

NATIONAL CANCER PREVENTION POLICY

2004–06



Screening to detect cancer early

Breast cancer

B r e a s t c a n c e r

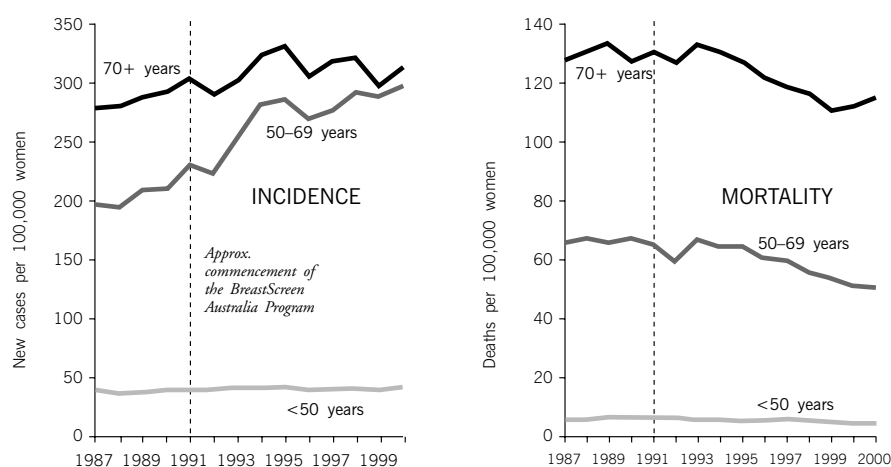
Screening mammography is the only tool we have for early detection that has been shown to reduce population mortality from breast cancer.

Breast cancer in Australia

In 2000, breast cancer was the most common cancer (apart from non-melanoma skin cancer) diagnosed in women in Australia, with 11,314 new cases diagnosed. Breast cancer was also the most common cause of cancer death among Australian women in 2000, with 2521 deaths recorded (AIHW & AACR 2003). Between 1990 and 2000, the rate of deaths from breast cancer decreased by 2% per year (AIHW & AACR 2003).

The risk of developing and dying from breast cancer increases with age. Between 1982 and 2000 approximately 25% of women with breast cancer were aged under fifty years, 48% were aged between fifty and sixty-nine years and 27% were aged seventy years and over (AIHW & AACR 2003). The lifetime risk of being diagnosed with breast cancer is one in eleven (AIHW & AACR 2003).

Figure 2.1 Time trends in breast cancer age-specific incidence and mortality rates, Australia 1987–2001



Rates are the number of new cases/deaths per 100,000 women age-standardised to the Australian population at 30 June 2001

Source: AIHW National Cancer Statistics Clearing House

Figure 2.1 illustrates the trends in breast cancer incidence and mortality in Australia over nearly twenty years and shows that there have been increases in incidence and falls in mortality for each age group, with the largest changes occurring in women aged fifty to sixty-nine years. Incidence in the fifty to sixty-nine years age group increased from 197.1 new cancers per 100,000 women in 1987 to 296.9 per 100,000 women in 2000 (AIHW 2003). The rapid increase in the detection of breast cancer between 1991 and 1995 corresponds to the introduction of a national screening program which detects cancers that would otherwise not be identified until later (AIHW 2003).

Age-standardised mortality rates for women aged fifty to sixty-nine years have declined since 1993. The mortality rate for women in this target group was 66.8 deaths per 100,000 women in 1987, compared to 51.8 deaths per 100,000 women in 2001. A similar pattern of decline in mortality rates occurred in women aged seventy and over, while rates for women under fifty years remained consistently below 8 deaths per 100,000 women over the period 1987–2001 (AIHW 2003).

Can breast cancer be prevented?

Despite epidemiological evidence of possible risk factors for breast cancer, at this stage there is limited potential for prevention. Most risk factors are not readily amenable to change, while lifestyle-related factors that could potentially be modified are associated with only a small proportion of breast cancer risk.

