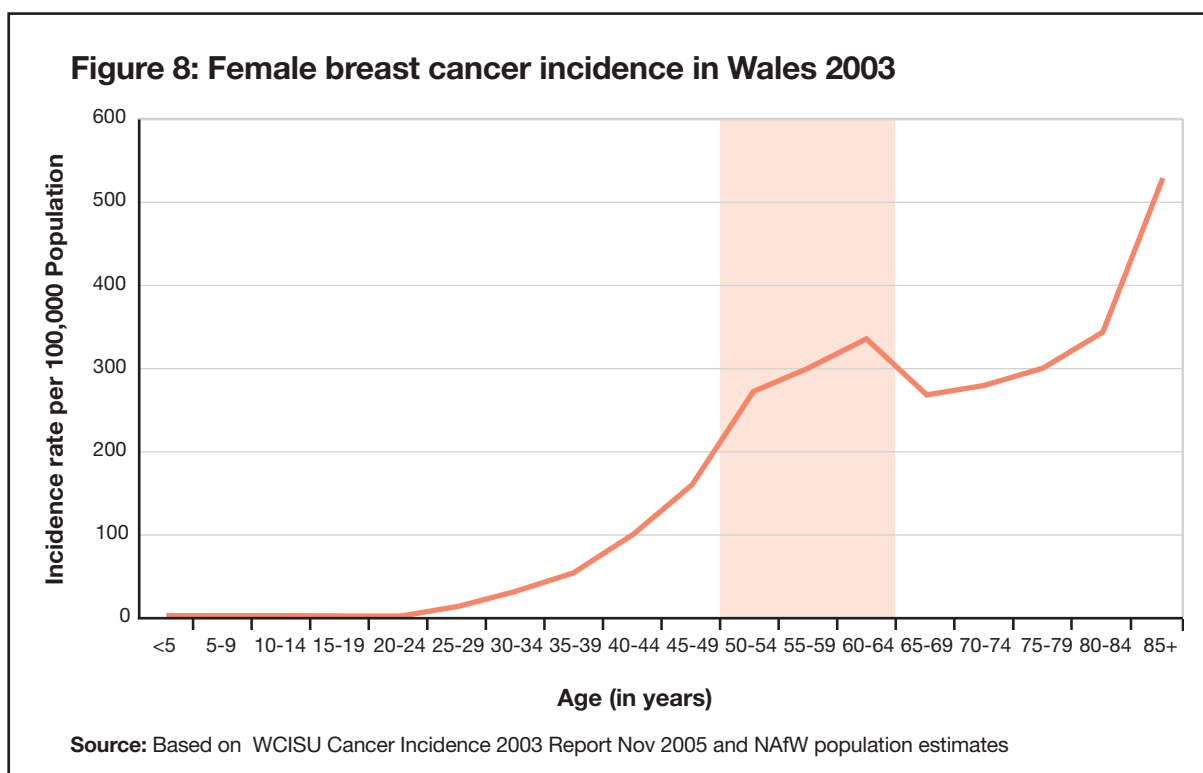


## THE FUTURE

### THE FUTURE

#### EXTENDING THE INVITED AGE RANGE

Breast cancer incidence increases with age, as shown in Figure 8. This means that some older women are at higher risk of breast cancer than the age range initially invited (50-64 years).



When the UK breast cancer screening programme was introduced, it was decided not to invite women older than 64 years, based on research which showed that uptake of screening was lower in older women.<sup>12,13</sup> Older women could “self refer” (ask for an invitation) every three years. However, a more recent UK study<sup>14</sup> showed only a moderate decline in uptake when women were invited up to age 69. The decision was therefore taken to extend the invited age group to 50-70 years, so that each woman receives seven three-yearly invitations. Women above this age are still encouraged to self refer.

