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Department of Health and Aged Care

The BSA National Policy and Funding Review

Final Report

29 April 2025

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Letter from the BSA review Expert Advisory Group Chair

It is with great responsibility and a deep sense of purpose that I present the final report of the BreastScreen Australia National Policy and Funding Review (the BSA Review). This review was conducted with the primary aim of reviewing the current state of BreastScreen Australia to identify areas where improvement is both necessary and possible. The findings presented here are the result of extensive research, consultations and data analysis, and they reflect the invaluable contributions of experts, including healthcare professionals and consumers of the program. The findings also reflect a critical balance between ensuring the program is evidence-based, ready to adapt to emerging evidence and in step with community needs and expectations.

The findings of the BSA Review are both significant and revealing. BreastScreen Australia has been a successful program. It has contributed to reducing mortality from breast cancer by 50% since its inception as well as improving breast cancer survival. The program is highly valued and well recognised across Australia, offering high quality services to Australian women. These achievements are world class. However, the BSA Review focuses on improvements to the program, rather than its achievements. With advancing knowledge and technology, BreastScreen Australia finds itself at a pivotal point to ensure continuing impact, relevance and cost-effectiveness. The key and most critical challenge is to lift participation rates so all benefit from improvements in breast cancer outcomes.

BreastScreen Australia stakeholders are passionate. All those who currently deliver the program or have previously been involved in delivery of the program should be incredibly proud of what has been achieved to date. They stand ready to address the challenge of evolving the well-established program to incorporate new evidence about breast cancer risk and screening technologies.

BreastScreen Australia has operated for over 30 years with very little change. The BSA Review has uncovered critical gaps and challenges that must be addressed to ensure the program continues to meet the needs of all Australian women into the future. These challenges include national consistency; participation rates; equity of access to screening; and the adoption of innovations in screening including the use of Artificial Intelligence (AI) and risk stratification is critical. At the same time, we have identified areas where positive change can be achieved through thoughtful and targeted reforms.

The recommendations in this report are grounded in current evidence, prepare for emerging evidence and reflect a shared commitment to improving the health and wellbeing of Australian women. They are designed to address both immediate needs and consider long-term systemic changes with a view to moving to risk-stratified screening once the emerging evidence provides direction for implementation. While implementing these changes will require careful planning,

collaboration and investment, the benefits for Australian women, and Australia as a whole, will be enormous.

The BSA Review Expert Advisory Group (EAG) identified the following priorities to inform the future strategic direction of the program:

1. Increase participation rates for all women and especially for underserved populations.
2. Ensure national consistency, including improving the program's governance and capacity to innovate and scale successful innovation.
3. Prepare the program for the implementation of risk-stratified screening.

Breast cancer screening is complex and there are differing expert opinions for the optimal approach going forward – both nationally and internationally. There is a lot to consider in regard to trade-offs between the benefits of early cancer detection and the risks or harms and costs involved. While the trade-offs were strongly debated during the BSA Review, in some instances the way forward is still not clear and more evidence on the benefits and harms is required as well as consideration of equity of access for the screening population.

The BSA Review EAG was not exempt from differing views on these complexities. We have sought to strike a balance between waiting for evidence to be at the highest level possible and addressing the demands for change within the system. For some recommendations, consensus was difficult to achieve or not achieved. Where it was not achieved, the majority view has been put forward in the recommendation. All members have accepted the outcomes recognising consideration of benefits and harms in screening differ depending on the perspective you bring. A clinician treating women whose cancers are advanced at presentation affecting morbidity as well as mortality versus the caution of a trained epidemiologist waiting for the weight of longitudinal evidence on mortality reduction benefits to be clear. Consideration of the benefits versus harms at a population level given the vast array of beneficial public health initiatives, allowed for well-considered recommendations for this population based screening program. The key recommendations where consensus was difficult to achieve were:

- R2.4 Develop and implement evidence-based guidelines for screening consumers aged 45-49 years.
- R3.1 Develop and implement protocols for screening invitation and reminder systems.
- R3.3 Develop and implement protocols to support the BSA position statement on breast density and screening.
- R3.4 Develop and implement minimum protocols for the management of symptomatic consumers.

Contextual information on the issues raised by the BSA Review EAG, which were carefully considered and debated and led to the final recommendation, has been included in the report to illustrate the varied perspectives.

Two critical enablers to reforming BreastScreen Australia include in-program research and evaluation, and use of BreastScreen data to inform change. Both require streamlined and improved program governance. The BSA Review EAG have strongly advised the program requires a learning culture to evolve and respond to new evidence. This requires a focus to be placed on strengthening strategic and clinical governance; and investments in improving register functionality, developing image sharing capability and building an enhanced national data collection to enable integration and data linkage with other national datasets. Mechanisms to embed trials within the program were also considered critical. A joint commitment of the state and territory governments and the Commonwealth to reach this goal would put BreastScreen in a strong position to become a world leader in breast cancer screening.

I believe the findings of this review provide a clear and compelling case for action. I trust this report will guide future policy decisions and drive meaningful change for BreastScreen Australia. This review differs from previous reviews and evaluations, in that it offers clear, actionable recommendations focusing on addressing the most pressing issues in the BreastScreen Program as a whole, rather than individual issues. In addition to practical solutions, the Review considered mechanisms for change, interdependencies and anticipated timelines to inform the development of a BreastScreen Australia Strategic Framework. A commitment to monitoring the impact of implementing these recommendations through the Strategic Framework will ensure the recommendations lead to tangible improvements in the program and improve its readiness to adapt to changing evidence.

I would like to extend my thanks to everyone involved in the review process for their dedication and expertise. I look forward to seeing the steps that will be taken to turn these recommendations into reality, ensuring better breast cancer outcomes for Australian women.

Professor Sanchia Aranda

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Preface

In late 2023, the Commonwealth, in partnership with states and territories, initiated a comprehensive review of BreastScreen Australia (BSA). The BreastScreen National Policy and Funding Review (the BSA Review), supported by the BSA Review Steering Committee and overseen by the Expert Advisory Group (EAG), consisted of the following interconnected workstreams:

- Workstream 1: Evidence synthesis and analysis
- Workstream 2:
  - Priority populations
  - Quality and safety review
- Workstream 3: Funding review
- Workstream 4: Final recommendations and strategic framework development. This document is the final report for this Workstream. A public summary version will be produced for early publication.

The BSA Review was undertaken to inform the future strategic direction of the BSA program for the next 10 years. The objectives of the Review are to:

1. Ensure BSA puts evidence into practice nationally by evaluating current and emerging screening technologies and screening and assessment pathways for the early detection of breast cancer.
2. Align BSA accreditation arrangements with new evidence, technologies, and screening and assessment pathways.
3. Identify strategies for increasing participation and providing equity of access to breast cancer screening.
4. Determine a contemporary and sustainable funding model that considers Program funding mechanisms.
5. Describe a review model that ensures the Program will be responsive to future evidence of best practice screening.

The recommendations, detailed in this report, aim to ensure that the program remains evidence-based, fosters national consistency, boosts participation rates and equity of access, improves user experience, increases service efficiency and effectiveness, and is backed by a sustainable funding model.

Evaluation Advisory Group

Professor Sanchia Aranda (Chair)	Committee Chair
Doctor Tanya Bell	BreastScreen Program Manager (multiple service)
Rita Butera	BreastScreen Program Manager (multiple service)
Associate Professor Carolyn Ee	General Practitioner
Professor Adam Elshaug	Economic and Health Policy Advisor
Mei-Leng Hooi	Consumer (Culturally and Linguistically Diverse population)
Professor Nehmat Houssami	Breast Physician and Professor of Public Health
Professor Lizbeth Kenny	Chair of National Quality Management Committee
Alison Lang	Commonwealth Representative
Professor Vivienne Milch	Chair of BSA Clinical Advisory Group
Doctor Nirmala Pathmanathan	Pathologist
A/Professor Michelle Reintals	Radiologist
Julianne Siggins	BreastScreen Program Manager (single service)
Doctor David Speakman	Breast Surgeon
Ricki Spencer	Consumer (First Nations)
Doctor Julie Thompson	Consumer (general population)
Professor Claire Vajdic	Epidemiologist
Professor Jeanette Ward	Public Health Medicine Specialist
Iman Zakhary	Consumer (Culturally and Linguistically Diverse population)

Further details of the EAG Terms of Reference are provided in Appendix B.

Structure of the report

This report is structured to provide a comprehensive review of the BSA program, with recommendations organised into distinct sections for clarity and ease of navigation.

The report includes:

- **Executive summary** which provides a summary of the recommendations, methodology, key findings from all workstreams and conclusions. Note the detailed findings from all workstreams are available in Appendix C.

- **Chapter 1: Introduction** Provides an overview of breast cancer and the BSA program.
- **Chapter 2: Recommendations** Each recommendation section follows a consistent structure:
  - **Issue:** Context and background
  - **Stakeholder Priorities:** Indicated through a three-tier system:
    - High priority: Universal strong support
    - Medium priority: Strong but not universal support
    - Low priority: Mixed or limited support
  - **Core recommendations**
  - **Sub-recommendations** with:
    - Mechanisms to achieve change
    - Key dependencies.

Acknowledgements

The Review was funded jointly by the Commonwealth and state and territory governments. This report was produced in consultation with the EAG and supported by the Department of Health and Aged Care Screening Policy and the BSA Section project team. Representatives from a number of organisations have been consulted as part of the development of this report as acknowledged in Appendix D. Our thanks are also extended to the consultants who undertook Workstream One (Abt Global), Workstream Two (HealthConsult) and Workstream Three (Deloitte Australia) and the stakeholders they consulted as part of these workstreams. Executive summaries of these reports are available in Appendices E to H.

Notes on referencing and terminology

This report is based primarily on findings from the individual workstream projects and, as such, the individual reports are referenced throughout the report. Where specific or additional information is included from other sources, the original author is cited.

- The terminology in this document aligns with the Australian Institute of Health and Welfare (AIHW)[1].
  - It uses 'consumer' to refer to all individuals involved (or eligible to be involved) in BSA, regardless of sex or gender. Consumers include those with breast tissue suitable for screening, such as women, transgender men and women, non-binary, and gender

[1] AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024.

diverse people. State and territory BSA services provide guidance on screening for these groups.

- Where 'women' is specifically used it refers to 'female' based on sex assigned at birth, though not everyone may identify with this term. 'Breast' is used as a non-gendered term and is used non-medically to describe the tissue affected by breast cancer.

- A **recommendation** is used to describe a fundamental system-level change required within BSA. It articulates both the overarching transformation needed and its intended outcomes, establishing a clear vision for change without prescribing specific methods. The aim of a recommendation is to define the broad structural or systemic changes required while ensuring the purpose and benefits are transparent to all stakeholders.
- A **sub-recommendation** identifies the key deliverables, frameworks, strategies and actions needed to achieve the system-level change outlined in the recommendation. These components break down complex transformations into actionable elements that directly enable and support the overarching systemic change. The aim of sub-recommendations is to outline the major building blocks required for implementation while maintaining clear linkages to the primary recommendation's systemic transformation. The sub-recommendations may require feasibility testing.
- A **mechanism for change** describes the practical methods, processes and tools required to develop and implement the deliverables outlined in the sub-recommendations. These mechanisms detail the specific steps, systems and structures needed to operationalise both the sub-recommendations and the broader systemic change. The aim of mechanisms for change is to provide a clear roadmap for implementation by specifying how each component will be developed and integrated to achieve sustainable transformation within the organisation or system.
- A **key dependency** describes the essential elements, resources, systems and organisational capabilities that must be in place to successfully implement the changes outlined in both recommendations and sub-recommendations. These dependencies represent critical prerequisites or requirements that directly influence the feasibility and effectiveness of proposed changes. The aim of identifying key dependencies is to ensure all necessary elements are available or developed before and during implementation while highlighting potential risks and resource requirements that could impact the successful delivery of transformational change. It should be noted that not all dependencies may be known at the time of writing this report.
- **Evidence**, for the purposes of this report, refers to systematically collected and critically evaluated information from research on screening services and technologies, population outcomes and participant experiences. This includes findings on screening benefits, harms and costs from clinical trials, observational studies, qualitative studies, systematic reviews and audits that meet standards for scientific rigour. As necessary, international evidence

was evaluated in relation to the Australian context including population groups and the health system.

- **Stakeholder perspectives** were also collected as part of the BSA Review to ensure the evidence was considered alongside lived experience, local knowledge and expertise. Stakeholder perspectives can be evidence based and/or opinion based.

Executive summary

Breast cancer remains a significant public health concern in Australia. In 2024, an estimated 21,000 cases will be diagnosed, accounting for 28% of all female cancer cases—a notable increase from 12,170 cases in 2005.

The program

The BreastScreen Australia (BSA) Program aims to reduce morbidity and mortality from breast cancer through an organised systematic approach to the early detection of breast cancer using screening mammography. Screening mammography detects unsuspected cancer at an early stage in order that early treatment will reduce illness and death from breast cancer. Women aged 50 to 74 years are targeted through invitations as evidence indicates this is the age group where mammography screening is most effective. Women aged 40 to 49 years and 75 years and older are also eligible for free mammograms but do not receive an invitation as the evidence for effectiveness is less certain.

This population based approach encourages asymptomatic consumers in the target population to have regular mammograms. It is distinctly different from the use of mammography used to investigate symptoms in an individual consumer, which is a diagnostic procedure. A central tenet of the success of BSA is the maximisation of the benefits of early breast cancer detection while minimising potential harm to consumers.

Impact of BSA

Since its launch in 1991, BSA has contributed to key improvements in breast cancer outcomes for women aged 50–74 including:

- improved detection of breast cancer cases through screening, noting that while incidence rates have increased, this reflects both the effectiveness of screening programs as well as demographic factors (such as population growth and the ageing population)
- decreased mortality rates
- improved 5-year survival rates from breast cancer rising from 79% (1991-1995) to 92% (2016-2020).

Disparities in breast cancer outcomes

Despite overall improvements, disparities remain:

- Aboriginal and Torres Strait Islander women continue to experience significantly higher breast cancer mortality rates than non-Aboriginal and Torres Strait Islander women

- Women living in lower socioeconomic areas face higher breast cancer mortality rates compared to those in higher socioeconomic areas.

Effectiveness of BSA in early detection and treatment

The 2024 AIHW BSA monitoring report highlights BSA's role in improving early detection and treatment outcomes:

- BSA has proven highly effective in detecting breast cancer cases across target age groups
- the program significantly outperforms non-screening pathways in identifying smaller tumours offering improved survival and lower treatment morbidity
- earlier detection through BSA has resulted in:
  - increased rates of breast-conserving surgery
  - broader treatment options
  - reduced morbidity and improved survival rates.

Furthermore, AIHW data linkage research indicates that BSA participants experience lower breast cancer mortality risk compared with those who have never participated in the program.

What has worked well

The review identified several core strengths of the BSA program that should be maintained and built upon:

- **Brand and trust:** BSA has built a trusted national brand by providing free, high-quality early detection health screening with consistent professional standards
- **Cost and access:** The program's free service model with no requirement for referral from a healthcare provider
- **Mobile services and regional access**: Mobile screening vans reach and create many community connections in rural and remote areas
- **Digital Innovation:** Improved digital communication systems like online booking and SMS reminders enhance accessibility, especially for younger and first-time participants
- **Priority population engagement:** The program demonstrates pockets of excellence in cultural sensitivity through targeted approaches, multilingual support, and an all-female service delivery model
- **Workforce excellence:** BSA maintains high professional standards through a dedicated and expertly trained workforce of radiographers and radiologists
- **Innovation in selected areas:** Some jurisdictions lead in technological innovations like Artificial Intelligence (AI) image reading and breast density reporting, though these are not consistently implemented nationwide

- **Commitment to quality and safety:** Through assessing performance against national standards.

Challenges and evolving expectations in BSA

While BSA has significantly contributed to early detection and improved outcomes, it faces mounting pressures to adapt to changing healthcare needs and consumer expectations:

- While no GP referrals are required and the service is free, consumers face rising cost-of-living pressures, including travel expenses, childcare costs, and lost income due to time off work to attend screening, which are cost-related barriers to participation.

Consumer expectations are also changing with increasing expectations of:

- personalised risk information, including breast density assessment and notification
- faster results and better integration with other health services
- a free, comprehensive and holistic approach to breast healthcare.