The strongest risk factor for breast cancer is age; in Australia in 2000 the rates of breast cancer varied from 0.6 per 100,000 in women aged twenty to twenty-four years, to 7.4 per 100,000 in women aged twenty-five to twenty-nine years, to 298.4 per 100,000 in women aged eighty to eighty-four years (AIHW & AACR 2003).

Having a mother, sister or daughter who has had breast cancer also increases the risk of breast cancer; the more first-degree relatives affected, the higher the breast cancer risk. Despite the strength of family history as a risk factor for breast cancer, inherited genetic susceptibility accounts for only about 5% of cases, and for eight out of nine women who develop breast cancer there is no strong family history of the disease (CGHFBC 2001).

Two important genes have been identified that are associated with an inherited susceptibility to breast and ovarian cancer (BRCA1 and BRCA2). Variations in other genes have also been associated with breast cancer risk (Singletary 2003).

Other risk factors that are not easily modified include early menarche, late menopause, and no children or a first child after the age of thirty years (Singletary 2003).

Breastfeeding is also associated with a reduction in the risk of breast cancer, with women's risk decreasing by 4% for each year they breastfeed (CGHFBC 2002).

Recent studies have demonstrated that use of hormone replacement therapy (HRT) is associated with an increased risk of breast cancer that increases with duration of therapy and age (Baber, O'Hara & Boyle 2003; Beral et al. 2003; Gertig et al. 2003; Rossouw et al. 2002). There is some suggestion that women taking HRT also have an increased risk of dying from breast cancer (Beral et al. 2003). The risk of developing breast cancer and dying from it was higher in women taking combined oestrogen and progesterone than women taking oestrogen only. It has been estimated that for every thousand users of combined hormone preparations there are nineteen additional breast cancers compared with women not taking HRT, while there are ten additional breast cancers for every thousand who take oestrogen-only preparations. A reanalysis of more than fifty studies on oral contraceptives and breast cancer found a small increase in the risk of developing breast cancer but this risk returned to normal within ten years of discontinuing oral contraceptives (CGHFBC 1996).

Modifiable lifestyle factors have also been shown to have various associations with breast cancer. There is convincing evidence that alcohol consumption, even at low levels, increases the risk of breast cancer (WCRF & AICR 1997; Chapman 2003). Ridolfo & Stevenson (2001) estimate that

12% of breast cancer is caused by any level of alcohol consumption. In addition, as noted in the alcohol chapter of this National Cancer Prevention Policy, there is evidence of a dose–response relationship with alcohol consumption, with the relative risk of breast cancer increasing by 7.1% for each additional 10 g per day of alcohol (CGHFBC 2002).

Diet, physical activity and the maintenance of a healthy weight may play some role in protecting against breast cancer. As the diet section in this National Cancer Prevention Policy indicates, various reviews have found moderate to weak evidence of the cancer-protective effect of vegetables and fruit (WCRF & AICR 1997; UKDH 1998).

The World Health Organization estimates that 10% of breast cancer worldwide can be attributed to physical inactivity (WHO 2002). An Australian appraisal of the impact of physical inactivity suggests that the population-attributable risk for breast cancer is 9% (Stephenson et al. 2000).

A number of recent reviews have concluded that there is now clear evidence that physical activity can protect against breast cancer (Bull et al. in IARC 2002a; Thune & Furberg 2001). The risk reduction is around 20–40%. The association has been reported for both pre- and postmenopausal women, but it is as yet unclear which time period(s) in a woman's lifespan are most important for physical activity in the development of breast cancer (IARC 2002a).

Overweight and obesity in postmenopausal women are also associated with increased risk of breast cancer (Singletary 2003); there is an increase in risk of 30% in women with a body mass index at or above 28 kg/m² compared to those with a body mass index below 21 kg/m² (Boyle et al. 2003).

Chemoprevention of breast cancer (in particular oestrogen receptor positive cancers) through the use of tamoxifen has recently been investigated in randomised controlled trials, with evidence suggesting that it can reduce the risk of breast cancer by about 40%. However, as tamoxifen is associated with an increased risk of endometrial cancer, blood clots, uterine bleeding, hot flushes and other menopausal symptoms, the potential benefits of tamoxifen do not outweigh the potential risks in otherwise well women (Cuzick et al. 2003).

