Introduction

In Australia, breast cancer is a serious disease with a significant impact on the community. While remaining the most common cause of death from cancer in Australian women, breast cancer is also recognised as the cause of significant morbidity.

Much research has been conducted into all aspects of this disease: the potential causes, risk factors, early diagnosis and treatment. Although there have been many significant findings, there is still no clear answer as to the cause of breast cancer and as yet no means for preventing the disease. Currently, the best available strategy on a population-wide basis is the early detection of the disease within an organised screening program offering high quality screening and assessment services at a time where treatment can be most effective.

Since the early 1960s, a series of major randomised trials have been conducted to investigate methods for the early detection of breast cancer. Substantial reductions in mortality from breast cancer were observed in women offered mammographic screening in these trials. In this context, mammography is used as a test for women without breast symptoms to detect and investigate any changes in the breast in order to diagnose breast cancer early.

Following a review of international evidence and an evaluation of breast cancer screening in Australia, the Australian Health Ministers' Advisory Council implemented the National Program for the Early Detection of Breast Cancer in 1991. Since 1996 the Program has been called BreastScreen Australia. The National Program had been established as a jointly funded Program between the Commonwealth, States and Territories.

The BreastScreen Australia Program consists of a network of dedicated screening and assessment services throughout urban, rural and remote areas of all States and Territories of Australia. These services provide free biennial mammographic screening and follow-up of any suspicious lesions identified at screening to the point of cytological or histological diagnosis of breast cancer. The Program is aimed specifically at women without symptoms aged 50 to 69 years of age, although women aged 40 to 49 years and 70 years and older are able to attend for screening.

BreastScreen Australia has a strong commitment to the provision of high quality services that are appropriate and accessible to women. To this end, a comprehensive set of minimum standards and requirements, detailing all aspects of service delivery within the Program, from information provision to standards of clinical care, has been developed (DHSH 1994a). These National Accreditation Requirements provide the basis for the development of services, data systems and mechanisms for monitoring the performance of services and the Program on a State/Territory and national basis.

The six key aims of the BreastScreen Australia Program are to:

- ensure that the Program is implemented in such a way that significant reductions can be achieved in morbidity and mortality attributable to breast cancer;
- maximise the early detection of breast cancer in the target population;
- ensure that screening for breast cancer in Australia is provided in dedicated, accredited screening and assessment services as part of the National Program for the Early Detection of Breast Cancer (BreastScreen Australia);
- ensure equitable access for women aged 50 to 69 years to the Program;
- ensure that services are acceptable and appropriate to the needs of the eligible population; and
- achieve high standards of program management, service delivery, monitoring and evaluation, and accountability.

In recent years, the Program has made major advances against these aims, particularly in relation to policy development, public information and quality assurance.

This report outlines the major achievements and challenges for BreastScreen Australia in a number of key areas:

- maintaining quality standards;
- providing information and services to women; and
- monitoring and evaluating Program performance and outcomes.

About BreastScreen Australia

- BreastScreen Australia provides free mammographic screening every two years. The Program is aimed specifically at women without symptoms aged 50 to 69 years of age, although women aged 40 to 49 years and 70 years and older are able to attend for screening.
- The aim of the Program is to reduce mortality and morbidity from breast cancer through early detection.
- A National Advisory Committee oversights policy for the Program across Australia.
- Key features of the Program include:
  - a doctor's referral is not required;
  - services located throughout each Australian State and Territory using fixed or mobile services to ensure the Program is accessible to all women;
  - recruitment and reminder systems to ensure that women in the target group are screened and rescreened in accordance with Program policy;
  - comprehensive, multidisciplinary follow-up assessment services to ensure all women with a screen-detected abnormality have appropriate specialist medical assessment to the point of diagnosis and referral to treatment services; and
  - a comprehensive system of accreditation, to ensure that all BreastScreen Australia services operate under a common set of standards. Each service is assessed on a regular basis by an independent team to ensure that the service provided complies with national standards.