Feedback from consumers in this review highlighted a growing demand for:

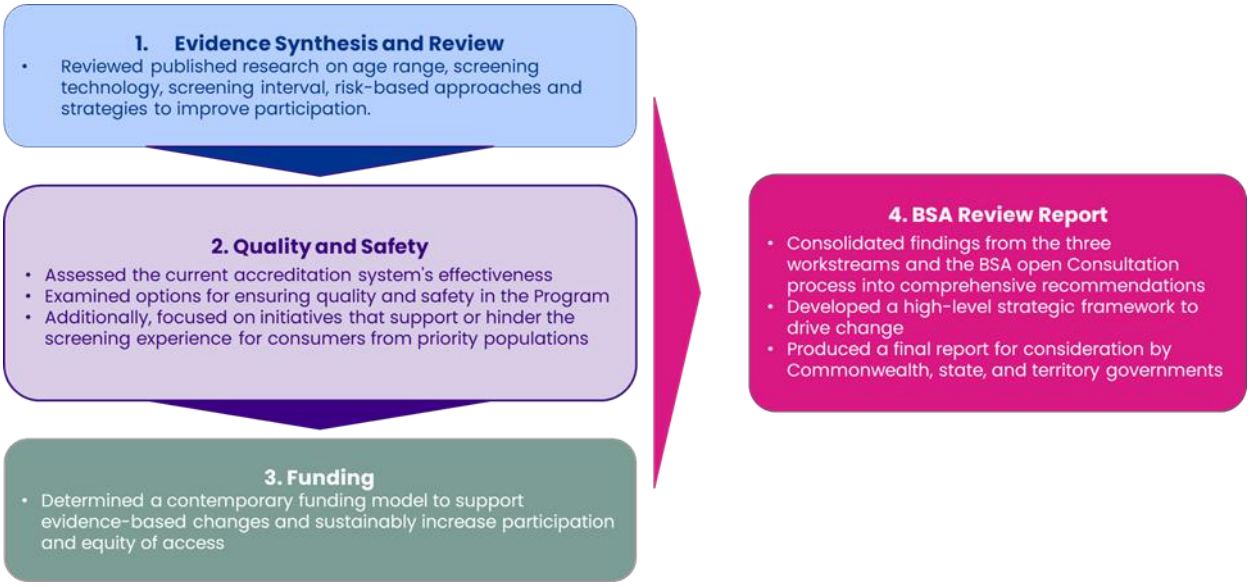
- more convenient booking systems and digital communications
- advanced screening technologies influenced by private sector offerings
- improved access, including screening in locations closer to home and extended hours of availability.

A cost analysis of BSA confirms its value while identifying efficiency opportunities. Between 2021-23, the national average cost per screen was $106.20 (noting rates vary across states and territories), while the national cost per assessment was $1,582.90.
The analysis also estimated that BSA provides mammograms at a lower direct cost per procedure than the private sector.

Review methodology

Three concurrent workstreams were initially undertaken, each with a different focus. Figure 1 describes these workstreams and illustrates how they have been integrated to produce this Final Report.

Figure 1: Overview of the four BSA workstreams



Key findings of the review

The key findings are grouped under five areas. Additional information on each key finding is detailed in Appendix C.

Participation, access and equity

1. **BSA is broadly available, but falls short of participation targets** that support program efficiencies, with 51.7% of consumers aged 50-74 participating in 2022-2023 – significantly below the original 70% participation target set by the program and suggested by the World Health Organization (WHO) for all screening programs.[2] Screening rates for women screening outside the program in private screening settings are not known so the overall participation for the whole population cannot be estimated.
2. **Significant participation gaps exist** among priority populations, with lower rates in 2021-2022 for Aboriginal and Torres Strait Islander consumers (36.8%), consumers from non-English speaking backgrounds (38.7%), those in very remote areas (38.9%), and consumers from the lowest socioeconomic areas (47.8%). BSA services have implemented culturally sensitive initiatives like the "Beautiful Shawls" project for Aboriginal and Torres Strait Islander consumers, multilingual support, and all-female service delivery models to address these disparities (noting that different approaches are required for each service), but the level of implementation varies significantly across jurisdictions and has not reached scale.
3. **Geographic access is generally good,** with 99.8% of consumers aged 50-74 within a one-hour drive of screening services. However, geographical analysis shows that physical proximity alone does not ensure access. Mobile screening services are essential for reaching

[2] WHO A short guide to cancer screening: increase effectiveness, maximize benefits and minimize harm

rural and priority populations and are valuable in regional and metropolitan locations for consumers unable to travel to fixed locations. However, mobile services face significant operational challenges including inflexible scheduling (often limited to one week every two years), inability to offer assessment services and ageing infrastructure. These challenges particularly impact consumers needing annual screening or follow-up care. The average time to travel to assessment services is not available.

4. **Opportunities exist to broaden partnerships** with other screening programs and health providers for a holistic approach to breast health, drawing from successful models like partnerships with Aboriginal Community Controlled Health Organisations, particularly for mobile services.

Person centred screening

5. **Evidence supports risk-stratified screening approaches**. Research indicates consumers have different cancer risk levels based on genetics, family history, breast density, and lifestyle factors, suggesting potential benefits from more tailored screening approaches. While globally no country has fully implemented additional risk factors beyond age and gender into their national population based screening programs, research continues, and cross-sector support is strong despite implementation challenges. Healthcare providers want clarity of follow up pathways for consumers with high breast density to inform the best care for their clients. In the absence of high level evidence, healthcare providers are seeking clinical best practice guidelines to inform their practice.
6. **Breast cancer risk assessment and annual screening eligibility** vary significantly across Australian jurisdictions, with some services using the iPrevent tool and others developing jurisdiction-specific risk assessment questions. This is due to the absence of nationally agreed guidelines, so jurisdictions have developed their own annual screening criteria.
7. **Current approaches to managing high-risk and very high-risk consumers** show substantial inconsistency across jurisdictions. While there is general agreement that very high-risk consumers should receive specialised services outside BSA, not all consumers have access to specialist services and BSA may be their only option for breast imaging. This can create potential gaps in care because BSA is not able to provide all the required surveillance services.
8. **The management of screening for eligible consumers under 50** demonstrates significant variability, with some jurisdictions actively re-inviting Aboriginal and Torres Strait Islander consumers from age 40 following an initial screen and one jurisdiction actively re-inviting all consumers over 45. International policy directions show varying approaches, with recent recommendations from the United States and Canada deriving different conclusions from the same evidence base. This highlights the need for Australia-specific guidelines based on local population needs, healthcare system capabilities, and thoughtful analysis of emerging evidence on benefits versus harms in this age cohort.

National consistency

9. **National inconsistencies** in assessment protocols, breast density reporting, invitation and reminder systems, and management of symptomatic consumers, create inequities in care quality and access. The review highlighted, that while local flexibility is needed, our federated health system leads to jurisdictional variations in guidelines, service delivery, and participation causing gaps in care experiences, resource inefficiencies, and challenges for priority and mobile (transient) populations.

Service enhancement

10. **Technological evolution creates opportunities and challenges**. Evidence supports tomosynthesis as a primary screening modality. However, there are several implementation challenges that need to be overcome including longer reading times. AI for screen reading is a potential solution that could support widespread implementation. Current trials, including in some BSA services, are investigating its effectiveness and comparing it with 2D mammography.

11. **AI integration for screen reading within BSA** is growing in support, particularly to address radiologist workforce challenges, and it may enhance service delivery. A randomised controlled trial within BSA is underway, which will support validation in the Australian context and one jurisdiction has recently commenced rollout of AI screen reading in their services. National implementation of AI for screen reading will be complex if it is not considered with a system-wide approach in mind.

12. **Primary care interaction.** BSA operates largely in isolation from broader healthcare systems, creating potential gaps in care coordination. There is also confusion about clinical responsibility for symptomatic and high-risk consumers requiring diagnostic testing who are ineligible to participate in BSA but attend anyway because of barriers to accessing appropriate care. Opportunities exist to strengthen primary care collaboration to support screening participation, risk assessment, and transition to treatment for consumers diagnosed with breast cancer. Another example is the role GPs will have in providing advice and support for consumers who have been notified they have high breast density.

13. **Diagnostic/treatment pathway interaction is limited.** Fragmentation between screening and diagnostic treatment pathways for consumers diagnosed with breast cancer through BSA creates challenges and potential duplication of tests, emphasising the need for improved interaction while maintaining distinct screening program functions.

Program enablers

14. **BSA's governance structure** has slowed the adoption of innovations, with significant variations in implementation across jurisdictions despite oversight through inter-jurisdictional governance bodies such as the Cancer and Population Screening (CAPS) Committee and the BSA Program Management Group (PMG). The reliance on periodic

reviews has created delays between evidence and practice, limiting responsiveness to emerging healthcare challenges and technological advances. Consumer and priority population representation in national governance bodies remains limited, particularly for Aboriginal and Torres Strait communities. Opportunities for self-determination in-program design and reforms have mostly occurred at the local level, which leads to different approaches in different jurisdictions. While local adaptation is appropriate for many activities like targeted community engagement initiatives, sharing of information and lessons learned is critical to ensuring consistent service improvement and innovation across BSA services. To achieve this a transparent accountability framework is required, to ensure alignment of program needs and operational capacity with funding decisions.

15. **The current funding mechanisms** limit the delivery of consistent, high-quality screening services nationwide. Funding variations between jurisdictions and limited transparency of how joint Commonwealth and jurisdictional funding is allocated contribute to service variations and constrain program innovation, with some jurisdictions struggling to boost participation within existing resources. The current Commonwealth funding mechanism to states and territories does not enable program funding models to fully account for program cost drivers to meet the 70% participation target, creating a gap between program objectives and financial capacity. This misalignment between funding mechanisms and service delivery goals affects the program's ability to plan for and respond to increasing demand while maintaining consistent service quality across all jurisdictions.

16. **Data capabilities and technical infrastructure** are limited by system variations and format inconsistencies, affecting cross-jurisdictional data and image sharing, integration with broader health information systems, program monitoring and research. Current limitations impact service delivery for transient populations and workforce flexibility, while the challenges in collecting and reporting timely and consistent national real-time data hamper informed policy making and quality improvement (QI) efforts.

17. **Critical workforce shortages**, particularly of radiologists and radiographers, threaten program sustainability across all jurisdictions. These shortages are exacerbated by substantial remuneration disparities between public and private sectors, and disparities between jurisdictional public sector awards, creating significant recruitment and retention challenges, forcing services to reduce screening capacity and extend waiting times.

18. **Quality assurance and improvement systems** require enhancement, with current resource-intensive accreditation processes, outdated standards, and complex governance structures restricting the program's ability to improve service quality. The National Accreditation Standards (NAS) are outdated and unattainable in some instances failing to keep pace with technological advancements, while the accreditation process places a substantial burden on services requiring months of preparation. The benefits and challenges of the current peer review model need to be carefully reviewed alongside the benefits and challenges of an independent review model to identify a new model that can achieve the

right balance of specialist knowledge and independence. The Review identified there is an absence of a national approach to service improvement and accountability for service performance is often unclear.

19. **Research capacity and technology evaluation approaches are fragmented,** with BSA lacking a coordinated national framework for evaluating and implementing new approaches for inviting consumers, risk stratification and technologies. Services often depend on external grants to address local research needs, limiting systematic program improvement and creating variations across jurisdictions in services and research capability. The absence of Australian-specific evidence increases dependence on international research that may not reflect our population's unique needs. A critical shortage of Indigenous-led and priority population-led research further limits equity perspectives and culturally appropriate insights, potentially reinforcing screening disparities.

Additional information on each key finding is detailed in Appendix C.

Summary of recommendations

R1. Achieve equitable access and optimise participation across all population groups.

This will be achieved by developing and implementing:

- a National Equity Framework
- a National Participation Strategy and Action Plan with the aim of 70% biennial participation in line with WHO recommendation for optimal screening participation
- sustainable service access models for screening and assessment services to maximise accessibility and participation
- holistic partnership initiatives with other screening programs and healthcare providers.

R2. Transform BSA's screening model through the implementation of risk-stratified screening approaches.

This will be achieved by developing and implementing:

- a national plan for transitioning to risk-stratified screening with a national approach to risk assessment using a validated and nationally adopted tool.
- a minimum nationally consistent criteria and protocols for annual screening for mammography
- minimum protocols for the management of a high-risk and/or a very high-risk consumer
- evidence-based guidelines for screening consumers aged 45-49 years.

R3. Establish minimum national guidelines and protocols that reaffirm the aims and objectives of the program and maintain program integrity.

This will be achieved by developing and implementing:

- protocols for screening invitation and reminder systems

- minimum protocols and clinical guidelines that ensure cost-effective, high-quality assessment services
- protocols to support the BSA position statement on breast density and screening
- minimum protocols for the management of symptomatic consumers.

R4. Enhance BSA's service delivery through strategic implementation of contemporary screening technologies and enhancing interactions with broader healthcare systems.

This will be achieved by developing and implementing:

- an evidence-based plan for tomosynthesis as the primary screening modality
- an AI governance framework with the initial focus on image reading
- a primary care collaboration strategy
- minimum protocols for interactions with diagnostic services for consumers with screen-detected cancer.

R5. Strengthen the underlying systems and support structures that allow BSA to deliver high-quality breast screening services and enable improvements and innovation.

This will be achieved by strengthening:

- governance structures
- sustainable funding models
- digital and data infrastructure and data management and use
- and implementing a sustainable workforce framework
- and implementing a robust BSA Quality and Safety Framework and reforming the accreditation model
- innovation driving advancement by establishing the BSA Research and Technology Evaluation Council.

Strategic framework

To support all Australian governments' consideration of the recommendations, a strategic framework has been developed to guide how BSA could evolve over the next 10 years. The strategic framework is structured into implementation phases:

1. Short-term recommendations
2. Medium-term developments
3. Long-term transformations

The Strategic Framework assigns clear responsibilities across multiple levels:

- Commonwealth leadership for national frameworks and funding reforms
- State/Territory implementation of service delivery changes and funding reforms
- Local adaptation and execution by individual services
- Cross-jurisdictional collaboration for shared initiatives.

The purpose of the Strategic Framework is to guide all Australian governments in considering the findings and implementing the recommendations from the BSA Review Final Report. It has been informed by all governments contributions and reflects local priorities, feasibility and an understanding of the work already underway within BSA services.

The Strategic Framework aims to support the sustainable transformation of the BSA program over the next 10 years through the implementation of evidence-based national policies and protocols to improve health outcomes for program participants.

1. Introduction

1.1. Breast cancer

Breast cancer is the most diagnosed cancer other than skin cancer among females in Australia.[3] Table 1 summarises a range of Australian breast cancer data since 1991 when BSA commenced. Noting that inviting women aged 70–74 years to screen was implemented in 2013. Since the program's inception there has been an **increased incidence** of breast cancer in women 50-74, **decreased breast cancer mortality rates** and **increased 5-year survival after a breast cancer diagnosis**. The greatest risk factor for breast cancer is age. Most breast cancers occur in women aged over 50—in Australia, more than three-quarters of breast cancers.[4]

Table 1: Breast Cancer Statistics

	1991	2022
Invasive Breast cancer age standardised (AS) incidence rate women aged 50–74 per 100,000 [a]	238	300 (2020)
Mortality from breast cancer age-standardised rate women aged 50–74 per 100,000 women [a]	74	37
Breast cancer 5-year survival [b]	79% in 1991–1995	92% in 2016–2020

Sources: a) AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024 and b) AIHW, Cancer data in Australia 2024 web report and supplemental data files

In 2016–2020, in the five reporting jurisdictions, 818 Aboriginal and Torres Strait Islander women aged 50–74 were diagnosed with breast cancer. After adjusting for age, **incidence was 7% lower** for Aboriginal and Torres Strait Islander women than for non-Indigenous women. In 2018–2022, 154 Aboriginal and Torres Strait Islander women aged 50–74 died from breast cancer. After adjusting for age, breast cancer **mortality was 37% higher** for Aboriginal and Torres Strait Islander women than for non-Indigenous women[s] Between 2012–2016, Indigenous Australians generally had **lower 5-year approximate relative survival rates** (85% compared with 91%).[e]

In 2018–2022, the age-standardised breast cancer mortality rate for women aged 50–74 was **highest** per 100,000 women for those **living in the lowest socioeconomic areas**, at 39.9 deaths, and lowest for those living in the highest socioeconomic areas, at 34.7 deaths.

Sources: [d]AIHW, (2024) BreastScreen Australia monitoring report 2024 accessed December 2024.
[e]AIHW (2021) Cancer in Australia report accessed March 2025.

[3] AIHW, Cancer data in Australia
[4] AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024.

1.2. BreastScreen Australia

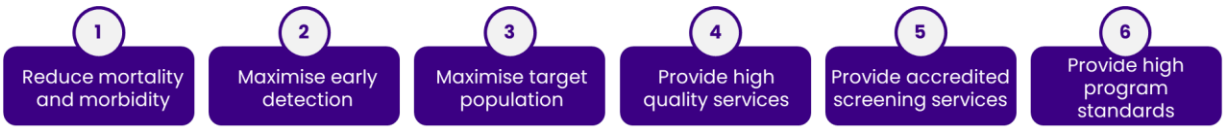
The World Health Organization[5] (WHO) acknowledges both the benefits and harms of breast screening as a population health measure. Benefits shown in large trials include reduced breast cancer mortality through earlier detection at a population level. Earlier discovery enables more breast-conserving surgeries and reduces morbidity while providing increased treatment options. Potential harms include false positives leading to unnecessary procedures, overdiagnosis of cancers that would have never caused harm, psychological distress, and radiation exposure risks across the screened population. WHO emphasises informed choice through balanced information about both the potential benefits and harms of screening.