Screening tests and programs for breast cancer

Mammography

Screening mammography is the best method available for detecting breast cancer early (IARC 2002b). It is the only tool we have for early detection that has been shown to reduce population mortality from breast cancer.

Research on the effects of mammography screening for breast cancer has occurred through randomised controlled trials in North America and Europe. These trials have indicated that the natural history of breast cancer can be interrupted and death delayed through the detection of invasive disease when tumours are small and at an early stage. In addition, mammography in the context of an organised screening program is effective in the detection of a large proportion of early tumours in asymptomatic women. Recently the International Agency for Research on Cancer (IARC) concluded that routine mammographic screening reduced risk of dying of breast cancer by 25% in women aged fifty to sixty-nine years (IARC 2002b).

Breast self-examination

Breast self-examination (BSE) as a method of early detection has come under considerable scrutiny.

Recent evidence from meta-analyses (Kösters & Gøtzsche 2004; Hackshaw & Paul 2003; Humphrey et al. 2002) and randomised controlled trials (Thomas et al. 2002; Semiglazov et al. 2003) shows that BSE does not result in a reduction in the size or stage of tumours at diagnosis or a decrease in mortality from breast cancer. Findings from a UK study that enrolled a cohort of women comparable to the Australian population demonstrated no impact of BSE on mortality after sixteen years of follow-up (UK Trial Group 1999).

Clinical breast examination

The effectiveness of clinical breast examination (CBE) as a screening method has also been questioned. The IARC concluded that 'there is inadequate evidence that screening with clinical breast examination, whether alone or in addition to screening mammography, can reduce mortality from breast cancer' (IARC 2002b). The National Breast Cancer Centre's draft position statement on CBE (2004) summarises the latest evidence. For asymptomatic women at average risk of breast cancer there is insufficient evidence to encourage CBE as a population screening tool. However, as there is no evidence to discourage the practice of CBE, individual women may wish to discuss their specific needs with their doctors. Those at high risk should discuss ongoing monitoring with their doctors. Such options may include CBE.

Breast awareness

In Australia, even with a fully established mammographic screening program, more than half of all breast cancers are found by a woman or her doctor after noticing a change in the breast. Although screen-detected breast cancers are typically smaller, the majority of non-screen detected breast cancers are found at an early stage and treated conservatively (i.e. with surgery that removes as little of the breast as possible). This supports efforts to promote early detection beyond the mammographic screening program.

In the absence of proof that routine, systematic BSE reduces deaths from breast cancer across the population, The Cancer Council Australia has adopted the less formal 'Breast Awareness' approach to encourage women to report unusual breast changes. This involves women being familiar with the normal look and feel of their breasts, so they may be better able to recognise an unusual change.

Breast awareness is considered to be a wellness approach to breast health and is in line with recommendations made by the National Breast Cancer Centre. Breast awareness encourages familiarity as part of general body awareness and health care. No specific technique or regularity is promoted, as there is no evidence of the effectiveness of this approach.

Because many breast cancers cannot be felt, the breast awareness approach should be seen as a supplement to—not a substitute for—regular mammograms.

The policy context

The national breast screening program, now called BreastScreen Australia, began in 1992. It is funded by the Commonwealth Government (Giles & Amos 2003) and co-funded and administered by state and territory governments. It is a free service for asymptomatic women

aged fifty to sixty-nine years and is accessible to all women aged forty years or above. Women in the target group are sent reminders for repeat screens every two years. No doctor's referral is required to attend screening, which is performed by two-view mammography. All mammograms are independently reviewed by two readers, with recall for further assessment of any suspicious lesions detected during film reading. All procedures up to the definitive cytological or histological diagnosis of breast cancer are undertaken within BreastScreen Australia. The screening services are delivered through specialised units, either fixed or mobile, in association with a designated assessment service.