Age extension clearly involves a significant increase in workload. Population estimates for Wales for 2004 are 285,700 women aged 50-64 and a further 88,780 aged 65-70, so age extension will increase the number of women invited by 31%. The increase in the number of women actually screened will be lower at around 20%, because a significant number of women aged 65-70 already self refer for screening (based on 2002-2003 figures). This increase will take place against a background of increasing workload due to the rise in the number of women aged 50-64 (due to the “baby boom”) and the introduction of two-view screening (see the Report of the Director, 2003<sup>7</sup>). Together these require a significant increase in staff and equipment.

A pilot programme was started in south-east Wales in May 2003, inviting women aged up to 67. The results for women aged 65-67 up to March 2005 showed:

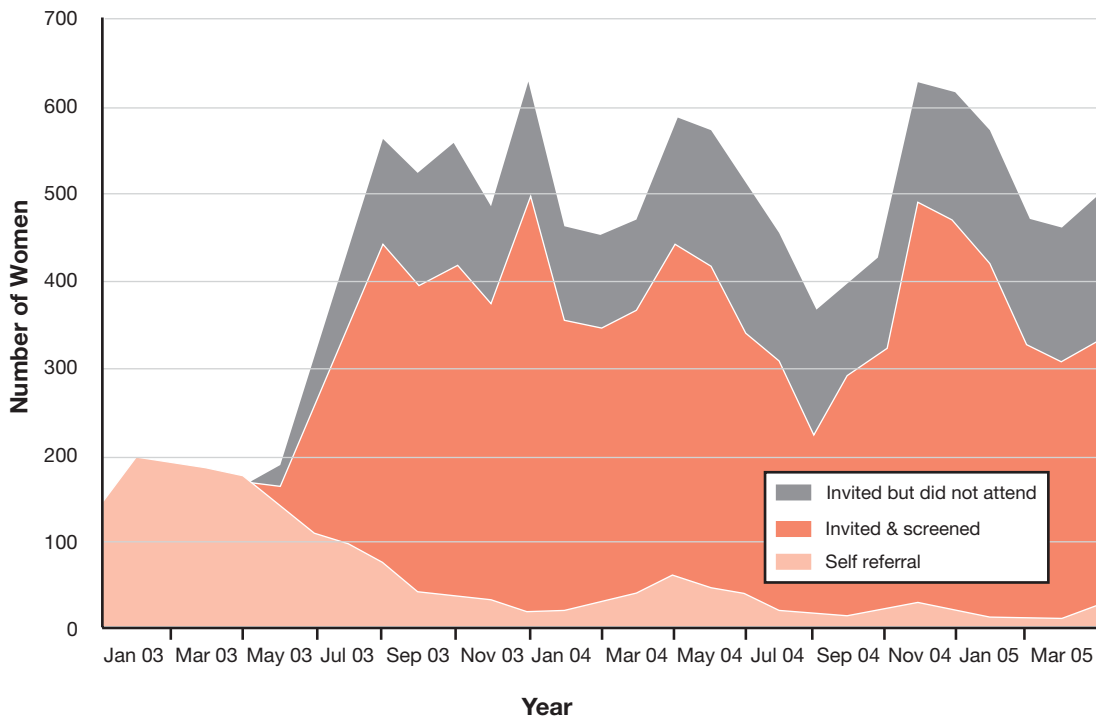
- We made steady progress in inviting women in this age group, so that by March 2005 over 10,000 women had been invited, there were a further 800 self referrals, and over 8,000 had been screened.



## THE FUTURE

- As expected, there was a decline in the number of women self referring as the automatic invitation system took over (Figure 9).

**Figure 9: Screening events for women aged 65-67, SE Wales (3 month rolling averages)**



- The attendance rate for invited women aged 65-67 was 72%. This is slightly less than the rate of 77% for women aged 50-64 in the same period, possibly because some women in the older age group had already arranged an appointment before we invited them. If self referrals aged 65-67 are also included, the overall attendance rate becomes 80%. A more representative value is probably between these extremes and may be similar to that for women aged 50-64.
- The assessment rate for invited women aged 65-67 was the same as that for women aged 55-64. (The assessment rate for women aged 50-54 is higher because many of these are being screened for the first time.)
- The cancer detection rate for invited women aged 65-67 was, as expected, higher than that for the younger age group.