Early detection through population based screening allows the identification of breast cancers before they become symptomatic or palpable. This earlier detection typically means:

- finding cancers at smaller sizes before they spread to lymph nodes
- identifying cancers at less advanced stages with better prognosis
- enabling less aggressive and less expensive treatment options (e.g., lumpectomy rather than mastectomy)
- potentially reducing the need for chemotherapy in some cases
- contributing to the overall reduction in breast cancer mortality rates
- providing better quality of life outcomes for survivors due to less intensive treatments.

Introduced in 1991, the BSA program is one of the four population based cancer screening initiatives in Australia. A screening program involves screening individuals without symptoms for signs of cancer or precancerous conditions. The objective of BSA is to decrease illness and mortality from breast cancer through an organised approach to early detection, employing screening mammography to identify unsuspected breast cancer in consumers. Early detection allows for prompt treatment, thereby potentially reducing illness and death associated with the disease. Figure 2 outlines the aims of the program.

Figure 2: Aims of the BSA program



Source: BSA National Accreditation Standards[6]

BSA is a joint initiative funded by the Commonwealth and state/territory governments. The Commonwealth Department of Health and Aged Care oversees policy, coordination, national data collection, and evaluation. The states/territories are responsible for local program delivery including the provision of high quality services, improving participation and equity outcomes

[5] World Health Organization. WHO position paper on mammography screening. Geneva, Switzerland: World Health Organization; 2014.
[6] Australian Government Department of Health (2023). BreastScreen Australia National Accreditation standards, accessed from

and supporting registry functions.[7] The program provides free 2-yearly screening mammograms for asymptomatic consumers aged 50-74, who are actively encouraged to participate. Consumers aged 40-49 or 75 and over are also eligible for free mammograms but do not receive invitations.[8]

Consumers from all backgrounds currently participate in the program as illustrated in Figure 3.

Figure 3: Illustrative representation of diverse participation

Source: BSA Australia

These include Aboriginal and Torres Strait Islander people, culturally and linguistically diverse people, consumers with disabilities, trans and gender diverse, consumers with mental health

[7] Australian Government Department of Health and Aged Care (2018). Population Based Screening Framework, accessed Jan 2025
[8] Australian Government Department of Health and Aged Care (2023). About the BreastScreen Australia Program, accessed Jan 2025

issues, homeless consumers and consumers in correctional facilities. The program must address intersectional requirements, recognising that many consumers belong to multiple priority populations simultaneously and face compounded barriers that require tailored, multifaceted approaches to screening access and support.

Since 1991 and BSA's inception, Australia's population has grown from 17 million to approximately 26 million,[9] driven by both natural increases and immigration. The share of Aboriginal and Torres Strait Islander peoples has risen from around 1.6% in 1991 to 3.2%[10] in the most recent data, reflecting both higher birth rates and improved identification in official statistics. Over the same period, more culturally and linguistically diverse (CALD) communities have emerged, with nearly one-third of Australians now born overseas and over one-quarter speaking a language other than English at home.[9] Disability prevalence has risen, partly due to an ageing population and broader recognition.

The BSA aspirational participation rate is 70% in each 2-year period. Current reported rates of consumers in the targeted age group of 50–74 include:

- **51.7%** participation in 2022–2023 with over 1.9 million screening
- **36.8%** participation of Aboriginal and Torres Strait Islander people (28,002) in 2021-2022
- **38.7%** participation in very remote areas in 2021–2022
- **38.9 %** participation by non-English speaking backgrounds in 2021–2022
- **47.8 %** participation by lowest socioeconomic areas in 2021–2022

Sources: [d]AIHW, (2024) BreastScreen Australia monitoring report 2024 accessed December 2024. Rate is the number of participants aged 50–74 screened in each 2-year reporting period, as a percentage of the Australian Bureau of Statistics ABS estimated resident population.

In screening mammography, two views are taken of each breast; radiologists then study the images, looking for suspicious characteristics that require further investigation. BSA also provides assessment services following screening to facilitate the diagnosis of cancers. Assessment of participants recalled involves further investigation at an assessment centre. This may include palpation, diagnostic mammography, ultrasound and if required, a percutaneous biopsy (core biopsy of breast tissue for histological assessment or fine needle aspiration for cytological assessment).

[9] ABS Historical population accessed March 2025

[10] Australian Human Rights commission Social Justice and National Indigenous Agency accessed March 2025

As shown in the AIHW BreastScreen Australia monitoring report 2024, BSA has demonstrated significant benefits in early detection and treatment outcomes including:

- **46% of all breast cancer cases** in women aged 50–74 were detected through BSA in 2020
- **33% of all breast cancer cases** in women aged over 40 were detected through BSA in 2020
- **59% of breast cancers at small sizes,** compared to 28% in non-program detection. This earlier detection enables:
  - **18% more breast-conserving surgery** (74% versus 56% outside the program) and reduces morbidity. Small breast cancers are associated with increased treatment options and improved survival.
  - **54-63% lower mortality risk** compared to cases in women who never participated in the program according to AIHW data linkage research, breast cancers detected through BSA.

Sources: [d]AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024.

1.2.1. Service delivery

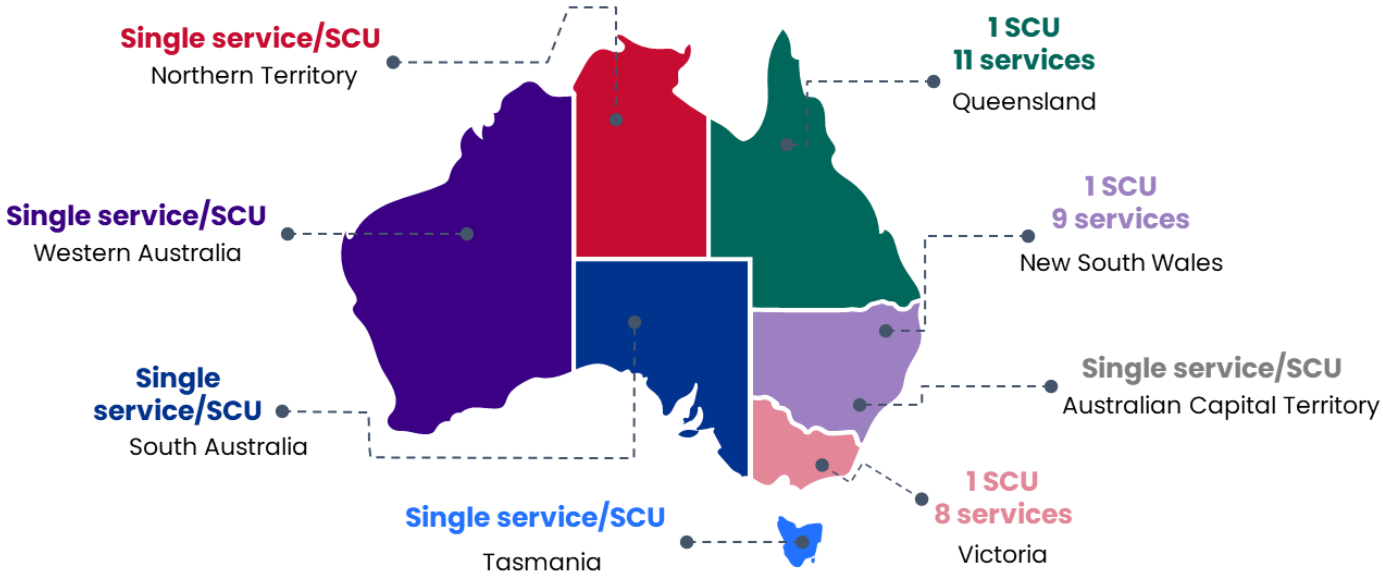
Screening services are provided at over 750 locations across Australia, including mobile units serving regional areas depicted in Figure 4. Jurisdictions have either a single central service or multiple screening and assessment services overseen by a state coordination unit (SCU). Each service follows a standardised model featuring:

- a defined geographical catchment area
- one or more designated assessment centres
- various screening locations (satellite, mobile, or relocatable sites).

Services are tailored to meet local geographic and demographic needs, varying in:

- size and coverage (from partial city coverage to vast geographical areas)
- delivery model (public sector, contracted private sector, or mixed arrangements)
- infrastructure (fixed locations, relocatable units, or mobile screening units).

Figure 4: Accredited BSA services by jurisdictions



Source: HealthConsult based on review of program documentation

The various approaches to service delivery across Australia reflect BSA's commitment to addressing unique geographical and demographic challenges including the population size and structure of local health services. This adaptability is particularly evident in remote areas, where innovative solutions are essential to ensure equitable access to breast screening services.

The following case study from the Northern Territory illustrates how BSA services can be tailored to meet the complex needs of remote Indigenous communities while highlighting both successes and ongoing challenges in service provision.

Case study - Breast Screening in the remote communities

In the NT, breast screening services are provided to three distinct, very remote communities: Desert, Top End and Island regions These communities have over 20 dialects with seven main languages, with limited access to internet, regular phone service or mailboxes. Most services are provided via "Millie", the pink bus that travels on land or a barge for island communities. However, Millie faces significant challenges—she cannot travel on unsealed roads, lacks equipment protection from road vibrations, and has power requirements that not all communities can provide.

Access is coordinated through the local Aboriginal Medical Service (AMS), which provides population details and helps prioritise urgent follow-ups. The AMS organises and funds transport for consumers from outlying communities to

Millie parked at the front of the Harts Range Health Clinic

attend screening. BreastScreen NT's Health Promotion team includes an Indigenous woman and a Territorian who understand cultural protocols, allowing time "for a yarn and a cup of tea" as part of the service. Staff respect local customs and understand the impact that "sorry business" and community dynamics have on attendance. Where possible, they collaborate with communities on promotional activities such as Women's Health Weeks run by Aboriginal Community Controlled Health Organisations. These events provide access to screening services while allowing consumers to familiarise themselves with the mobile unit. Local Territorians who have experienced breast cancer serve as BreastScreen Ambassadors, helping ease concerns for other consumers. Results are returned to the AMS, which recalls consumers to share results and manages future screening reminders.

Despite successes, resource limitations hinder service improvements. The service requires an off-road vehicle with air suspension, online booking, a website, promotional videos in local languages, funding for health promotion, a dedicated driver, and power access in remote communities. These gaps highlight the challenges in providing equitable screening services to remote Indigenous communities.

Millie on the barge coming into Maningrida

Waiting room/reception desk inside Millie

Radiographer desk looking at the mammography machine and waiting/reception room, Millie

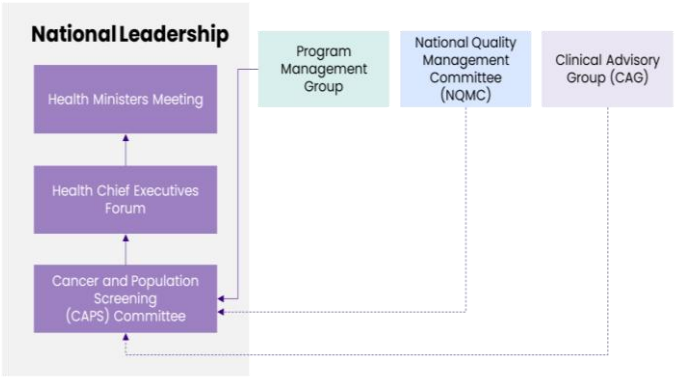
Source: Case study from Workstream 2 Priority Populations report. Photos from BreastScreenNT

1.2.2. Governance and reporting

State and territory governments have responsibility for the implementation of the Program within each jurisdiction while the Commonwealth government undertakes overall coordination of policy formulation, national data collection, quality control, monitoring and evaluation. The governance structure is similar to other national population screening programs as outlined in Figure 5. States and territories have formed other groups and networks however these are not part of the formal national governance structure (e.g., the well-established National Radiographer Network and Health Promotion and Communication Network as well as the recently established clinical director's group). These groups enable information sharing, peer

support, problem solving and specialist input into operational and technical matters for the program.

Figure 5: Governance structure



Source: HealthConsult (2025) based on review of BSA program documentation

1.2.3. Quality management and accreditation

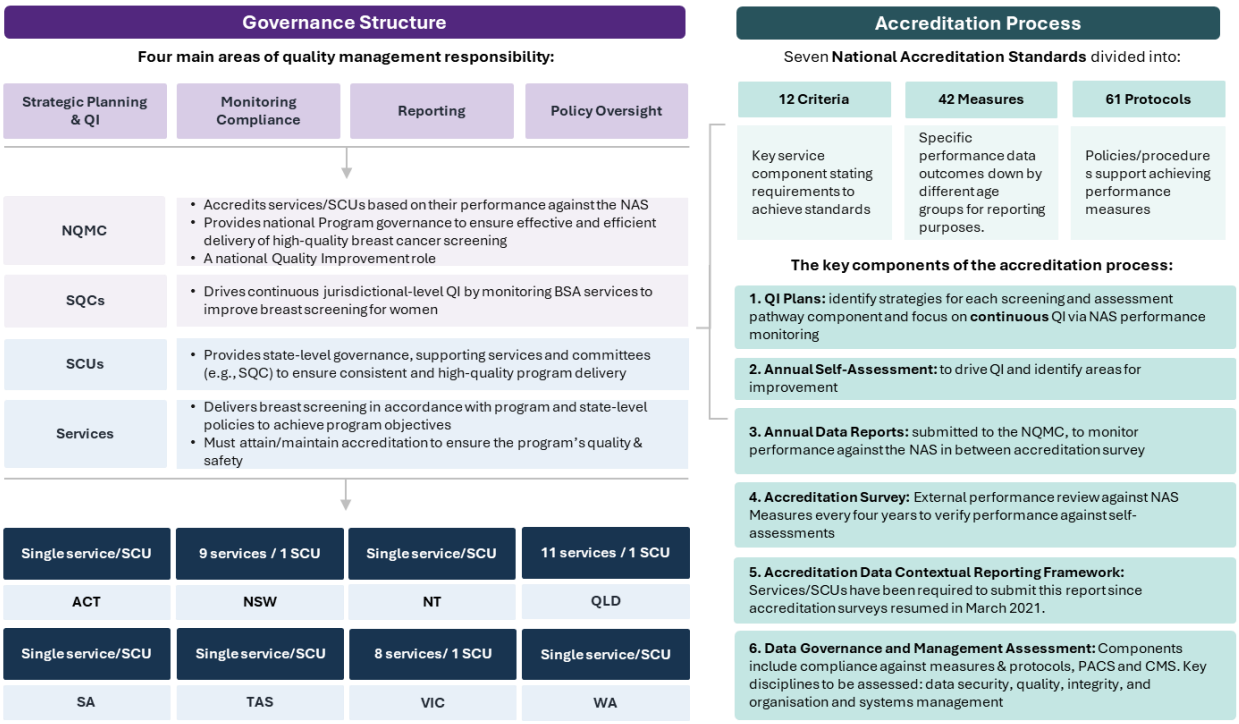
BSA's accreditation system aims to maintain high-quality breast screening services and provides the foundation for the accreditation program. To ensure consumers receive safe and high-quality breast screens, all screening services and SCUs must be surveyed and accredited every four years.

Services/SCUs are assessed against the National Accreditation Standards (NAS). The NAS consists of **seven standards** that relate to the screening and assessment pathway or the support functions and are further divided into **12 criteria, 42 measures, and 61 protocols**. Accreditation surveys evaluate performance based on all NAS measures and protocols.

BSA's current quality structure encompasses four main areas of responsibility for quality management: strategic planning and QI, monitoring compliance, reporting, and policy oversight. The key components of the accreditation process to receive accreditation are reflected in Figure 6 with the following key players:

- National Quality Management Committee (NQMC)
- State Quality Committees (SQCs)
- SCUs
- Services.

Figure 6: The current quality and safety system of the BSA program



Source: HealthConsult based on review of BSA program documentation

BreastScreen services/SCUs currently develop QI plans to identify, address, and learn from adverse events, mitigating recurrence risks. These initiatives cover screening, assessment, consumer experience, marketing and recruitment, workforce, continuity of care, and monitoring and evaluation. Examples include breast density reporting, mobile van assessments, electronic invitations and reminders, consumer co-designed clinic areas, flexible work options for staff, and creating a Quality Manager position as represented in the images in Figure 7.

Figure 7: Quality initiatives from across the country

Source: Case study from Workstream 2 Quality and Safety report. Photos from BreastScreen ACT, NSW, NT, QLD, SA, VIC and WA. Bottom left image: L-R: Ann Lister, Gunditjmara & Louise Wackett, Gunditjmara, Djab Whurrung & Gilmory at the Kirrae Beautiful Shawl Project Visit. Artwork by Jess Chatfield, Gunditjmara, Djab Whurrung

1.3. Project scope and methodology

The project scope and methodology of workstreams 1-3 are summarised in their executive summaries of each report provided in the appendices.