Women in the target group are recruited through direct mail-outs based on the electoral roll, advertising campaigns, brochures and health care providers (AIHW, BreastScreen & NCSP 1999). The Cancer Council supports recruitment of women through the activities of its state cancer councils in community education, promotional literature and the Cancer Helpline. State and territory cancer councils also support BreastScreen Australia through professional education and by running cancer registries which monitor and evaluate the program in relation to cancer rates and mortality.

BreastScreen participation rate

Monitoring and evaluation are important for BreastScreen Australia. The most recent national data on breast cancer screening in Australia were released in late-2003 (AIHW 2003). Unless otherwise noted, data quoted below are from the AIHW monitoring report.

The total number of women screened by BreastScreen Australia in 2000–01 was 1,567,544, of whom 98% were in the target age group (fifty to sixty-nine years). The proportion of the target group screened has risen steadily, from 51.4% in 1996–97 to 55.6% in 1999–2000 and 56.9% in 2000–01. There were only marginal differences in the participation rates between the most and least disadvantaged groups, with all groups, except Indigenous women, having participation rates above 55%.

Indigenous women had a participation rate of only 36.2%, significantly lower than both the national participation rate and the non-Indigenous participation rate.

There was some variation between participation rates in the states and territories, from a low of 46.3% in the Northern Territory to a high of 64.3% in South Australia.

Table 2.1 Participation by women aged 50–69 years in BreastScreen Australia 2000–01 by states and territories

	Australia	NSW	Vic	Qld	WA	SA	Tas	ACT	NT
Rate %	56.9	53.0	59.2	58.4	55.4	64.3	60.0	57.0	46.3

Source: AIHW 2003

In addition, participation rates differed significantly across regions. The age-standardised participation rate for women in the target group ranged from 54.8% in capital cities to 63.3% in large rural centres. Metropolitan areas other than capital cities, large and small rural centres, and other rural areas all had rates higher than the national rate, while capital cities and remote areas had participation rates lower than the national rate of 56.9%.

The Australian Bureau of Statistics National Health Survey data show that 64% of Australian women report having a mammogram every two years (ABS 2002). While not all mammograms will be for cancer screening purposes, this figure suggests that a significant proportion of women are having mammograms outside the BreastScreen Australia program. This is of some concern to

The Cancer Council because it means data are not recorded and the effects of screening for these women are not evaluated. If mammography screening is to be successful, it must be provided within an organised program that adheres to key standards of quality.

Small invasive cancer detection rate

This measures the rate of invasive breast cancers of 15 mm or less diagnosed in women attending BreastScreen Australia. It is expressed as the number of small cancers detected for every ten thousand women screened. In 2001, 65% of all invasive breast cancers among all women aged forty or over were 15 mm or less. The age-standardised rate for the target group was 38.4 per 10,000 women in the first round of screening, and 27.6 per 10,000 women attending for a second or subsequent screening.

Program sensitivity: interval cancer rate

Program sensitivity is measured by the interval cancer rate. A low interval rate suggests a successful program. An interval cancer is an invasive breast cancer that is diagnosed after a screening episode that detected no cancer and before the next scheduled screening episode. Thus program sensitivity is the proportion of invasive breast cancers that are detected by BreastScreen Australia out of all invasive cancers (interval cancers and screen-detected cancers) diagnosed in program-screened women in the screening interval.

The program sensitivity rate for women in the target group 0–24 months after their first screen ranged from 68.2% in Tasmania, 74.4% in Queensland, 74.5% in Victoria, 75.0% in the ACT, 76.5% in South Australia, to 81.3% in Western Australia.

NSW figures are not available so a national rate cannot be calculated.

Detection rate of ductal carcinoma in situ

This indicator measures the rate of ductal carcinoma in situ (DCIS) diagnosed in women attending BreastScreen Australia. The ability to detect DCIS reflects good quality imaging and screen film reading. In 2001, 883 cases of DCIS were detected and the age-standardised rate was 11.2 per 10,000 women screened in the target group.