These findings are consistent with the original assumptions we made in the planning phase.

Recruitment of specialist medical staff has proved the main limiting factor on extending the invited age range to 50-70 across Wales. We have recently been able to appoint an additional consultant radiologist and further medical and surgical posts are under discussion. A radiographer reader has completed her training and others are in training.





## THE FUTURE

This increase in our capacity, together with the continued support of the Nottingham team, has enabled us to put plans in place to invite women aged 50-70 in all parts of Wales by the end of March 2006.

### DIGITAL MAMMOGRAPHY

The Report of the Director, 2003<sup>7</sup> sets out the advantages and disadvantages of digital mammography. At that time such systems had not been approved for the NHS breast screening programme.

During 2005 the NHSBSP in England issued the following position statement:

“There has been much discussion recently about digital mammography. The Advisory Committee on Breast Cancer Screening supported setting up a National Digital Steering Group to ensure that screening with digital mammography is only implemented following agreed evaluations of the available equipment.

It is the view of the NHSBSP that film screen mammography remains the gold standard for breast screening and therefore it remains the modality that should be used for screening. To date no full field digital systems (including computed radiography) have been fully evaluated and recommended by the programme as suitable for use in screening, or assessment, in the NHSBSP. However, it is expected that, in due course, full field digital systems will prove valuable in screening. In the mean time we are coordinating evaluations of each type of equipment before it may be used for screening or assessment on a routine basis for women invited by the programme or who self refer into it. These evaluations will be reviewed by the recently formed National Digital Steering Group and the status of evaluations will be posted on the NHSBSP website.”

More recently, the first results from a large USA trial of digital mammography in breast screening were published.<sup>15</sup> These indicated that the performance of some digital equipment was at least as good as the current film-screen systems and might offer advantages for some types of breast. The technology continues to develop rapidly and is already being used for breast screening in some other countries.

BTW is represented on the National Digital Steering Group. In addition, we are starting to plan for the possibility that digital mammography may become the accepted method of screening at some time in the future. Discussions have been held with a wide range of staff to gather ideas about the implications of this change. We are preparing a Strategic Outline Case for submission to the Welsh Assembly Government; this will outline a range of options for the modernisation of mammographic services for breast screening in Wales. If this case is accepted, we will be in a position to take advantage of the new technology if it proves to be beneficial for breast screening.





## RECENT PEER REVIEWED PUBLICATIONS

### RECENT PEER REVIEWED PUBLICATIONS INVOLVING BTW STAFF

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Goyal A, Douglas-Jones A, Monypenny I, Sweetland H, Stevens G and Mansel RE (2004) *Is there a role of sentinel lymph node biopsy in ductal carcinoma in situ?: analysis of 587 cases*. Breast Cancer Research and Treatment. published online.

Fielder HM, Warwick J, Brook D, Gower-Thomas K, Cuzick J, Monypenny I and Duffy SW (2004) *A case-control study to estimate the impact on breast cancer death of the breast screening programme in Wales*. Journal of Medical Screening. 11(4):194-8.

Osborn GD, Beer H, Wade R, Brook D, Stevens G, Evans J, Fielder H and Gower-Thomas K (2006) *Two-view mammography at the incident round has improved the rate of screen-detected breast cancer in Wales*. Clinical Radiology. 61(6):478-82.

Young KC, Burch A and Oduko JM (2005). *Radiation doses received in the UK Breast Screening Programme in 2001 and 2002*. British Journal of Radiology, 78:207-218.

Presentation abstract: Burch A (2004). *Image quality and patient dose in Lorad Selenia digital mammography units*. Proceedings of UK Radiological Congress 2004, Manchester, p.22.

Poster abstract: Burch A and Gower-Thomas K (2004). *The impact of digital stereotactic devices on examination times*. Breast Cancer Research, 6 Suppl 1 Abstract 40.



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