On 6 November 2024, the Department engaged HealthConsult to deliver Workstream 4 *"to develop the Final BSA Review report."* This included:

1. **Stakeholder consultations.** Hold and facilitate consultations to support the shaping of the final report and recommendations.
2. **BSA Review report.** Prepare a draft and final BSA Review report in consultation with the BSA Review Steering Committee and BSA Review EAG. The report will include:
    - an overview of the BSA program, BSA Review and methodology, and the BSA Review Terms of Reference

- the current environment, key drivers, benefits, sensitivities (including by priority population groups), and challenges for change
- the outcome of BSA Review consultations including the public consultation conducted by the Department in early 2024, including themes raised and sensitivities
- outline the key recommendations with a preliminary assessment of feasibility to inform the future strategic directions for the BSA program for the next 10 years

1.3.1. Project limitation

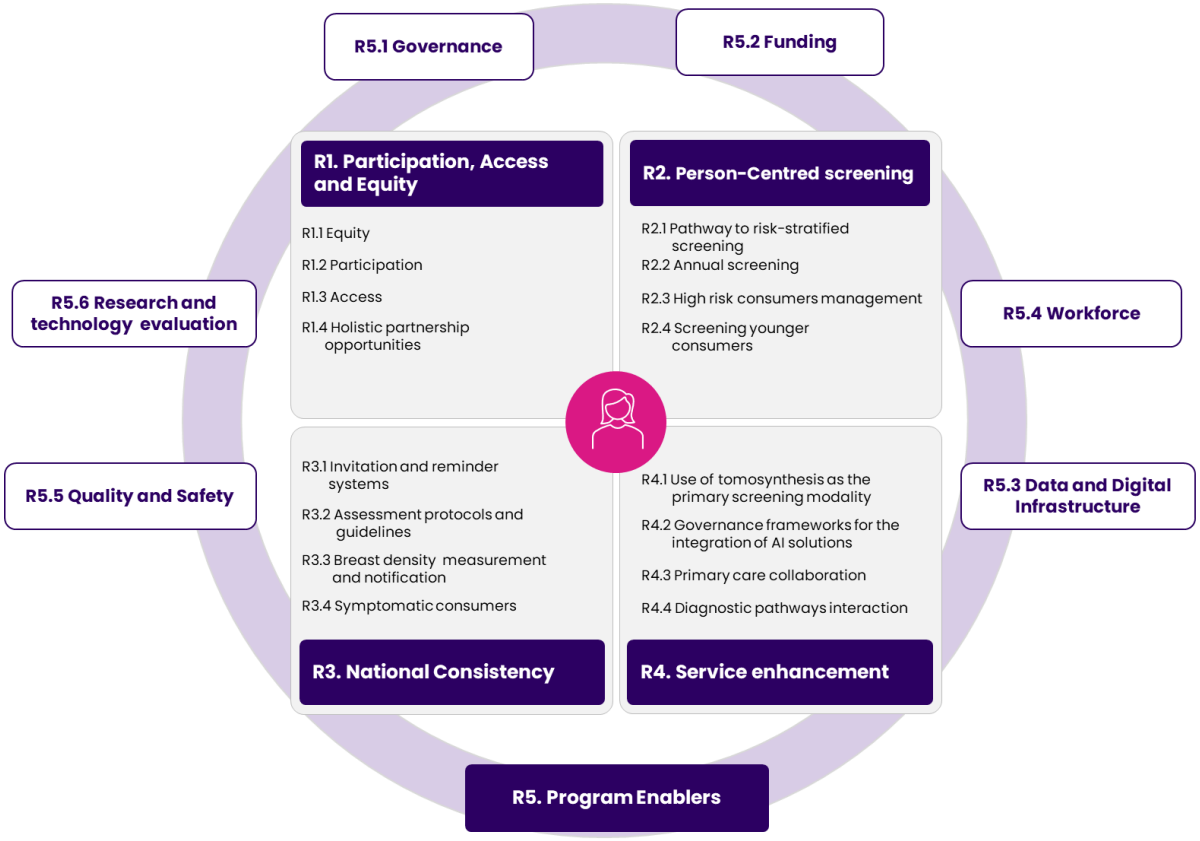
While a large number of stakeholders' responses were used to reflect stakeholder priorities in this report the following groups had limited representation:

- The targeted consultations in Workstream 4 were mostly limited to known BSA stakeholders and those who had already participated in the open consultation in early 2024. This included:
  - BSA Consumers (n=8 interviewed) The consumers engaged as part of consultations of this Review were not representative of all consumers. They were also not necessarily fully informed of the BSA program or breast cancer screening evidence, of benefits, harms and costs.
  - breast cancer survivors were interviewed and provided valuable lived experience. Noting they may not have used the BSA services.
  - external health professionals (14 contacted with one radiologist response)
- An economic analysis for the Incremental Cost Effectiveness Ratio or cost-benefit of different innovations has not been completed and is expected to be included in future work as BSA moves towards risk-stratified screening.

2. Recommendations

While BSA has established itself as a trusted provider of breast screening services over three decades, the program faces mounting pressures that demand strategic transformation. The key findings found as part of this review are linked to recommendations for change, which have been summarised in Figure 8. Additional information about each key finding is detailed in Appendix C.

Figure 8: Summary recommendations



2.1. Participation, access and equity

Recommendations

R1. Achieve equitable access and optimise participation across all population groups.

Achieving equitable access to breast screening services remains a significant challenge across Australia, with participation rates well below the target of 70% and the OECD average. BSA is unable to capture the level of screening in the private sector, as there is no Medicare rebate for screening mammography. Persistent disparities affect priority populations, with poorer outcomes in Aboriginal and Torres Strait Islander consumers and the lowest socioeconomic groups. These disparities stem from complex individual, service, and system-level barriers.

Addressing these inequities requires a comprehensive approach through developing and implementing a National Equity Framework (R1.1), a National Participation Strategy and Action Plan (R1.2), sustainable service access models (R1.3), and holistic partnership initiatives (R1.4) to ensure all eligible Australians and Australian residents have fair and appropriate access to high-quality breast screening services.

Sub-recommendations:

R1.1 Develop and implement a National Equity Framework.

Engage using principles of co-design and co-partnering to support the design and implementation of the National Equity Framework that meets the needs of all underrepresented population groups across all jurisdictions.

As previously mentioned, disparities exist across population groups, with significantly lower participation rates among Aboriginal and Torres Strait Islander consumers, CALD people, those in very remote areas, and the lowest socioeconomic groups in the targeted age group. There is some evidence of poorer outcomes in Aboriginal and Torres Strait Islander consumers and the lowest socioeconomic groups (noting limitations in the self-reported status and the availability of comprehensive data collection across all states and all priority population groups). These disparities stem from multiple barriers including limited culturally appropriate services, geographic challenges particularly affecting rural and remote communities, and physical access difficulties for consumers with disabilities. The implementation of initiatives varies significantly across jurisdictions, with some showing more comprehensive and sustainable approaches than others **(see findings on pg. 63)**.

A National Equity Framework for the BSA Program could establish clear foundations acknowledging historical barriers, define equity in the Australian healthcare context and address the intersectionality of disadvantage. The Framework would focus on equitable access to screening and assessment services, addressing geographical, cultural, linguistic and socioeconomic barriers, along with stigma and discrimination to ensure equitable health outcomes.

Key considerations include culturally appropriate services for Aboriginal and Torres Strait Islander consumers, accessible facilities and approaches for those with disabilities, and targeted outreach for CALD communities while recognising intersectionality and social disadvantage. The Framework should mandate standardised data collection to monitor screening participation rates and outcomes across different populations, recommend actions for the National Strategy such as increased mobile screening for remote areas and improved transport options, develop a culturally competent workforce, implement evidence-based interventions addressing stigma, and establish success metrics with regular reporting and independent oversight. Representative cancer control indicator data is crucial for effective

cancer control. Comprehensive, accurate cancer data enables evidence-based decisions, identifies disparities and supports targeted interventions.

Funding to support implementation of the strategy will be required as well as consideration of adjustments to funding models to take account of increased costs associated with screening priority populations.

Stakeholders' Priorities: Due to the disparities in participation rates and breast cancer mortality of Aboriginal and Torres Strait Islander consumers this was seen as the **highest priority issue** by many stakeholders. It is important to acknowledge the intersectionality that can exist between socioeconomic status, geography, ethnicity and cultural background which can interact and create further disadvantage across all these groups. For Aboriginal and Torres Strait Islander peoples, these intersecting factors often result in even poorer outcomes and highlight the need to develop more inclusive frameworks that align with the National Agreement on Closing the Gap and its Four Priority Reform Areas. The Framework should promote co-designed local activities aimed at improving cost-effective and culturally safe breast cancer screening for Aboriginal and Torres Strait Islander consumers.

EAG Position: Consensus support.

Consumer members of the EAG emphasised the need for a National Equity Framework as an immediate action to recognise the needs of priority populations and, through implementation and continuous improvement, ensure BSA services achieve greater equity. Objective indicators of priority group participation could also be required as part of BSA quality and safety standards. Effective communication, awareness and health promotion activities need to involve the role of champions and health educators in local health services to reach priority populations. Data on priority populations need to be enhanced to ensure implementation of the Framework is data driven and verifiable.

Mechanisms for Change:	Key Dependencies:

• Co-design and co-develop
  ○ defining the priority population groups for BSA.
  ○ standardised equity measures
  ○ cultural safety guidelines and strengths based, equitable guidelines
  ○ accessibility standards
  ○ accountability frameworks
  ○ workforce development programs
  ○ intersectionality requirements
  ○ proactively addressing stigma and discrimination
• Ensure the framework aligns with the National Agreement on Closing the Gap and its Four Priority Reform Areas to inform co-designed local activities aimed at improving cost-effective and culturally safe breast cancer screening for Aboriginal and Torres Strait Islander consumers
• Create a workforce diversity recruitment and support strategy that integrates with the National Equity Framework
• Data collection and monitoring systems for measuring effectiveness as part of continuous improvement processes with a focus on across population groups:
	• Partnerships with Aboriginal and Torres Strait Islander and other Priority population organisations
	• Cross-cultural communication resources
	Funding
	• To support implementation
	• Associated with screening priority populations.
	Workforce
	• Workforce culturally safe and trauma-informed training requirements
	Data and infrastructure
	• Data collection systems for equity monitoring
	• Aboriginal and Torres Strait Islander data sovereignty
	Research
	• Evidence of effective initiatives in Australia

- screening participation rates
- assessment participation rates and waiting times
- health outcomes
- BSA consumers reported experience measures, particularly around cultural/social determinants and culturally safety
- information gathering from never-screened consumers

- Learn from initiatives proven to be effective for First Nations people in other settings (e.g., Canada and New Zealand).

R1.2 Develop and implement a National Participation Strategy and Action Plan with the aim of 70% biennial participation in line with WHO recommendation for optimal screening participation.

BSA achieves broad accessibility with 1,820,994 consumers aged 50-74 in 2021-2022, representing a 50.1% participation rate, significantly lower than the original program target of 70%, and suggested by the WHO for all screening programs,[11] indicating a need for improvement. Actual screening rates cannot be calculated due to uncaptured private screening data **(see findings on pg. 62)**.

A National Participation Strategy and Action Plan would aim to maximise biennial participation rates to at least 70%, modernising BSA's engagement approach, strengthening program visibility, and establishing consistent messaging while enabling locally tailored implementation. This would guide evidence-based approaches through standardised messaging and engagement strategies, with flexibility for local adaptation to diverse community needs. The plan would incorporate culturally and linguistically appropriate messaging addressing stigma, discrimination, targeted communication channels, and research-backed engagement strategies.

This requires expert national leadership, coordination between Commonwealth and jurisdictional communications and policy areas, state and territory program openness to co-branding, and addressing systemic barriers to implementation. Capturing private screening data would be essential to more specifically measure screening participation coverage and better target resources. Success depends on robust monitoring systems tracking participation trends (including across longer timeframes than two years would identify participation behaviours and the number and proportion of consumers delaying screening beyond 27 months), measuring intervention effectiveness, and enabling data-driven refinements for continuous QI by identifying successful approaches and areas needing enhancement.

Stakeholders' Priorities: This was identified as a **high-priority issue** to be addressed by all stakeholders consulted with many highlighting the confusion for consumers between the eligible age and the target age.

EAG Position: Consensus support.

[11] WHO A short guide to cancer screening: increase effectiveness, maximize benefits and minimize harm

Consumer members of the EAG emphasised the need for a National Participation Strategy and Action Plan to incorporate the needs of priority populations and to utilise local champions and health educators in other health services to reach under-screened population groups. The use of mobile services and group bookings across many priority populations has been shown to be successful and could be expanded further. Data on priority populations need to be enhanced to ensure strategies are data driven.

Mechanisms for Change:	Key Dependencies:

• Identification and integration of evidence-based engagement strategies (with a focus on priority populations) which align with the National Equity Framework
• Co-design and produce agreed new initiatives such as:
  ○ refreshing the program communication and health promotion resources (e.g., a national media campaign, updated and shared national resources, culturally and linguistically appropriate communication materials)
  ○ knowledge sharing across all levels of implementation across jurisdictions
  ○ provide support for activities that build trust among the under screened groups such as working with the CALD community leaders/Bilingual Community Educators (BCEs) (as the BCE Program model in NSW) to provide tailored information.
  ○ build the capacity of the workforce to build trust among the under screened groups such as working with the CALD community leaders/Bilingual Community Educators to provide tailored information
  ○ implement evidence-based strategies to increase screening participation e.g., GP Text Message interventions and expanded open hours
  ○ modifications to service delivery models for specific populations, including but not limited to people with disability and people with certain cultural or religious requirements
  ○ initiatives to enable participation by people not on the electoral roll or Medicare
• Provide health promotion implementation toolkits
• Expand Data collection and monitoring systems:
  ○ analysis of mortality impact if higher participation rates were achieved including the target of 70%
  ○ measure the effectiveness of initiatives as part of a continuous improvement process
  ○ measurement of participation over longer periods 2-year, 3-year, 5-year, younger consumers below 50, private sector, priority populations to better understand screening behaviours
  ○ aligning with the National Cancer Data Framework to include data linkages where relevant
	R1.1 National Equity Framework
	Funding
	• To ensure the capacity of the program to reach 70% participation
	• To support key initiatives and resources (especially concerning priority populations)
	• Support the development of locally tailored promotional and communication material
	Research
	• National coordination of evidence-based research on effective engagement strategies
	• An evidence and research-based approach to develop and implement novel interventions to address perceived and actual stigma and discrimination
	Workforce
	• Community engagement resources
	• Workforce capacity for increased participation
	• Workforce culturally safe and trauma-informed training
	• Workforce diversity and representation
	Data and infrastructure
	• Cross-jurisdictional coordination mechanisms
	• Communication infrastructure and channels
	• IT systems for monitoring and evaluation

R1.3 Develop and implement sustainable service access models for screening and assessment services to maximise accessibility and participation.

Limited access to fixed and mobile screening in rural areas further compounds participation challenges. Despite 99.8% of consumers aged 50-74 living within a one-hour drive of screening services, participation rates remain critically low in very remote areas (36%) and among

Aboriginal and Torres Strait Islander consumers (35%).[12] Current mobile screening services are essential for reaching rural and priority populations and valuable in regional and metropolitan locations where consumers are unable to travel to fixed locations. Mobile services currently face significant operational challenges including inflexible scheduling (often just one week every two years), most are unable to offer assessment services and ageing infrastructure. These challenges particularly impact consumers requiring annual screening or follow-up care. Although mobile services receive strong community support, no comprehensive review has been conducted since 2009, limiting evidence-based strategic planning for this crucial service delivery model across all states and territories.

The initial focus would be to map access to BSA screening and assessment services including mobile vans, with a focus on demonstrating how they meet the needs of underserved and remote populations, key cost and service drivers and identify opportunities for improvement in service delivery and community engagement. The review should include, but not be limited to distribution, participation rates, frequency of mobile vans, volume of services, border regions, and sites chosen (both fixed and mobile) and synchronisation with other mobile health services.

This can then be used as a basis for enhancing the service model and implementing supporting initiatives **(see findings on pg. 69)**.

Stakeholders Priorities: A review of mobile screening services was not considered a priority for some states and territories as they already utilise data to inform their decision-making processes. In contrast, other regions viewed ageing infrastructure, necessary funding, and workforce needs as very high priorities to sustain effective mobile services.

EAG Position: Consensus support.

Consumer members of the EAG advised the importance of mobile screening services and group bookings for reaching priority populations including Aboriginal and Torres Strait Islanders and CALD consumers.

[12] AIHW Access to BreastScreen Australia screening services Feb 2024 accessed February 2025

Mechanisms for Change:	Key Dependencies:

• Review of the access to BSA services (screening, assessment and diagnostic services including diagnostic testing and supplemental screening) to assess their accessibility, effectiveness and reach, including access to local healthcare partnerships. The mapping should:
  ○ focus on outer metro, rural and remote
  ○ initially focus on geographic context and expand to include other demographic and sociodemographic information as available
  ○ be used as a key input by the appropriate levels of governance
• Develop evidence-based planning tools
• Create and pilot approaches for optimising service mix across fixed, mobile and outreach delivery (e.g., with ACCHOs or Affiliates) or additional initiatives (e.g., accessing fixed services through regular organised transport options)
• Establish community consultation processes.
• Development of evaluation frameworks to measure effectiveness and guide service adaptation.
	Funding
	• To address the findings of the service review
	Workforce
	• Workforce availability across regions
	Data and infrastructure
	• Geographic accessibility analysis tools
	• Data systems for service planning
	• IT systems for monitoring and evaluation

R 1.4 Develop and implement holistic partnership initiatives with other screening programs and healthcare providers.