Recall to assessment rate

This measures the proportion of women who are recalled for assessment after routine screening gives an abnormal result. Overall, the age-standardised recall rate was 8.5% for women in the target group attending their first screening. Rates varied widely from state to state; NSW (7.6%), South Australia (5.3%) and the Northern Territory (4.2%) all had recall rates significantly lower than the national rate. The rate in Victoria was 8.7%, in Queensland 9.7%, and in the ACT 10.4%, while Tasmania (11.1%) and Western Australia (10.5%) had rates significantly higher than the national rate.

The national age-standardised recall rate for women in the target group for their second or subsequent screening was 3.9%.

Mortality

As noted above, a steady decline is evident in the age-standardised mortality rates. Caution should be exercised in attributing falling mortality rates to BreastScreen Australia (Giles & Amos 2003; AIHW 2003). Falling rates may reflect additional factors, such as new approaches to treatment.

What are the potential benefits of screening for breast cancer?

Screening aims to detect a significant proportion of breast cancers that are small and of a low grade, enabling better health outcomes from earlier treatment (AIHW, AACR & NBCC 1999). Research has clearly demonstrated a significant benefit from population mammography screening for women in the target group. It has been estimated that for every 1460 women screened, 13.5 biopsies and 7.4 breast cancers detected, one death from breast cancer is prevented (AIHW, BreastScreen & NCSP 1999). Screening ten thousand women in this age group is estimated to prevent approximately ten to twenty deaths from breast cancer over ten years (UK Trial Group 1999).

Mortality benefits from the screening program, if they occur, will not be seen until five to ten years after a high participation rate is achieved. If 70% of Australian women in the target group participated in the screening program, death rates from breast cancer for women over fifty years offered screening would fall by approximately 25–30% (AHMAC 1990).

Screening may reduce the trauma associated with treatment. Tumours diagnosed at an earlier stage and smaller size require less extensive surgery and chemotherapy.

Potential adverse effects of screening

Mammographic screening may have adverse psychological effects. Of particular concern is increased anxiety experienced as a result of false negative and false positive results (see introduction to Section 2). The potential negative physical and psychological effects associated with a false positive test include anxiety induced by fear of being diagnosed with breast cancer, physical effects of the performance of invasive diagnostic procedures, diagnosis of non-lethal lesions, and exposure to x-rays.

There is a risk of over-diagnosis and over-treatment of DCIS (where the cancerous cells have not spread beyond the basement membrane of the breast ducts—described as non-invasive cancer). There is a poor understanding of which cases of DCIS will progress to invasive cancers and which will not produce any adverse effects. It is possible that women found through mammographic screening to have DCIS will be treated by surgery and/or radiotherapy without evidence of the benefits of treatment having been established (Rickard 1996). However, BreastScreen Victoria (2001) reports a steady decline in the proportion of women diagnosed with DCIS undergoing surgery.

Who should be screened?

Evidence of greatest benefit exists for the target age group (women aged fifty to sixty-nine years). The Cancer Council recommends that all women in this age group have a mammogram every two years through BreastScreen Australia. Debate, however, is increasing around the benefit of extending screening to women in the decades either side of this age bracket.

An Australian review of the benefits of screening women aged forty to forty-nine years concluded that there is less benefit in screening these women. The benefit is greater for those at the older end of the age bracket, and for those with a strong family history of breast cancer. The benefit of screening women aged forty to forty-nine years is estimated at approximately one-third of that of

women aged fifty to sixty-nine years (Irwig et al. in NBCC 1988). BreastScreen Australia policy states:

BreastScreen Australia selects women for screening on the basis of age alone. Women aged 40 years and above are eligible. Recruitment strategies will be targeted at women aged 50–69 years. The age for screening will be monitored and reviewed as new data becomes available (NAS 2002).

With increasing life expectancy, the value of screening women over seventy years has also come under investigation. Barratt et al. (2002) estimate that the benefit of screening women aged seventy to seventy-nine years to be about 40–72% of that achieved in women aged fifty to sixty-nine years; this declines further with increasing age and when quality-of-life adjustment is made. They estimate that extending screening to women aged seventy to seventy-nine years is relatively cost-effective and similar to the cost-effectiveness of extending screening to women aged forty to forty-nine years. The authors however, also comment that the estimation of benefits, harms and costs would be improved with data from randomised trials in the appropriate age group which are currently still lacking.