Maintaining quality

While it is important for services within the BreastScreen Australia Program to meet the standards and abide by the policies that were developed when the Program was first introduced, these same standards and policies must remain relevant and in accordance with the best evidence currently available. This is necessary to provide a service of the highest quality and to maintain a nationally consistent identity and practice for the Program. With this in mind, a major focus for BreastScreen Australia has been the review of national standards and policies.

Progress has been made in developing revised policies in relation to appropriate clinical pathways for symptomatic women, screening intervals for women with a strong family history of breast cancer, the collection and ownership of data at a State and service level, and the impact of emerging technologies on clinical service delivery and other areas within the Program.

Progress has also been made in a number of important initiatives aimed at encouraging a national view of quality improvement in the BreastScreen Australia Program. This includes work towards a revitalised accreditation program with the result that most screening and assessment services throughout Australia are now accredited.

More recently, a comprehensive evidence-based review of the National Accreditation Requirements has commenced. Drawing upon the latest research and practice-based evidence, a series of multidisciplinary teams will review and update the standards under which the Program operates and monitors progress and performance. It is anticipated that a draft of the revised accreditation requirements will be available for consultation in 2000.

This review represents a major challenge for BreastScreen Australia in producing a set of standards that represent key indicators of the ability of services to meet the aims and objectives of the Program.

Providing information and services to women

In order for BreastScreen Australia to realise improvements in morbidity and mortality from breast cancer, it is necessary that a large proportion of women in the target population (aged 50–69 years) attend for screening.

A project is currently under way to investigate the reasons why women choose not to attend or re-attend BreastScreen Australia services. By better understanding women's reasons for non-attendance, it is anticipated that the Program will be able to develop a series of systematic approaches to address and improve the acceptability of, and participation in, the Program.

The development of information resources and the reinforcement of public messages in terms of accuracy, currency and appropriateness continues to be a focus of the Program. In recognition of the importance of links between general practitioners (GPs) and the Program, progress has also been made in exploring options for providing additional information to GPs. This will highlight appropriate strategies for strengthening this important pathway of information to women.

As participation in the Program improves, it is critical that adequate service capacity is available to screen an increasing number of women. A key requirement in this is a sustainable, highly trained and skilled workforce.

Of particular concern is the limited number of radiographers throughout Australia available to work within the Program. Work has commenced to define radiographer workforce requirements and to investigate the demographic characteristics of the workforce. This will lead to more accurate projections of future workforce demand and supply and allow the timely planning of strategies to address this need.

In the interim, new Temporary Entry Labour Agreements to enable the recruitment of radiographers from overseas have been developed to assist State and Territory Programs in recruiting sufficient high-quality staff in the short term.

Monitoring and evaluating Program performance and outcomes

As BreastScreen Australia matures, the Program's focus shifts towards evaluating the impact of the Program on breast cancer in the community. The building blocks of a successful evaluation initiative are accurate and reliable data that are consistent and timely. To this end, a priority for the Program has been the development of detailed evaluation and monitoring plans and reporting systems to facilitate the monitoring of Program performance and outcomes.

Another critical project to support the monitoring of Program performance is the development of a data dictionary. The dictionary, which will be completed in 2001, will ensure consistency in the calculation and definition of performance and outcome indicators Australia-wide.

The National Advisory Committee to BreastScreen Australia has also invested considerable effort in the development of a comprehensive evaluation plan. The plan focuses on the key outcome measures for the Program in achieving its aims and objectives. It identifies a range of evaluation questions concerning the effectiveness, efficiency and appropriateness of the Program. An immediate priority under the plan is the investigation of the feasibility of an observational study to assess whether the Program has had an impact on breast cancer mortality.

Guide to this report

The collection and analysis of Program data on an ongoing and periodic basis are key factors in ensuring that the high standards of care the Program strives to achieve are met and maintained in the long term.

This report is the second joint report of BreastScreen Australia, AIHW, State and Territory Health Departments, and the Commonwealth Department of Health and Aged Care. It provides information about a selection of Program indicators for the 1997 and 1998 calendar years. The indicators represent key measures of the Program's success in achieving improvements in morbidity and reductions in mortality from breast cancer.