Holistic partnership opportunities may exist to partner with other screening programs. Similarly, partnerships with other health providers could achieve a holistic approach to breast health, drawing from successful models like partnerships with Aboriginal Community Controlled Health Organisations already occurring in some jurisdictions **(see findings on pg. 71)**.

Stakeholders' Priorities: This also had strong support for action but as a **medium-low priority issue** due to the implementation concern in relation to the complexity of establishing e.g., IT requirements for information sharing, workforce, funding models, when ranking this against other opportunities for change. However, aspects in relation to **Aboriginal and Torres Strait Islander people** need to be addressed as a **high priority**.

EAG Position: Consensus support.

Mechanisms for Change:	Key Dependencies:

• Establish a partnership framework model with a focus on:
  ○ mapping existing screening programs and identifying collaboration opportunities and aligning with the Australian Cancer Plan
  ○ developing resource sharing frameworks and governance arrangements
  ○ designing of coordinated screening approaches
  ○ co-designing shared outreach models for rural and remote areas
  ○ feasibility assessments
• Implement coordinated screening partnerships starting with pilot programs and adapting them for a broader rollout. These pilots should ideally be conducted in areas with low participation in one or more existing programs. Additionally, the focus should not only be on screening services but also on adopting a holistic approach to promote screening. This includes understanding
	Funding
	• Resource allocation for sustainable partnership implementation costs
	Data and IT
	• Information sharing infrastructure with a focus on real-time results and images
	• IT systems for monitoring and evaluation
	• Data security protocols and privacy compliance frameworks
	Workforce
	• Current workforce capacity and capability across jurisdictions

what programs people are participating in and encouraging wider behavioural change.
- Evaluate, optimise and sustain partnerships:
  - evaluate effectiveness and service accessibility
  - monitor community impact and adjust delivery models
  - maintain partnership arrangements and quality standards

2.2. Person centred screening

Recommendation

R2. Transform BSA's screening model through the implementation of risk-stratified screening approaches.

BSA's current age-based approach to breast cancer screening, while effective and defensible as it is based on uncontested evidence that benefits outweigh harms at a cost the community is prepared to support, does not account for individual risk factors that could enable more personalised and efficient screening pathways. Evidence indicates consumers have different breast cancer risk levels based on genetics, family history, breast density, demographics and lifestyle factors, suggesting potential benefits from a more tailored approach. Transitioning to risk-stratified screening could improve early detection through individualised targeting of screening intensity and technologies, better identification of higher-risk consumers, the potential for reduced intensity for lower-risk consumers, and more efficient resource utilisation. This strategic shift requires thoughtful implementation through a national transition plan (R2.1), nationally consistent criteria for annual mammography screening (R2.2), standardised protocols for high-risk consumers (R2.3), and evidence-based guidelines for screening eligible consumers aged 45-49 (R2.4) to ensure the program remains evidence-based while enhancing its responsiveness to individual needs.

Sub-recommendations

R2.1 Develop and implement a national plan for transitioning to risk-stratified screening with a national approach to risk assessment using a validated and nationally adopted tool.

National and international interest in risk-stratified screening is gaining momentum because evidence shows consumers have different cancer risk levels. The ROSA project, which commenced in 2018, has provided important groundwork for Australia's potential transition to risk-stratified screening. Currently, no country has fully implemented additional risk factors beyond age and gender into their national population based screening programs, though research is ongoing worldwide. Although the current age-based approach was informed by trial evidence of screening benefits there are concerns that it can mean over-screening and over-diagnosis of indolent disease of low-risk consumers while potentially missing cancers in high-risk consumers or delayed diagnosis. It will be critical to monitor emerging research findings in

risk assessment (e.g., AI tools to assess risk from mammographic information), to ensure any risk-stratified screening approach evolves over time.

A personalised approach is expected but is not certain to enable more efficient use of limited healthcare resources while improving cancer detection. However, successful implementation requires careful consideration of communication strategies, equity of access, robust and validated risk assessment tools, and healthcare professional training to ensure the potential benefits of risk-stratified screening are realised without exacerbating health disparities. It is also important to note that BSA is a population based screening program and that most breast cancers occur in average risk consumers, which suggests that there will be some limitations to how personalised the approach can be while allowing scalability to the population level **(see findings on pg. 72)**.

Whilst acknowledging the evidence gaps and implementation complexities, risk-stratified breast screening has the potential to improve outcomes, with the expectation that it will allow:

- individualised targeting of screening intensity and technologies
- better identification of and protocols for consumers with higher-than-average risk
- potentially reduced intensity of screening for lower-risk consumers
- potentially more efficient resource utilisation.

Stakeholders' Priorities: The consultation showed strong support for risk-stratified screening. Acknowledging the complexities, the starting implementation planning now is seen as a **high priority** with a focus on the higher-than-average risk to achieve implementation within 5 to 10 years.

EAG position: Consensus support.

The EAG noted moving BSA to be ready for a risk-stratified screening program should be a high priority. The EAG advised planning should commence immediately using an appropriate national governance structure to support a phased implementation approach. It should start with developing a national protocol for annual screening (R2.2), developing a national protocol for screening consumers at high risk and very high risk (R2.3) and developing a national protocol for screening consumers aged 45 to 49 years. Enhanced national data collection (R5.6) and In-program research and evaluation (R5.6) should be used to establish the evidence and support decision-making. This stepwise approach needs to ensure any risk assessment tools are validated for the Australian population and support consistent assessment of lifetime risk estimation nationally and associated screening or surveillance recommendations. Ongoing horizon scanning should be built in to ensure emerging technologies can be incorporated as evidence becomes available. These technologies include polygenic risk scores and innovations in radiomics.

Mechanisms for Change:	Key Dependencies:
• Establish governance structure	**Funding**

- Plan a stepwise approach/phased implementation
  - develop transition roadmap and implementation milestones
  - identify key system and process changes needed
  - update protocols and guidelines
  - design validation studies and data collection frameworks
  - co-design risk assessment processes outside BSA especially with the primary care sector
  - evidence synthesis leveraging the ROSA Roadmap and highlighting gaps to be addressed (see Research and Evaluation)
  - use emerging trial evidence to inform local pilots and in-program trials
- Establish standardised risk assessment protocols and tools validated for the Australian population, supported by clear management pathways for different risk categories
- Implement risk-stratified screening transition. BSA commence risk-stratified screening through the funding and support of in-program trials leading to a phased implementation, which includes a robust communication and change management plan
- The outcomes of in-program trials will inform and guide the development of risk-stratified screening national policy
- Complete transition, monitor outcomes and optimise delivery.
  - achieve full implementation across all services
  - review transition effectiveness and outcomes
  - refine approach based on evidence
  - ensure sustainable delivery mode. The outcomes of in-program trials will inform and guide the development of risk-stratified screening national policy
- Resource allocation for risk-stratified screening implementation changes

Data and IT

- Implementation planning tools
- Infrastructure upgrades including e.g., risk assessment tools and data collection, scheduling systems, screening and assessment technologies
- IT systems for monitoring and evaluation

Workforce

- Current workforce capacity and capability across jurisdictions
- Workforce training and development
- Change management and communication expertise

Technology Evaluation

- Evaluation of Infrastructure upgrades including e.g., risk assessment tools screening and assessment technologies

Research and Evaluation

- Evidence from ongoing trials
- Research and evidence to address any gaps identified
- Evidence-based best practice for implementation

R2.2 Develop and implement a minimum nationally consistent criteria and protocols for annual screening for mammography.

Current approaches to breast cancer risk assessment and annual screening eligibility vary across Australian jurisdictions. There may need to be a distinction between rural and remote versus metropolitan areas due to accessibility to services. This policy is being recommended in the short term to ensure that the variability is addressed whilst the program considers the evidence and implementation feasibility of a risk-stratified screening approach **(see findings on pg. 74)**.

Stakeholders Priorities: Strong support for action and **high priority**.

EAG position: Consensus support.

The EAG noted this should be the first phase in moving towards risk-stratified screening. They advised the stocktake of local annual screening policies undertaken for the Review could be used to develop a consistent national policy for consumers eligible for annual screening. Policy implementation would require updates to standardise data collection on annual mammography screening including eligibility criteria, updates to scheduling annual appointments and establishing monitoring and evaluation of health outcomes for consumers eligible for annual screening.

Mechanisms for Change:	Key Dependencies:

• Leverage information gathered from the policy stocktake conducted in 2024 and use this to develop the national policy for annual mammography screening. Noting there may need to be a distinction between rural and remote versus metropolitan areas due to accessibility to services
• Plan the transition to a nationally consistent approach and develop additional resources with a focus on:
  ○ risk assessment criteria
  ○ update IT system for additional risk assessment requirements where required
  ○ update scheduling systems to enable annual appointments
  ○ create communication strategies
• Monitor national compliance
• Evaluate screening outcomes and review service impacts and continuously update protocols based on evidence
• Incorporate into risk-stratified screening as soon as possible once an Australian validated risk assessment tool has been agreed upon
	Funding
	• Resource allocation for implementation across states/territories
	Data and IT
	• IT system for risk assessment
	• IT systems for tracking and scheduling
	• IT systems for monitoring and evaluation
	Workforce
	• Current workforce capacity and capability across jurisdictions
	Research and Evaluation
	• Evidence-based best practice for risk categorisation
	• Communication frameworks

R2.3 Develop and implement minimum protocols for the management of a high-risk and/or a very high-risk consumer.

Current approaches to managing high-risk consumers vary significantly across Australian jurisdictions. Consumers identified as being at high risk of breast cancer can currently access specialised services through Familial Breast Cancer Clinics or the private sector, noting access to these is not the same for all consumers. Risk identification primarily relies on family history, as outlined in the Royal Australian College of General Practitioners (RACGP) Guidelines for preventative activities in general practice **(see findings on pg. 74)**.

Stakeholders Priorities: Stakeholders strongly support developing consistent national approaches to managing high-risk consumers. While there is general agreement that very high-risk consumers should receive specialised services outside BSA, moderate-risk consumers require clear pathways within the program. Some stakeholders suggested that those unable to access specialised services might benefit from screening or surveillance within BSA as an alternative approach. However, concerns were raised about resource implications, including workforce needs and technological requirements such as magnetic resonance imaging (MRI) access and service integration for risk-stratified screening pathways. Stakeholders particularly emphasised the importance of ensuring that any risk-stratified protocols do not create or exacerbate existing access barriers.

EAG position: Consensus support.

The EAG noted this was an important second phase towards implementing risk-stratified screening. The EAG advised BSA should be at the forefront of defining breast cancer risk categories, working with clinical colleges to standardise lifetime risk estimation categories for national adoption across primary care, BSA and specialist care. This would support a standardised risk assessment procedure for determining program eligibility and screening

recommendations. For consumers at very high risk who require specialist management and/or surveillance outside of BSA, service mapping of availability and capacity of local clinical services and the development of guidelines for how BSA could complement specialist services will be important to ensure consumers of all risk categories have appropriate clinical pathways available, particularly for those who are unable to access services other than BSA (R3.3 and R3.4). Establishing monitoring and evaluation of health outcomes for consumers and collaboration with genetics testing clinics for consumers at high risk and very high risk will inform future policy.

Mechanisms for Change:	Key Dependencies:

• Develop nationally consistent breast cancer risk categories in collaboration with clinical colleges
• Continue to encourage high risk management to be available outside of BSA by:
  ○ creating clear referral protocols between BSA and public diagnostic services
  ○ identifying evidence from the service mapping (R1.3) activity to highlight for states and territories where publicly available services are not reasonably accessible
  ○ aligning standardised risk assessment tools with primary care providers (Red Book) to support risk-stratified screening
• Develop national minimum protocols, guidelines and/or local implementation plans for screening of high-risk consumers when service is not accessible outside BSA (excluding very high-risk consumers e.g., BRCA gene mutations who require more specialised surveillance). This should include:
  ○ areas of innovation to service delivery models should be identified, evaluated and scaled up as part of a national continuous improvement process.
  ○ annual mammography within BSA
  ○ local pilot programs within BSA
  ○ requires adoption of standard nomenclature/criteria – e.g., 10 year or lifetime risk estimation
  ○ requires ongoing monitoring & evaluation of outcomes, capacity & service implications
• If evaluation outcomes raise significant issues explore other funding or service delivery options such as co-location pilots.
Note: this will transition to risk-stratified screening within BSA as part of 2.1
	• Stakeholder engagement and buy-in from all jurisdictions
	Funding
	• Resource allocation for implementation across states/territories
	Data and IT
	• IT system for risk assessment
	• IT systems for tracking and scheduling
	• IT systems for monitoring and evaluation
	Workforce
	• Current workforce capacity and capability across jurisdictions
	Research and Evaluation
	• Evidence-based best practice for risk categorisation
	• Communication frameworks

R2.4 Develop and implement evidence-based guidelines for screening consumers aged 45-49 years.

While consumers aged 40-49 years are eligible for BSA services, they are not within the target age group because the evidence is still inconclusive regarding whether the benefits outweigh harms. This age group may require different screening approaches, potentially serving as a pathway to risk-stratified screening. There is some evidence to support extending the target screening age to 45-74 years, though perspectives on benefits remain varied. International policy directions demonstrate different approaches, with divergent recommendations emerging from similar evidence bases **(see findings on pg. 74)**.

Stakeholders Priorities: Stakeholder feedback revealed mixed support for changing the target age range, with some strongly advocating for lowering the screening age, particularly among consumers and advocacy groups. However, there was recognition that any expansion needs to balance with system capacity constraints and include an assessment of benefits and harms. The development of guidelines for screening consumers under 50 would address current variations in practice while establishing a foundation for evidence-based approaches. This should eliminate the use of confusing terms such as 'eligible' and 'target.' Stakeholders emphasised that expanding services should not compromise current delivery to benefit consumers where the evidence is clear and stressed the importance of comprehensive monitoring of screening outcomes including sensitivity, specificity, false positives and negatives, and interval cancers in younger age groups. Such guidelines would provide clarity while acknowledging the need for the precautionary principle and ongoing evaluation as more definitive evidence emerges about benefits versus harms in this age cohort.

EAG position: Consensus support.

During the deliberation of this recommendation, a majority of EAG members supported reducing the target age range to 45 years, with dissenting views arguing not to reduce the target age range. Perspectives arose from different positions on the balance of benefits and harms for the younger population, with some EAG members placing greater value on the potential benefits and others placing greater value on the potential harms. Interpretation of the evidence was also mixed, with some placing higher value on evidence from clinical trials and lack of sufficient Australian data and others placing higher value on the limited Australian data and modelled evidence.

This uncertainty led to consensus agreement from the EAG that further work was required and a data driven, risk-stratified approach was preferable for this age group.

The EAG noted this would be the third phase towards risk-stratified screening. It would require enhanced national data collection (R5.6) and analysis of data on consumers aged 40 to 49 (including clinical and personal choice characteristics of those who do and do not attend BSA), procurement of rigorously conducted systematic reviews of the evidence with expert oversight and utilisation of responsible modelling and international data to provide an accurate evidence base to inform screening guidelines. Analysis of feasibility, capacity and opportunity cost would also be required to inform consideration of the guidelines for screening younger consumers. This could include pilot studies (R5.6) to undertake readiness assessment, identify additional workforce requirements and communication strategies, and establish a monitoring and evaluation process to inform a national plan.

Mechanisms for Change:	Key Dependencies:
• Enhance data collection/target review of consumers attending BSA currently in the 40-49 year old age range • Develop and implement evidence based guidelines for the screening of consumers 45-49 who are eligible for BSA services	**Funding** • Resource allocation for implementation across states/territories **Data and IT** • IT systems for monitoring and evaluation

- Conduct a feasibility and impact assessment of the guidelines (especially capacity and capability)
- Implement pilots to assess the impact on overall participation and service delivery
- Implementation planning with a focus on:
  - readiness assessment
  - communication strategies such as a national awareness and/or education campaign
  - workforce requirements
  - risk management protocols
- Phased implementation of a nationally consistent rollout across jurisdictions
- Design and implement monitoring and evaluation processes (including clinical outcomes, benefits, harms and cost effectiveness)
- Capture participation of this cohort and ensure it is referenced when reviewing a services overall participation rate

Workforce

- Current workforce capacity and capability across jurisdictions

Research and Evaluation

- Evidence from existing Australian and international data
- Risk-benefit assessment frameworks

2.3. National consistency

Recommendations

R3. Establish minimum national guidelines and protocols that reaffirm the aims and objectives of the program and maintain program integrity.

BSA currently lacks nationally consistent protocols and guidelines across key operational areas, creating significant variations in service delivery between jurisdictions. These variations have arisen over many years as jurisdictions have responded to local needs however, they can affect care quality, create confusion for healthcare providers and consumers, and make it difficult to maintain equitable service standards nationwide. Significant inconsistencies exist in assessment protocols, breast density reporting and notification, invitation and reminder systems and the management of symptomatic consumers. While local adaptation has advantages, core elements of the screening program should provide uniform, high-quality care regardless of location. Establishing minimum national guidelines and protocols for screening invitation and reminder systems (R3.1), assessment services (R3.2), breast density measurement and notification (R3.3), and management of symptomatic consumers (R3.4) will support better data collection, enable cross-jurisdictional workforce sharing, and ensure all eligible Australians receive the same high standard of breast screening services.