Screening women at increased risk for breast cancer

Some women are at high risk of breast cancer for reasons including a previous cancer diagnosis or a strong family history of the disease. The National Breast Cancer Centre defines three categories of people in relation to risk based on family history: having three or more first or second degree relatives on the same side of the family who have had breast or ovarian cancer; or two or more first or second degree relatives on the same side of the family who have had breast or ovarian cancer, including any potentially high risk features; or a member of the family who has had a genetic test which shows they have inherited a high risk breast cancer gene mutation (NBCC 1997).

High risk women can discuss relevant screening options with their doctor. These may include annual mammograms, breast ultrasound and regular clinical breast examinations by a doctor. It is important to note that most women with a strong family history of breast cancer never develop the disease (NBCC 2000).

The Cancer Council recommends that all women aged fifty to sixty-nine have a mammogram every two years through BreastScreen Australia. The Cancer Council also encourages women to be 'breast aware' by being familiar with the normal look and feel of their breasts and consult their doctor immediately if they notice any unusual changes.

Aims

The Cancer Council endorses the major aims of the BreastScreen Australia program (AIHW, BreastScreen & NCSP 1999):

- to achieve, after five years, a 70% participation rate in the national program by women in the target group (fifty to sixty-nine years) and access on request to the program for women aged forty to forty-nine years and seventy years or more
- to re-screen all women in the program at two-yearly intervals

- to achieve agreed performance outcomes that minimise recall rates, retake films, invasive procedures, false negatives and false positives, and maximise the number of cancers detected, particularly the number of small cancers
- to refer to appropriate treatment services and collect information about the outcome of treatment
- to collect and analyse data sufficient to monitor the implementation of the program, evaluate its effectiveness and efficiency, and provide the basis for future policy and program development decisions.

What we want to achieve	How we will do this
<p>After five years, a 70% two-yearly participation rate in the national program by women in the target group (50–69 years) and access on request to the program for women aged 40–49 years and 70 years or more</p>	<p>Maintain and support education programs to raise awareness in the community and among health professionals to promote informed participation of women aged 50–69 years in breast cancer screening</p> <p>Advocate for government support to ensure targets for participation are met, while maintaining a focus on equity and access for women. Priority should be given to maximising the participation of Australian Aboriginal and Torres Strait Islander women and women of culturally and linguistically diverse backgrounds</p> <p>Advocate for integration of screening of all asymptomatic women aged 50–69 years into the BreastScreen Australia program</p>
<p>Agreed performance outcomes that minimise recall rates, retake films, invasive procedures, false negatives and false positives, and maximise the number of cancers detected, particularly the number of small cancers</p>	<p>Advocate for government support to ensure ongoing monitoring and periodic evaluation of BreastScreen Australia that addresses:</p> <ul style="list-style-type: none"> • overall outcomes relating to the impact of the program on breast cancer mortality and morbidity • economic outcomes relating to the cost-effectiveness of the program and barriers to optimising participation among women aged 50–69 years • process outcomes relating to the performance of the program in its stated objectives • potential barriers to evaluation, notably fast-tracking cancer registrations to facilitate timely evaluation of program outcomes • sufficient resources to enable these objectives to be achieved • periodic review of the target screening age group • effective data collection in all states and territories to enable a national program sensitivity rate to be calculated

Referral to appropriate treatment services and collection of information about the outcome of treatment	<p>Recognising the importance of providing consistent high quality care for women diagnosed with breast cancer in Australia:</p> <ul style="list-style-type: none"> • support or advocate for examination of the extent to which women diagnosed in the screening program are being treated in accordance with the NHMRC <i>Clinical practice guidelines for the management of early breast cancer</i> (2001), <i>Management of advanced breast cancer</i> (2001) and <i>Psychosocial clinical practice guidelines</i> (2000) <p>Recognising the implications in the short and longer term of radiography and radiology workforce constraints for BreastScreen Australia, advocate for increased funding to provide additional places for the training of radiographers and radiologists</p> <p>Recognising the importance of informed consumer involvement in all aspects of breast cancer screening, diagnosis and management, advocate for active roles for consumers within peak breast cancer bodies in Australia</p>
---	---

References

Breast cancer

Australian Bureau of Statistics (ABS) 2002. *National Health Survey 2001, summary of results*. ABS cat. no. 4364.0. Canberra: ABS.