An effective population-based breast cancer screening program requires the participation of a significant proportion of women in the target age range (50–69 years), an appropriate screening interval and the provision of high-quality mammography, radiology and clinical investigation to the point of cytological or histological diagnosis. The Program indicators measure the three essential components of this:

- participation: the percentage of women who attend for screening in a 24-month period;
- small cancer detection rate: the number of invasive breast cancers of 10 mm or less in size as a rate per number of women screened in a 12-month period; and
- program sensitivity: invasive breast cancers detected by the Program as a percentage of all breast cancers (interval cancers plus screen-detected cancers) found in Program-screened women in a specified period.

In addition, the most current data at the time of publication relating to the incidence and mortality of breast cancer are included to provide a more complete picture of the burden of this disease in Australia.

An overview of each indicator, its application and definition is also presented in each section of the report.

In some circumstances, additional information is included to augment and support the data provided.

The five indicators help to measure progress towards meeting the aims and objectives of the BreastScreen Australia Program. More detailed information concerning the definition and calculation of these indicators, and the limitations of the data presented is included in the body of the report.

At the end of the report, there is a section containing summary tables of numbers of women participating in the Program; numbers of cancers detected and details of rates; more detailed stratifications of cancer detection; and sensitivity data. Appendix 1 contains details of the methods used and the statistical analyses performed on data in the report. Population data are presented in Appendix 2, and Appendix 3 contains information about the National Advisory Committee and its Working Groups. There is also a glossary of terms used throughout the report.

The Program has shown improvements against several of the indicators. Achievements in 1997–1998 include:

Participation

- In 1997–1998 over one and a quarter million Australian women were screened through the Program—these women were screened across Australia, including the most remote areas of the country.
- All States and Territories have increased participation rates relative to the 1996–1997 reporting period.
- More than half of all women aged 50–69 took part in the BreastScreen Australia Program, Australia-wide.
- Over 60% of women screened in each State and Territory were women aged 50 to 69 years.

Small cancer detection rate

- The crude small cancer detection rates (combined screening rounds) ranged from 13 to 19 cancers per 10,000 women screened per annum for all States and Territories (all ages). The rate of detection of small cancers was much greater than the current national accreditation standard.
- In 1998, 2,939 cancers were detected through BreastScreen Australia nationally.
- The crude national cancer detection rate (all sizes) for women attending the Program for the first time in 1998 was 48 cancers detected per 10,000 women screened (all ages). For women screened in 1998 who had previously attended the Program, this rate was 37 cancers detected per 10,000 women screened.

Sensitivity

- The crude interval cancer rate for asymptomatic women aged 50–69 years for the 12 months following a negative screening episode ranged across States and Territories from 2.3 to 9.4 interval cancers per 10,000 women screened (Table 13) for women attending their first screening round (see glossary). For women attending for a subsequent screening round this rate ranged from 5.1 to 7.9 interval cancers per 10,000 women screened (Table 15).
- The national crude interval cancer rate (all ages, all screening rounds) for the 12 months following a negative screening episode was 6.5 per 10,000 women.
- The crude Program sensitivity rate for the same period for asymptomatic women attending for the first screening round ranged from 80% to 100% across States and Territories (Table 20). For asymptomatic women attending for a subsequent screening round this rate ranged from 73.1% to 85.1% (Table 21).

Incidence and mortality

- There has been an increase in the number of new cases of breast cancer in women aged 50–69 years since the early 1990s, coinciding with the introduction of the breast cancer screening program in Australia. It is likely that the increase in the number of new cases is, at least partly, the result of the early detection of cancers in women who may otherwise have gone undetected for some years.
- The early detection of breast cancer provides the opportunity for early treatment and may lead to a reduction in the morbidity and the number of deaths due to breast cancer.
- Mortality from breast cancer in women aged 50–69 years shows a slight reduction since 1995. Improvement in treatment practices and disease management and early detection of cancer through screening are all likely to have impacted on mortality. The feasibility of an observational study to determine the impact of the BreastScreen Australia Program on breast cancer mortality is currently under consideration by the National Advisory Committee.

This report is a tribute to the skills and dedication of the many people who work in the BreastScreen Australia Program and their commitment to improving outcomes for women with breast cancer.