Sub-recommendations:

R3.1 Develop and implement protocols for screening invitation and reminder systems.

The protocols should be supported by enhanced data access frameworks and clear communication pathways.

Across Australia, BSA services have developed varied invitation and reminder systems to support participation, resulting in significant inconsistencies. Digital communication

implementation is also inconsistent. While all jurisdictions use postal mail, the use of SMS and email varies, with no standardised approach to reminder timing or managing non-responders.

There's increasing interest in implementing reminders for consumers in their forties who previously attended BSA services, though current practices vary significantly based on system capacity. Some jurisdictions only remind Aboriginal and Torres Strait Islander consumers in this age group, while others send no reminders to consumers under 50. For those over 75, invitations are generally not sent except in limited assessment recall situations **(see findings on pg. 76)**.

Stakeholders Priorities: Strong support for action and **high priority**. Stakeholder consultations revealed support for standardisation to reduce confusion, though some jurisdictions raised concerns about system capacity and funding implications. Any successful standardised approach would need to address system constraints, ensure consistent messaging, improve data systems, and maintain service quality to the target age group while expanding services.

EAG position: Consensus support.

While this recommendation had consensus support, concerns were raised by some members regarding the evidence base for sending reminders to screen for those consumers who have already commenced screening under 50 years of age. Other members advised it was likely those under 50 years of age who participate in screening are likely to be consumers who have known risk factors and have chosen to screen; however, evidence is not available to support this theory. The deliberations further highlighted the need to improve data collection and monitoring of consumers aged 40-49 years to inform evidence based guidelines and monitor outcomes.

Mechanisms for Change:	Key Dependencies:

• Work with the Commonwealth Department of Human Services to seek a single approval for nationally consistent access to Medicare data for all jurisdictions
• Share and map findings on current local invitation and reminder systems and protocols for target and eligible groups including (e.g., under 50's, Aboriginal and Torres Strait Islanders) and develop national protocols and local implementation plans
• Develop national protocols and implementation plans ensuring they comply with all jurisdictions' privacy and data security requirements (the inclusion of pilots may also be required). This includes consideration of:
  ○ alternative invitation methods for: non-Medicare eligible individuals, people experiencing housing instability and communities with limited digital or postal access
  ○ standard communication approach with expanded risk disclosure
  ○ maintain flexibility for local adaptation and pilot new approaches while ensuring national standards
• Create standardised messaging templates and resources
• Implement multi-channel communication strategies (SMS, email, postal)
• Co-design flexible delivery methods to accommodate regional needs
• Establish performance monitoring and reporting frameworks
	• Stakeholder engagement and buy-in from all jurisdictions
	Funding
	• Requirement to implement changes
	Data and IT
	• Integration with existing Medicare and electoral roll systems
	• Information technology infrastructure to support automated processes
	• Privacy and data security compliance frameworks
	• IT systems for monitoring and evaluation
	Workforce
	• Staff training requirements for new standardised systems

R3.2 Develop and implement minimum protocols and clinical guidelines that ensure cost-effective, high-quality assessment services.

Significant variations in assessment practices across jurisdictions, particularly in bilateral assessment and ultrasound usage, potentially lead to inequitable outcomes for consumers according to stakeholders. While standardisation is clearly needed, implementation faces challenges including workforce and technology resource constraints, and the need to balance protocols with appropriate clinical autonomy. Many jurisdictions have expressed concern about meeting new standards without additional funding support which would be essential to ensure ongoing consistency. **(see findings on pg. 76)**.

Stakeholders Priorities: Strong support for action and **high priority** to implement a process for policy, protocols and guidelines consistency, while maintaining flexibility for local clinical decision-making. Stakeholders emphasised that assessment protocols should be evidence-based, regularly reviewed, and deliver complete diagnostic packages to treating clinicians to eliminate duplicate testing. Developing new assessment standards will require close collaboration with external clinical stakeholders such as oncologists, pathologists and surgeons to ensure all essential diagnostic information is captured effectively.

EAG position: Consensus support.

Mechanisms for Change:	Key Dependencies:
• Develop national minimum protocols, guidelines and local implementation plans with the initial focus on assessment protocols • Areas of innovation should be identified, evaluated and scaled up as part of a national continuous improvement process • Create implementation toolkits for assessment clinics • Implement regular review and update processes	• Stakeholder engagement and buy-in from all jurisdictions **Funding** • Resource allocation for implementation of all changes **Data and IT** • Information technology infrastructure to support new minimum standards • IT systems for monitoring and evaluation **Workforce** • Staff training requirements for new standardised systems • Current workforce capacity and capability across jurisdictions **Research and Evaluation** • Evidence-based best practice guidelines

R3.3 Develop and implement protocols to support the BSA position statement on breast density and screening.

BSA services demonstrate significant variation in breast density measurement and reporting practices across Australia. While one jurisdiction has reported higher breast density to consumers and GPs for over a decade, others are at different stages—some recently introducing programs, others in pilot phases, and some not yet able to implement. This variation persists despite strong consumer demand for standardised processes and the consumer's right to

know. Internationally, breast density assessment and reporting has become routine in several countries including Austria, Czech Republic, Taiwan, and parts of Denmark and Canada, with the United States mandating BI-RADS assessment from September 2024 **(see findings on pg. 76)**.

Stakeholders Priorities: Strong support for action and **high priority**. Stakeholders support consistent assessment tools and clear communication strategies but raised important concerns about equity implications and the need for clear follow-up pathways for consumers with high breast density requiring supplementary screening, though the evidence remains unclear. The complexity is illustrated by differing interpretations of the Dutch Dense Tissue and Early Breast Neoplasm Screening (DENSE) trial findings among international bodies.

EAG Position: Consensus support.

Some members raised concerns that breast density notification in the absence of evidence for how to manage consumers with high breast density, could cause harm (from unnecessary supplementary imaging) and increase inequity (supplementary imaging will result in out of pocket costs). However, they supported this recommendation in recognition that breast density notification should be standardised if recommended.

Mechanisms for Change:	Key Dependencies:

• Planning the transition to a nationally consistent approach to breast density measurement and notification and developing additional resources with a focus on:
  ○ consistent measurement protocols
  ○ standardised reporting templates
  ○ healthcare provider awareness programs
  ○ standardised communication templates
• Collaborate with the primary care stakeholders to develop and/or pilot pathways for consumers with high breast density
• Lead the development of consistent protocols for management even as evidence emerges to ensure equity and uniform approaches. This may include embedded trials into how to best approach consumers with high breast density and supplemental screening.
• Create monitoring and evaluation frameworks with a focus on:
  ○ understanding the impact of breast density notification on equity in participation
  ○ consumer driven evidence
  ○ understanding the impact on primary care
	Funding
	• Resource allocation for implementation of the approach across states/territories
	Data and IT
	• Standardised measurement technology across services
	• Communication systems for notification
	• IT systems for monitoring and evaluation
	Workforce
	• Staff training requirements for new standardised systems
	• Current workforce capacity and capability across jurisdictions
	Research and Evaluation
	• Evidence-based best practice guidance

R3.4 Develop and implement minimum protocols for the management of symptomatic consumers.

BSA policy currently recommends that consumers experiencing symptoms seek diagnostic testing rather than attending screening services, as BSA cannot address their specific healthcare needs. While symptomatic consumers were out of scope for the BSA Review, consultations consistently reported that symptomatic consumers often attend BSA without notifying their symptoms at the time of booking because they have no other services available, and it is free. The original trials showed that consumers who were symptomatic at the time of

screening were at greater risk of poor outcomes. In addition, as diagnostic protocols improve, the suite of triple tests required for symptomatic consumers should be clearly conveyed to explain why the consumer is disadvantaged by participating in screening when symptomatic. This poses a risk to the consumer, as essential tests not offered through BSA are not being used, potentially leading to missed cancer diagnoses. As this impacts the current operation of BSA and their care represents an important adjacent consideration for comprehensive breast health services, especially for those consumers with barriers to accessing diagnostic testing (for example: availability in rural locations and out of pocket cost) this issue needed to be considered **(see findings on pg. 76)**.

This recommendation extends beyond the review's scope. Instead, the Commonwealth, in partnership with states and territories should consider how a coordinated care pathway could be established so that:

- there are clear referral protocols between BSA for symptomatic consumers and diagnostic breast services and/or primary care
- access of symptomatic consumers to dedicated diagnostic breast clinics in each jurisdiction is available
- a shared electronic health record system could support seamless information transfer between services including links between BSA registries, linked to Medicare, primary care patient information systems and the jurisdictional Cancer Registries.

Stakeholders Priorities: Strong support for action and high priority. Stakeholders suggested there is value in developing and implementing minimum protocols for the management of symptomatic consumers where access to other services is not available.

EAG Position: Majority support., with one dissenting view.

The majority of EAG members agreed that BSA should consider how its service infrastructure could be used to better support imaging for symptomatic women where such services were not otherwise perceived by the community as either accessible and/or affordable in the public health system.

Although this issue affects the utilisation of breast screening equipment used by BSA services, symptomatic women were not within the scope of the BSA Review.

The one dissenting viewpoint referred to the Population Based Screening Framework - screening is for a targeted population who *do not* have symptoms of the disease or condition being screened for; and that people with symptoms are not able to receive full investigation of their symptoms. It was the view of this member that the risk of not receiving a full investigation of symptoms appeared to be poorly communicated to these symptomatic women.

There was consensus by all members that symptomatic women require investigation and management which was clearly distinguishable from breast screening functions. The dissenting EAG member proposed there was not enough evidence to support this recommendation, and

the issue was better managed by consistently excluding symptomatic women from BSA services rather than identifying parallel service streams that could divert resources away from screening. These issues could be explored further in a process that considers this recommendation.

Mechanisms for Change:	Key Dependencies:

• Develop and implement minimum protocols to enable BSA to fulfil its Duty of Care to consumers who inform BSA of symptoms, which focuses on enhancing communication on the need for further investigation
• Continue to encourage diagnostic testing to be available outside of BSA by:
  ○ creating clear referral protocols between BSA for symptomatic consumers and diagnostic breast services and/or primary care
  ○ supporting by evidence from service mapping (R1.3) highlighting to states and territories where publicly available services are not reasonably accessible. Note that publicly funded diagnostic testing services may also be at capacity and an increase in consumers with symptoms may have a significant effect on wait times
• Develop national minimum protocols, guidelines and/or local implementation plans for diagnostic testing of symptomatic consumers when service is not accessible outside BSA. This should include:
  ○ areas of innovation to support service delivery should be identified, evaluated and scaled up as part of a national continuous improvement process
  ○ implement regular review and update processes
  ○ monitor and evaluate the impact this has on capacity (staffing and funding). If this becomes significant issue explore other funding or service delivery options such as co-location pilots
	• Stakeholder engagement and buy-in from all jurisdictions
	Funding
	• Resource allocation for implementation across states/territories
	Data and IT
	• IT system for risk assessment
	• IT systems for tracking and scheduling
	• IT systems for monitoring and evaluation
	Workforce
	• Current workforce capacity and capability across jurisdictions
	Research and Evaluation
	• Evidence-based best practice for risk categorisation
	• Communication frameworks

2.4. Service enhancement

Recommendation

R4. Enhance BSA's service delivery through strategic implementation of contemporary screening technologies and enhancing interactions with broader healthcare systems.

BSA's technological infrastructure and service model require an uplift to meet contemporary standards and consumer expectations. Growing disparities between public and private breast screening services highlight the need for evidence-based implementation of emerging technologies while enhancing interaction with the broader healthcare system. From its inception, BSA has operated largely in isolation from primary care and diagnostic services, creating potential gaps in care coordination and equity of access issues. Nearly nine in ten Australians visit a GP annually[13], yet current systems do not support seamless information sharing. Enhancing service delivery through evidence-based implementation of tomosynthesis as the primary screening modality (R4.1), developing AI governance frameworks (R4.2), creating

[13] The Royal Australian College of General Practitioners. General Practice Health of the Nation 2023. East Melbourne: RACGP, 2023.

a primary care collaboration strategy (R4.3), and establishing protocols for interaction with diagnostic services (R4.4) will help BSA remain at the forefront of breast cancer detection while ensuring continuity of care across the health system.

Sub-recommendations:

R4.1 Develop and implement an evidence-based plan for tomosynthesis as the primary screening modality.

Specifically addressing implementation challenges such as screen reading time burden and the full integration of the technology.

There is evolving evidence and support for the use of tomosynthesis as a screening technology however implementation feasibility, cost effectiveness evidence and planning (e.g., technology availability, screening protocols) are still required. Current trials are investigating its effectiveness as the primary screening method for a national population based screening program and comparing it with standard 2D mammography **(see findings on pg. 79)**.

Stakeholders' Priorities: Strong support for action but was identified as a **medium-priority issue** awaiting the results of current trials (see findings on pg. 79 for further information) with recognition of implementation challenges particularly around reading times, workforce capacity and capability, IT logistics and data storage.

EAG Position: Consensus support.

While many members agreed there was sufficient evidence to introduce tomosynthesis as a primary screening test, it was recognised that there are several implementation issues to be resolved before BSA would be able to be implemented nationally.

Mechanisms for Change:	Key Dependencies:

• In future upgrades ensure:
  ○ all investments in screening technology are tomosynthesis capable
  ○ IT infrastructure is available for image storage and transfer
  ○ IT support is available for current activities and future activities (including those as part of transition plans)
• Conduct a feasibility assessment of implementation strategies for integrating tomosynthesis, with a focus on managing radiologist workload. This may include evaluating approaches such as:
  ○ AI-assisted reading
  ○ hybrid screening protocols
  ○ image processing techniques like 'slabbing'
• Implementation planning with a focus on:
  ○ service readiness assessment
  ○ clinical protocols and guidelines
  ○ workforce requirements
• Implementation of phased rollout strategy prioritising services that are ready and the needs of different risk-stratified groups
	Funding
	• Resource allocation for technology upgrades
	Data and IT
	• IT systems for data storage and transmission
	• IT systems for monitoring and evaluation
	Workforce
	• Current workforce capacity and capability across jurisdictions
	• Workforce training, development and quality control
	• Innovative workforce models
	Research and Evaluation
	• Evidence from ongoing trials
	• Evidence-based best practice for implementation

- Design and implement monitoring and evaluation processes. This may include the need for linked datasets to review outcomes and clinical governance

R4.2 Develop and implement an AI governance framework with the initial focus on image reading.

AI in screening programs is increasingly used to assist in image reading by analysing mammograms to identify potential abnormalities, providing radiologists with valuable second opinions, increasing diagnostic accuracy and assisting in prioritising cases. This technology enhances workforce benefits by improving workflow efficiency, reducing radiologist workload, preventing burnout, and enabling better resource allocation. While AI shows promise in breast imaging, current evidence remains limited with mixed results. AI also brings the opportunity to interrogate the large amount of data in mammographic images and is a potent data resource for research. Any opportunity to do this nationally should be considered. Workstream one identified a 2021 review[14] that indicated while AI systems are promising, further development and validation for the Australian context is needed before implementation. The algorithm should be trained on the Australian population to ensure it meets the needs of all our population subgroups or robustly tested to see if the algorithm fits the Australian population including subgroups **(see findings on pg. 81)**.

Stakeholders' Priorities: This was identified as a **medium-priority issue** awaiting the results of current trials and evaluating implementation that is occurring in some jurisdictions, with a **high priority** to address the need for evidence-based frameworks that preserve clinical oversight and guard against inadvertent disadvantage of population groups. Noting to implement change, will require the IT infrastructure change to occur first, therefore this is a short-term priority.

EAG position: Consensus support.

Mechanisms for Change:	Key Dependencies:

• Together with clinicians and consumers develop governance guidelines that align with national requirements.
  ○ ensure alignment with National, State and Territory guidelines and guardrails* as they are developed and implemented
  ○ to test the governance framework on AI image reading
• Monitor the evidence of use of AI in Australia and internationally through conducting in-program trials and incorporating results from international trials including independent scientific review of the Australian evidence to date. At a minimum, the AI results need to align with the human reader NAS and current benchmarks
• Pilot implementation where required leading to a nationally consistent rollout across jurisdictions. Monitor the feasibility and costs of using nationally standardised software and implementation to support mammographic screen reading in
	Funding
	• Resource allocation for implementation across states/territories
	Data and IT
	• IT systems for data storage and transmission
	• IT systems for monitoring and evaluation
	• Data security frameworks
	• Consumer privacy protections
	Workforce
	• Current workforce capacity and capability across jurisdictions
	• Workforce training and development
	Research and Evaluation
	• Evidence from ongoing trials

[14] Allan + Clarke. Artificial intelligence and breast-screening a literature review into the potential role of AI and CADe in the future of the BreastScreen Australia program. Draft report. 2021.

the BSA program, with scheduled evaluations to confirm it does not disadvantage subgroups of attendees
• National implementation planning with a focus on:
  ○ governance framework, clinical oversight processes and safety monitoring systems
  ○ readiness assessment
  ○ implementation guidelines including vendor management protocols, data security, privacy and confidentiality of BSA consumers
  ○ IT infrastructure needs
  ○ workforce requirements and training programs
  ○ risk management protocols
• Design and implement monitoring and evaluation processes
	• Evidence-based best practice for implementation
	• Utilisation of Australian data to inform the development of AI algorithms in research, including risk-based screening

* Guardrails in the context of AI, refer to the guidelines, protocols and boundaries designed to ensure safety, compliance and effectiveness. AI guardrails create a foundation for safe and responsible AI use and explain what developers and deployers of AI systems must do to achieve them. For example the Australian Government Department of Industry, Science and Resources The 10 Guardrails

R4.3 Develop and implement a primary care collaboration strategy.