Australian Health Ministers Advisory Council (Breast Cancer Screening Evaluation Steering Committee) (AHMAC) 1990. *Breast cancer screening in Australia: future directions*. Australian Institute of Health Prevention Program Evaluation Series no. 1. Canberra: AHMAC.

——— 2003. *BreastScreen Australia monitoring report 2000–2001*. AIHW cat. no. CAN 20 Canberra: AIHW.

Australian Institute of Health and Welfare (AIHW) & Australasian Association of Cancer Registries (AACR) 2002. *Cancer in Australia 1999*. AIHW cat. no. CAN 15. Canberra: AIHW.

——— 2003. *Cancer in Australia 2000*. AIHW cat. no. CAN 18 Canberra: AIHW.

Australian Institute of Health and Welfare (AIHW), Australasian Association of Cancer Registries (AACR) & National Breast Cancer Centre (NBCC) 1999. *Breast cancer in Australian women 1982–1996*. Canberra: AIHW.

Australian Institute of Health and Welfare (AIHW), BreastScreen Australia & National Cervical Screening Program (NCSP) 1999. *Breast and cervical cancer screening in Australia 1996–1997*. Canberra: AIHW.

Baber RJ, O'Hara JL & Boyle FM 2003. Hormone replacement therapy: to use or not to use? *Med J Aust* 178(12):630–3.

Barrat A, Les Irwig M, Glasziou P, Salkeld GP & Houssami N 2002. Benefits, harms and costs of screening mammography in women 70 years and over: a systematic review. *Med J Aust* 176(6):266–71.

Beral V, Million Women Study Collaborators 2003. Breast cancer and hormone-replacement therapy in the Million Women Study. *Lancet* 362(9382):419–27.

Boyle P, Autier P, Bartelink H et al. 2003. European code against cancer and scientific justification: third version (2003). *Ann Oncol* 14(7):973–1005.

BreastScreen Victoria 2001. *Annual Statistical Report 2000*. Melbourne: BreastScreen Victoria.

Chapman K 2003. Alcohol and cancer: literature review. Unpublished document prepared on behalf of The Cancer Council NSW.

Collaborative Group on Hormonal Factors in Breast Cancer (CGHFBC) 1996. Breast cancer and hormonal contraceptives: collaborative reanalysis of individual data on 53,297 women with breast cancer and 100,239 women without breast cancer from 54 epidemiological studies. *Lancet* 347(9017):1713–27.

——— 2001. Familial breast cancer: collaborative reanalysis of individual data from 52 epidemiological studies including 58,209 women with breast cancer and 101,986 women without the disease. *Lancet* 358(9291):1389–99. Review.

——— 2002. Breast cancer and breastfeeding: collaborative reanalysis of individual data from 47 epidemiological studies in 30 countries, including 50,302 women with breast cancer and 96,973 women without the disease. *Lancet* 360(9328):187–95.

Cuzick J, Powles T, Veronesi U, Forbes J, Edwards R, Ashley S & Boyle P 2003. Overview of the main outcomes in breast-cancer prevention trials. *Lancet* 361(9354):296–300.

Gertig DM, Erbas B, Fletcher A, Amos A & Kavanagh AM 2003. Duration of hormone replacement therapy, breast tumour size and grade in a screening programme. *Breast Cancer Res Treat* 80(3):267–73.

Giles GG & Amos A 2003. Evaluation of the organised mammographic screening programme in Australia. *Ann Oncol* 14(8):1209–11.

Hackshaw AK & Paul EA 2003. Breast self-examination and death from breast cancer: a meta-analysis. *Br J Cancer* 88(7):1047–53.