The strategy should focus on enhanced information sharing, support coordinated care delivery and promote BSA screening participation.

Primary care collaboration presents opportunities for better communication, engagement and data integration to enhance program effectiveness, particularly in supporting:

- screening participation, especially for never-screened consumers and consumers five years post breast cancer diagnosis
- rescreening reminders
- risk assessment
- breast density awareness
- transition to diagnostic testing for symptomatic consumers and high-risk consumers
- transition to diagnostic services for consumers diagnosed with breast cancer ensuring their GP is aware and involved in their ongoing care and can provide them access to other services such as Breast Cancer Network Australia support services **(see findings on pg. 82)**.

Stakeholders' Priorities: This issue had strong support for action but as a **medium-priority issue** due to the implementation concern of IT requirements for information sharing and when ranking this against other opportunities for change. Although engagement and collaboration were seen as short-term priorities.

EAG Position: Consensus support.

Mechanisms for Change:	Key Dependencies:
• Co-design an engagement strategy with primary care stakeholders developing a communication framework and materials to:	**Funding** • Resource allocation for IT integration

○ optimise participation in BSA in collaboration with general practice/primary care ○ align risk assessment (especially for risk stratification), pathways for symptomatic consumers who present to BSA, and management of consumers who have been assessed as high/very high risk through primary care ○ optimise awareness of breast density measurement and notification ○ support transition into a management and treatment pathway for consumers diagnosed with breast cancer in BSA ○ support symptomatic and high-risk consumers identified through BSA access to diagnostic testing ○ national consistency for screening of consumers with a history of breast cancer • Strengthen and expand primary care communications and develop and deploy practice support tools for transitioning consumers from BSA to primary or specialist care. • Establish nationally consistent information sharing framework and integrate information systems (acknowledging variations in individual GP practices and systems) ○ utilise and integrate with existing secure messaging platforms (between GP's and BSA) ○ BSA to send information to primary care so that primary care solutions can implement screening reminders and other automation to encourage participation ○ share screening results with primary care providers • Primary care awareness of and engagement with BSA should be continuously monitored, and strategies to improve screening participation through general practice need to be co-designed with end users i.e., GPs, practice nurses, practice managers and health consumers, particularly focusing on the increased engagement of priority populations	• Resource allocation for compensating clinicians and practice staff for engaging with BSA in co-design • Resource allocation for monitoring awareness and engagement **Data and IT** • Information sharing infrastructure with a focus on real-time results and scheduling sharing • IT systems for monitoring and evaluation • Data security protocols and Privacy compliance frameworks **Workforce** • Current workforce capacity and capability across jurisdictions **Note:** primary care stakeholders include but are not limited to PHNs, the whole GP community, RACGP, ACRRM and the Primary Care Collaborative Cancer Clinical Trials group and ACCHOs

R4.4 Develop and implement minimum protocols for interactions with diagnostic and treatment services for consumers with screen-detected cancer.

The aim is to remove duplication of tests when consumers transition from the BSA program to treatment pathways.

Consultations raised the issue of potential fragmentation between screening and diagnostic services for screen positive consumers. This creates challenges, emphasising the need for improved interaction and image sharing capabilities while maintaining distinct screening program functions **(see findings on pg. 82)**.

Stakeholders' Priorities: This had strong support for action but as a **medium-priority issue** due to the implementation concern of IT requirements for information sharing and workforce capacity to follow up when ranking this against other opportunities for change.

EAG position: Consensus support.

Mechanisms for Change:	Key Dependencies:
• Map current diagnostic pathways, transition points and barriers to access such as cost and wait times (see also recommendation R1.3)	**Funding** • Resource allocation for implementation requirements

- Design interaction processes:
  - develop clear referral criteria and pathways
  - create transition protocols between services
  - establish communication and data sharing frameworks
  - review the potential of workforce collaboration frameworks and regional service networks
- Plan service coordination:
  - design workflow interaction approaches
  - develop clinical handover protocols
  - create tracking mechanisms
- Implement integrated pathway systems and service transitions
- Evaluate, optimise and sustain pathway effectiveness.
  - review transition outcomes and service boundaries
  - maintain service relationships and update protocols
  - monitor and sustain quality standards

Data and IT

- Information sharing infrastructure with a focus on real-time results and images
- IT systems for monitoring and evaluation
- Data security protocols and Privacy compliance frameworks
- Pathway coordination systems
- Service mapping capabilities

Workforce

- Current workforce capacity and capability across jurisdictions

Quality and Safety

- Updated NAS where required

2.5. Program enablers

Recommendation

R5. Strengthening the underlying systems and support structures that allow BSA to deliver high-quality breast screening services and enable improvements and innovation.

BSA's operational effectiveness is currently constrained by limitations across six fundamental enablers. The review revealed significant gaps or variations in governance structures, funding models, data capabilities, workforce sustainability, quality frameworks, and research capacity. Current infrastructure variations between jurisdictions create inefficiencies and inequities in service delivery, although some discrepancies result from adaptations to local needs. The existing quality assurance framework requires modernisation, while funding models lack transparency and long-term sustainability. These systemic challenges, coupled with limited resources, constrain program development and innovation. Strengthening governance structures (R5.1), implementing sustainable funding models (R5.2), enhancing digital and data infrastructure (R5.3), developing sustainable workforce frameworks (R5.4), modernising the quality and safety framework (R5.5), and establishing a BSA Research and Technology Evaluation Council (R5.6) will provide the foundation for ongoing program improvement and innovation, ensuring BSA can deliver high-quality services equitably across all jurisdictions.

Sub-recommendations:

R5.1 Strengthen governance structures.

The governance structure of the BSA program has led to slow innovation adoption and inconsistent implementation across jurisdictions. The current system could be strengthened with clearer accountability, more transparent decision-making processes, and increased representation from consumers and priority populations, particularly Aboriginal and Torres Strait Islander peoples. The review recommends establishing a National Strategic Committee with diverse representation, implementing time-limited transformation working groups, creating stronger accountability frameworks, and developing real-time monitoring systems to track

performance across jurisdictions. These changes would help BSA become more responsive, reduce regional and socioeconomic disparities, and improve breast cancer detection outcomes for all Australians **(see findings on pg. 83)**.

EAG position: Consensus support.

This was identified as a **high-priority issue** with a focus on the need for a national body focused on strategic issues with broad representation including consumers.

Mechanisms for Change:	Key Dependencies:

• Review the current aims of the program, and strategic framework guiding principles and update if required
• Review the current governance structure that reports to the existing CAPS Committee to ensure it:
  ○ provides collaborative strategic direction and oversight
  ○ promotes national consistency
  ○ promotes innovation
  ○ includes agile decision-making pathways and change assessment protocols
  ○ monitors and evaluates the outcomes and recommendations, and oversees the Strategic Framework
• Develop clear roles and responsibilities for all committees, including consumer, technical, clinical, and operational representation
• Leverage digital health technologies and data analytics
  ○ developing dashboard requirements to provide centralised tracking of key indicators and transformation outcomes to support the evidence-based transformation of the program.
  ○ real-time monitoring, benchmarking, and performance feedback
• To sustain program transformation, the framework will maintain a continuous improvement cycle while regularly reviewing and monitoring the change
	Funding
	• Resource allocation for**:**
	  ○ committee expenses
	  ○ integrated dashboard
	  ○ innovation
	Data and IT
	• IT systems for monitoring and evaluation

R5.2 Strengthen sustainable funding models.

The models should enhance transparency, support innovation, and enable equitable service delivery across jurisdictions.

The states and territories' use of the Commonwealth contribution to BSA's program service delivery through public health block funding via the National Health Reform Agreement lacks transparency and accountability, with limited oversight of funding distribution within states and territories on public health activities including BSA. Jurisdictions cannot increase participation due to insufficient funding for timely screening and assessment. Funding inequities between jurisdictions create substantial service variations, with some struggling to maintain basic services while others can invest in innovation. The current funding model constrains BSA's ability to deliver consistent, high-quality screening services nationwide and restricts the ability of the programs to be agile, grow and adapt to changing environments and demographics. The lack of transparency and funding inequities between jurisdictions creates substantial service variations and limits program innovation, particularly impacting priority populations and rural services **(see findings on pg. 84)**.

Stakeholders' Priorities: This was identified as a **high-priority issue** as funding issues represent a critical challenge requiring urgent attention, with a strong emphasis on transparency and sustainability.

EAG position: Consensus support.

Mechanisms for Change:	Key Dependencies:

• All governments partner to implement a transparent and accountable funding model
• Commonwealth, state and territory governments regularly review funding requirements to enable the implementation of new evidence and technologies
• Address immediate funding requirements:
  ○ baseline requirements (or minimum additional funding required) for any changes to the program policy or service delivery
  ○ assess and fund innovation/technology funding needs
  ○ design reporting requirements and deploy monitoring systems
• Create a time-limited Funding Model Working Group (with jurisdictional representation) to:
  ○ monitor funding effectiveness
  ○ address R2.1 risk-stratified screening and other initiatives such as R.4.4 diagnostic pathway interaction and R41.4 establishing sustainable partnership models
• Develop the Sustainable Funding Framework for potential initiative
• To ensure long-term sustainability, the funding model will maintain systematic reviews of funding requirements while implementing cross-jurisdictional improvements
	Data and IT
	• IT systems for monitoring and evaluation

R5.3 Strengthen digital and data infrastructure and data management and use.

The need for enhanced data capabilities was identified from the Review, particularly in four important areas:

- cross-jurisdictional data and image sharing
- integration with broader health information systems enables seamless data exchange between healthcare services, directly supporting the National Cancer Data Framework's goal of "a harmonised, fit for purpose, sustainable cancer data ecosystem" that improves cancer control and addresses equity challenges across prevention, screening, and treatment
- access to private sector screening data enabled by the implementation of Individual Healthcare Identifiers
- data and technical infrastructure modernisation to address system variations and data format inconsistencies informed by a data and reporting capability review **(see findings on pg. 86)**.

Stakeholders Priorities: The data and reporting capability was not considered a priority in some jurisdictions already utilising data to inform their decision-making processes with access to IT resources. However, all felt **interoperability** was a **high-priority issue.** Workstream 3 identified that $13.8 million is spent on data collection and reporting activities annually, which may be

reduced with a more streamlined approach. Streamlined real-time data collection and reporting, could enable rapid assessment of compliance against the quality standards, provide a national data collection for research, monitoring and evaluation and help to minimise any duplication of effort and cost.

EAG position: Consensus support.

Mechanisms for Change:	Key Dependencies:

• Conduct a data and infrastructure review and gap analysis with a focus on the capabilities needed for:
  ○ standardised data collection and sharing
  ○ consent management
  ○ support for research and QI
  ○ data sharing with other health systems (images and reports)
  ○ support for future service models including risk-stratified screening
• Undertake a gap analysis examining three key areas: technical, operational and strategic gaps
• Develop a data framework that includes a minimum national dataset, data quality indicators, and a data sharing plan
• Establish clinical governance mechanisms to oversee data quality, ensure appropriate use of screening data in clinical decision-making, and maintain accountability for consumer outcomes while protecting privacy and confidentiality.
• Develop the implementation plan including:
  ○ data and technical infrastructure modernisation to address system variations and data format inconsistencies informed by a data and reporting capability review identified in the gap analysis
  ○ aiming to implement a shared electronic health record system that enables seamless information exchange between healthcare services and prioritises universal systems to address inequity and disadvantage that aligns with the National Cancer Data Framework's goal of "a harmonised, fit for purpose, sustainable cancer data ecosystem" that improves cancer control and addresses equity challenges across prevention, screening, and treatment.
  ○ reviewing the feasibility of interaction with the National Cancer Screening Register
• Maintain and update systems including improvement cycles
	Funding
	• Resource allocation for data and IT upgrades
	Data and IT
	• Infrastructure upgrades
	• IT systems for monitoring and evaluation
	• Security protocols
	• Data governance frameworks
	• Cross-jurisdictional agreements
	• National sharing of real time data
	Workforce
	• IT workforce capacity and capability across jurisdictions
	• Workforce training and development
	• Change management and communication expertise
	Technology Evaluation
	• Evaluation of Infrastructure upgrades
	Quality and Safety
	• Updated NAS where required to ensure alignment with the guidelines

R5.4 Strengthen and implement a sustainable workforce framework.

The review found workforce sustainability faces significant challenges, including:

- critical shortages of radiologists and radiographers are affecting screening services across Australia. Recruitment, attraction and retention challenges are closely linked to significant remuneration disparities, with both radiographers and radiologists earning substantially more in the private sector. Additionally, the specialised nature of breast screening work presents its own challenges, such as physical and emotional stress, consumer interactions and professional development, all contribute to workforce sustainability issues. There needs to be innovation in workforce recruitment strategies, alongside the integration of alternative solutions such as AI to support and enhance the existing workforce capacity

- need for culturally safe and diverse workforce development
- implementation of innovative service delivery models
- ensuring high levels of expertise in all breast disciplines **(see findings on pg. 87)**.

Stakeholders' Priorities: This was identified as a **high-priority issue** with strong support to look at innovative solutions to address workforce shortages.

EAG position: Consensus support.

Consumer members of the EAG advised that a workforce sustainability framework should include approaches to creating a workforce that meets the needs of priority populations.

Mechanisms for Change:	Key Dependencies:

• Share and examine existing workforce sustainability initiatives
• Establishing a regular review of workforce needs, skills, and expertise issues, factoring in changing models of care. Identify workforce pressure points where AI could assist
• Design workforce sustainability initiatives:
  ○ create recruitment and retention strategies including working with the National Aboriginal Community Controlled Health Organisation (NACCHO) and other First Nations organisations to develop strategies for Aboriginal and Torres Strait Islander recruitment
  ○ develop training frameworks, mentoring and development programs
  ○ identify innovative workforce staffing models to address workforce shortage issues and use of experts
  ○ develop career pathways, upskilling opportunities and progression frameworks
• Implement workforce initiatives
• Sustain workforce programs:
  ○ monitor recruitment and retention outcomes
  ○ maintain cultural safety standards
  ○ enable cross-jurisdictional service delivery
	Funding
	• Resource allocation for additional workforce and strategies
	Data and IT
	• Data and Infrastructure upgrades
	• IT systems for monitoring and evaluation
	Workforce
	• Current workforce capacity and capability across jurisdictions
	• Workforce training and development
	Research and Evaluation
	• Research and evidence to address any gaps identified
	• Evidence-based best practice for implementation

R5.5 Strengthen and implement a robust BSA Quality and Safety Framework and reforming the accreditation model

This should focus on modernising the NAS, separating the standard-setting function from the accreditation function and developing and implementing streamlined processes.

Quality assurance (QA) and improvement systems require enhancement. Standards should be revised into a contemporary structure, with a framework for retiring outdated standards and incorporating new standards. A QA and QI framework incorporating accreditation should be developed. Accreditation could be streamlined (acknowledging BSA Services and NQMC's agility and adaptability during COVID), and complex jurisdictional governance structures restricting the program's ability to enhance service quality should be reviewed. Combined with isolated QI activities and underutilised data, these limitations significantly impair BSA's capacity to respond to evolving healthcare needs and technological advancements. This needs to be underpinned by uniform standards for reporting imaging, clinical and pathology **(see findings on pg. 88)**.

Stakeholders' Priorities: This was identified as a **high-priority issue** with strong support for a sustainable accreditation system and for NAS modernisation to reflect contemporary practice and support QI, with an emphasis on continuous learning and innovation and those standards that link to better outcomes for consumers.

EAG position: Consensus support.

Mechanisms for Change:	Key Dependencies:

• Develop the BSA Quality and Safety Framework and implementation plan
• Modernise the structure of the NAS through an agile process that enables timely updates to reflect contemporary clinical practices and technological advancements. This includes developing evidence-based measures and targets that promote service excellence while reducing unnecessary administrative burdens
• Separate the standard-setting function from the accreditation process a**nd** investigate the feasibility of establishing an independent accreditation body
• Develop and implement streamlined processes enabling real-time benchmarking and performance monitoring for all involved including the service providers
• Establish an improvement approach and strengthen QI through enhanced cross-jurisdictional collaboration, establishing communities of practice, and creating platforms for knowledge sharing between services.
• Support ongoing innovation in QA and QI and maintain learning systems
	Funding
	• Resource allocation for:
	  ○ NQMC
	  ○ data and technology upgrades
	  ○ QI initiatives
	  ○ independent accreditation
	Data and IT
	• Infrastructure upgrades
	• IT systems for monitoring and evaluation
	• Security Protocols
	• Knowledge management systems
	• Real-time data sharing
	Workforce
	• QA & QI workforce capacity and capability across jurisdictions

R5.6 Strengthen innovation driving advancement by establishing the BSA Research and Technology Evaluation Council.