Humphrey LL, Helfand M, Chan BK & Woolf SH 2002. Breast cancer screening: a summary of the evidence for the US Preventive Services Task Force. *Ann Intern Med* 137(5 Part 1):347–60.

International Agency for Research on Cancer (IARC) 2002a. *Handbooks of cancer prevention volume 6: Weight control and physical activity*. Lyon: World Health Organization.

——— 2002b. *Handbooks of cancer prevention volume 7: Breast cancer screening*. Lyon: World Health Organization.

Kösters J & Gøtzsche P 2004. Regular self-examination or clinical examination for early detection of breast cancer (Cochrane review). *The Cochrane Library* 1. UK: John Wiley & Sons.

National Accreditation Standards (NAS) 2002. BreastScreen Australia, Unpublished document.

National Breast Cancer Centre (NBCC) 1988. Review of the evidence about the value of mammographic screening in 40–49 year old women. *Screening women aged 40–49 years: a summary of evidence for health professionals*. NSW: NBCC.

——— 1997. *Breast cancer and family history: what you need to know*. NSW: NBCC.

——— 2000. *Advice about familial aspects of breast cancer and ovarian cancer: a guide for health professionals*. NSW: NBCC.

——— 2004. Clinical breast examination (population-based screening) position statement. Unpublished document.

Rickard M 1996. *The increasing detection of DCIS: lessons for Australia*. NSW: NBCC.

Ridolfo B & Stevenson C 2001. *The quantification of drug-caused mortality and morbidity in Australia, 1998*. AIHW cat. no. PHE 29. Canberra: AIHW.

Rossouw JE, Anderson GL, Prentice RL, LaCroix AZ, Kooperberg C, Stefanick ML, Jackson RD, Beresford SA, Howard BV, Johnson KC, Kotchen JM & Ockene J (Writing Group for the Women's Health Initiative Investigators) 2002. Risks and benefits of estrogen plus progestin in healthy postmenopausal women. Principal results from the Women's Health Initiative Randomized Controlled Trial. *JAMA* 288(3):321–33.

Semiglazov VF, Manikhas AG, Moiseenko VM, Protsenko SA, Kharikova RS, Seleznev IK, Popova RT, Migmanova NSh, Orlov AA, Barash Nlu, Ivanova OA & Ivanov VG 2003. Results of a prospective randomized investigation (Russia—St.Petersburg/WHO) to evaluate the significance of self-examination for the early detection of breast cancer]. *Vopr Onkol* 49(4):434–41.

Singleton SE 2003. Rating the risk factors for breast cancer. *Ann Surg* 237(4):474–82.

Stephenson J, Bauman A, Armstrong T, Smith B & Bellew B 2000. *The costs of illness attributable to physical inactivity in Australia. A preliminary study*. Canberra: Commonwealth Department of Health and Aged Care.

Thomas D, Gao D, Ray R, Wang W, Allison C, Chen F, Porter P, Hu Y, Zhao G, Pan L, Li W, Wu C, Coriaty Z, Evans I, Lin M, Stalsberg H & Self S 2002. Randomized trial of breast self-examination in Shanghai: final results. *J Natl Cancer Inst* 94(19):1445–57.

Thune I & Furberg AS 2001. Physical activity and cancer risk: dose-response and cancer, all sites and site-specific. *Med Sci Sports Exerc* 33(Suppl. 6):530s–50s.

United Kingdom Department of Health (UKDH) 1998. *Nutritional aspects of the development of cancer. Report of the Working Group on Diet and Cancer of the Committee on the Medical Aspects of the Food Supply*. Norwich: The Stationery Office.

United Kingdom Trial of Early Detection of Breast Cancer Group 1999. 16-year mortality from breast cancer in the UK Trial of Early Detection of Breast Cancer. *Lancet* 353(9168):1909–14.

World Health Organization (WHO) 2002. *Risk to health 2002 World Health Report*. Geneva: WHO.

The World Cancer Research Fund (WCRF) and American Institute for Cancer Research (AICR) 1997. *Food, nutrition and the prevention of cancer: a global perspective*. New York: AICR.