BSA lacks a coordinated national approach to research and evaluation, resulting in fragmented efforts and service providers reporting reliance on external funding for research to inform improvements. The absence of dedicated research capabilities and frameworks limits BSA's ability to develop Australian-specific evidence and effectively translate research into practice. There is limited Aboriginal and Torres Strait Islander-led research which is a large gap and would help determine a needs assessment to inform improvements in the program for Aboriginal and Torres Strait Islander consumers.

BSA's slow and divided approach to technology adoption is creating growing disparities between BSA services and private screening services. There is an urgent need for a coordinated national framework for evaluating and implementing new technologies to improve the program's ability to modernise and maintain best practice screening services **(see findings on pg.90)**.

Stakeholders' Priorities: This was identified as a **high-priority issue** with strong support for enhanced research capabilities within BSA with emphasis on national coordination and implementation research and strong support for a nationally coordinated agile technology

evaluation process within BSA, with emphasis on national coordination and implementation research.

EAG position: Consensus support.

Mechanisms for Change:	Key Dependencies:
• Establish a new Research and Technology Evaluation Council to govern and drive innovation and evidence-based improvements within the BSA program. The Council will: ○ develop and implement a Research and Innovation Framework to guide the evaluation of technology and research within the BSA program ○ establish formal partnerships with existing research institutes and centres ○ identify existing funding structures that could be utilised by BSA such as those provided by the National Health and Medical Research Council (NHMRC) ○ identify mechanisms to establish a Sustainable Research Fund to advance research, innovation and technology in the BSA program ○ support breast screening research across Australia to have a direct impact on BSA services and systems, including AI ○ ensure new technology and research are in inline with BSA's egicegic objectives, address identified gaps and the recommendations of this review ○ ensure research and evidence informs decisions about policy, program and practice improvements • The Research and Innovation Framework will focus on advancing the effectiveness and accessibility of breast cancer screening and assessment through evidence-based strategies, technological advancements, and continuous evaluation. Key components of the framework could include: ○ clear objectives/goals, such as improving early detection rates, reducing false positives/negatives and enhancing consumer outcomes ○ identified collaboration and partnerships with academic institutions, healthcare providers, industry experts and technology developers to drive innovation ○ regular horizon scanning to identify emerging technologies and evidence for program advancement (e.g., AI, machine learning) to improve accuracy and efficiency • Details of agreed data collection, analysis and utilisation. ○ principles for integrating research into the development of consumer-focused solutions, such as improving accessibility and enhancing consumer experience and outcomes ○ continuous evaluation and feedback mechanism to assess the effectiveness of current practices and innovations ○ statement of ethical standards, particularly related to data privacy and consent • Consider establishing a Sustainable Research Fund with clear guidelines for: ○ allocations of funds to ensure transparency in the decision-making process ○ prioritisation of projects to ensure that funds are directed towards high impact initiatives ○ encouraging collaboration through projects that involve cross-sector partnerships ○ reporting on the outcomes and impact of funded projects.	**Funding** • To be addressed as part of the program of work **Data and IT** • Access to standardised data • IT systems for monitoring and evaluation Note: Other key stakeholders include but are not limited to: Medical Research Future Fund (MRFF), Cancer Australia, National Breast Cancer Foundation (NBCF); Australian Cancer Research Foundation (ACRF); and Breast Cancer Trials AUS/NZ.

- translating research outcomes into practical improvements in the BSA program

Appendix A Abbreviations

ABS	Australian Bureau of Statistics
ACCHO	Aboriginal Community Controlled Health Organisation
ACHS	Australian Council on Healthcare Standards
ACSQHC	Australian Commission on Safety and Quality in Health Care
ACT	Australian Capital Territory
ADR	Annual Data Report
AI	Artificial Intelligence
AIHW	Australian Institute of Health and Welfare
AMS	Aboriginal Medical Services
AS	Age-standardised
BCEs	Bilingual Community Educators
BSA	BreastScreen Australia
CAG	Clinical Advisory Group
CALD	Culturally and Linguistically Diverse
CAPS	Cancer and Population Screening
CMS	Client Management System
DBT	Digital Breast Tomosynthesis
EAG	Expert Advisory Group
EQuIP	Evaluation and Quality Improvement Program
EU	European Union
EUSOBI	European Society of Breast Imaging
IT	Information Technology
KPI	Key Performance Indicator
LGBTIQA+	Lesbian, Gay, Bisexual, Transgender, Intersex, queer/questioning, Asexual plus
LHN	Local Health Networks
MDT	Multidisciplinary Team
MRFF	Medical Research Future Fund
MRI	Magnetic resonance imaging
NACCHO	National Aboriginal Community Controlled Health Organisation
NAR	National Accreditation Requirement
NAS	National Accreditation Standards
NATA	National Association of Testing Authorities
NBCCEDP	National Breast and Cervical Cancer Early Detection Program
NBCF	National Breast Cancer Foundation
NBCSP	National Bowel Cancer Screening Program
NCSP	National Cervical Screening Program
NHMRC	National Health and Medical Research Council
NPQS	National Policy and Quality Standard
NQIP	National Quality Improvement Plan
NQMC	National Quality Management Committee
NSQHS	National Safety and Quality Health Service
NSW	New South Wales
NT	Northern Territory
PACS	Picture Archiving and Communications System
PBSF	Population Based Screening Framework
PHN	Primary Health Network

PM	Project Management
QA	Quality Assurance
QF	Quality Framework
QI	Quality Improvement
QIP	Quality Innovation Performance
QLD	Queensland
RACGP	Royal Australian College of General Practitioners
ROSA	Roadmap for Optimising Screening in Australia
SA	South Australia
SCU	State Coordination Unit
SMS	Short Message Service
SQC	State Quality Committees
TAS	Tasmania
US	United States
VIC	Victoria
WA	Western Australia
WHO	World Health Organization

Appendix B EAG Terms of Reference

BreastScreen AUSTRALIA
A joint Australian, State and Territory Government Program

The BreastScreen Australia National Policy and Funding Review Expert Advisory Group

TERMS OF REFERENCE

The BreastScreen Australia National Policy and Funding Review Expert Advisory Group (EAG) is an independent, non-statutory Group. It is managed by the Department of Health and Aged Care (the Department). The EAG will be established in November 2023 until 31 December 2025, or until the cessation of the BreastScreen Australia National Policy and Funding Review, whichever comes first.

Purpose

The EAG provides expert clinical and technical advice to support the BreastScreen Australia National Policy and Funding Review (here after the Review).

Role and Function

The EAG will review and provide clinical and technical advice on project outputs being delivered by the independent consultants. Advice will be provided to the Review Steering Committee and the Department project team for consideration and consolidation back to the independent consultants.

Key functions of the EAG will include:

- Identifying evidence that requires review and providing advice on the methodologies for each project.
- Reviewing the individual statements of requirement and providing advice to assist in the engagement of consultants.
- Reviewing outputs and providing advice on clinical and technical components. Outputs to be delivered by consultants.
- Engaging with experts as required, including independent international experts, to support the provision of clinical and technical advice.
- Providing advice on the final report for the Review, including the strategic policy direction for BreastScreen Australia, the recommendations from the Review and implementation considerations.

The EAG is an advisory body only and does not have a decision-making role for the program or government/s.

Scope

The EAG will provide advice on relevant subject matter to inform the Review and the strategic direction for the BreastScreen Australia program.

Out of scope

EAG members do not have a role in:

- undertaking their own consultations;
- contractual or financial matters relating to the Review; or
- project management activities for the Review.

Figure 1 below provides a summary of the BreastScreen Review Governance.

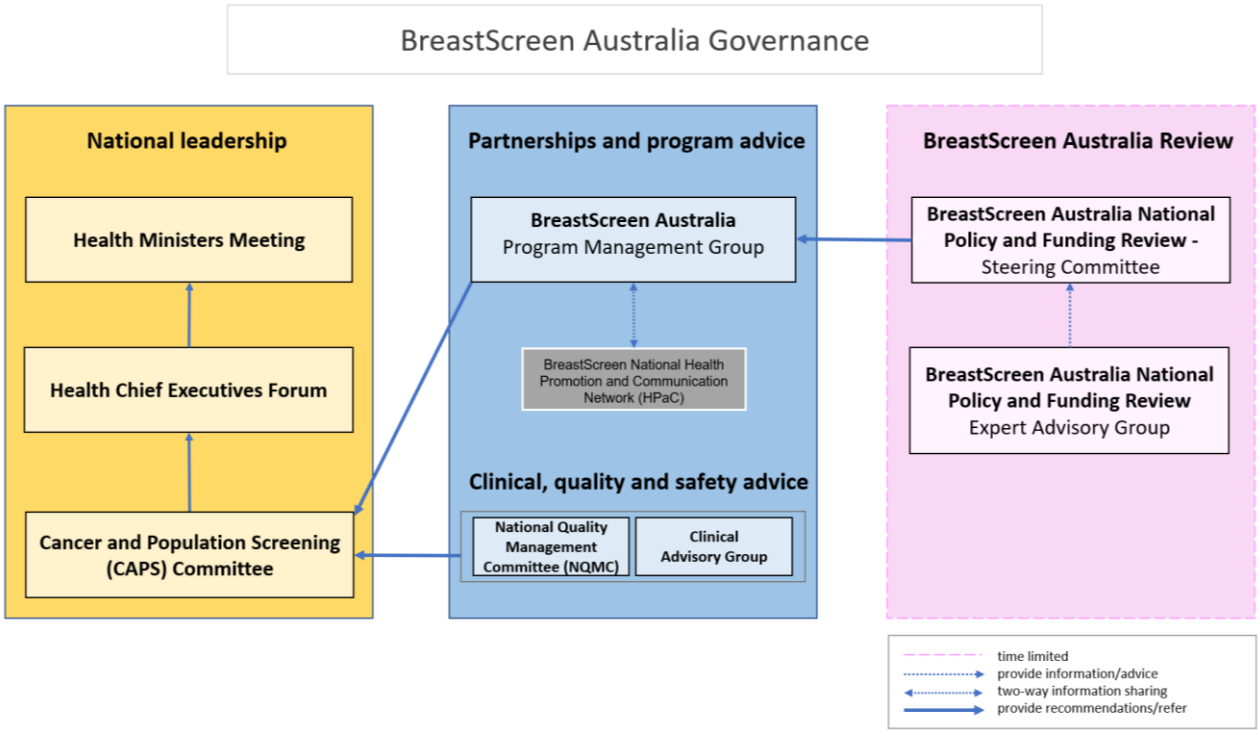


Figure 1: Governance for BreastScreen Australia National Policy and Funding Review

Membership

The Department is responsible for appointing and managing members. The Group will consist of members and a Chair. Membership may include representatives from the following professions:

- Clinical Advisory Group Chair
- National Quality Management Committee Chair
- General Practitioner
- Radiologist
- Pathologist
- Breast Surgeon
- Breast Physician
- BreastScreen Program Manager representatives (single service and multiservice)
- Epidemiologist
- Health Economist
- Independent international breast cancer screening expert
- First Nations Advisor(s)
- Consumer Advocate (s).

Members will be appointed for up to 24 months. The Department may consider extending membership representation to support the review, as per Expert Support section below.

Members of the EAG have been chosen for their individual expertise and knowledge and are not representative of the organisation/s in which they work.

Chair

The Department is responsible for endorsing and appointing the Chair of the Group.

Quorum

50% of membership plus one.

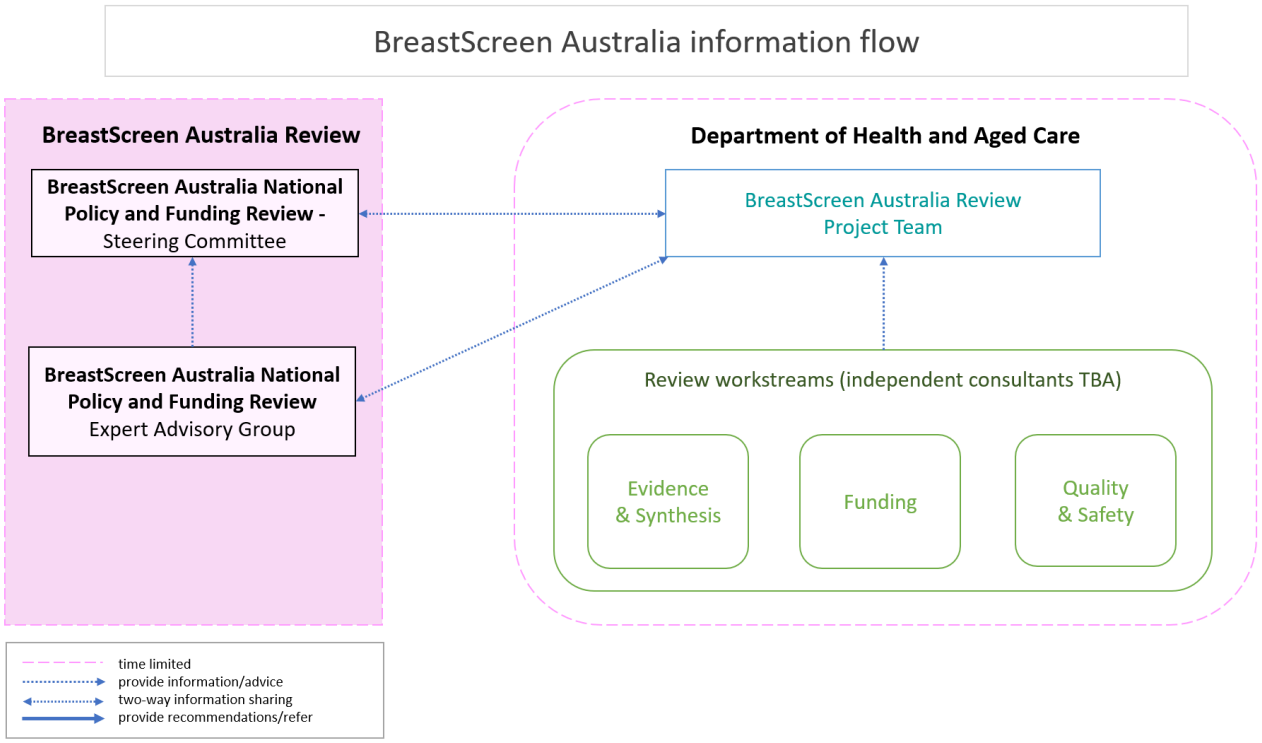
Timeframes

The Group will be established for up to 24 months. The Group will only be extended if required to support the Review.

The Group will meet at least four times over the 24 months and conduct a review of project deliverables out of session.

Reporting and evaluation mechanisms

The Group will report to the Department. Figure 2 below is a summary of the reporting mechanisms:



Secretariat

The Secretariat function will be provided by the Department. The Secretariat will seek the Chair's agreement to distribute the agenda and papers to members approximately ten working days prior to each meeting.

Expert Support

Additional expertise may be invited/seconded to assist the Group.

Declaration of Conflict of Interest

Group members are responsible for declaring to the Chair a conflict of interest or perceived conflict of interest, whether pecuniary or non-pecuniary. In all cases where a conflict of interest exists, or may be reasonably perceived to exist, the Group member will not participate in providing recommendations for the item.

Expert Advisory Group Review

These Terms of Reference will be reviewed at the end of the 12-month period to ensure it remains fit-for-purpose. If required, the Terms of Reference for the Expert Advisory Group will be extended to support the Review.

Appendix C Key findings BSA review

This section consolidates findings from Workstreams 1-3 of the BSA Review as outlined in Table 2, organised by five key themes. Each theme examines the current environment, key drivers, benefits, barriers and stakeholder feedback. Note the executive summaries of Workstream 1-3 are provided in the following appendices. This table provides a summary of the aspects of the findings addressed in the different workstreams.

Table 2: Consolidated findings source

Key Findings		Workstream 1 – Evidence Review	Workstream 2 – Priority Populations	Workstream 2 - Quality and safety	Workstream 3 Funding	Online survey	Workstream 4 Consultation summary
F1.	**Participation rates**	• International Evidence			• Cost per screen by remoteness • Communication and health promotion costs	• Challenges	• Case for change • Suggestions to improve
F2.	**Priority populations**	• Existing Evidence • Recommendations	• Barriers • Gaps • Suggestions to improve		• Drivers of screening costs by patient cohort	• Challenges • Gaps • Suggestions to improve	• Barriers • Gaps • Suggestions to improve
F3.	**Mobile Screening Services and Access**		• Issues		• Fixed vs Mobile costs	• Barriers	• Issues • Suggestions to improve
F4.	**Holistic partnerships**		• Suggestions to improve			• Integrated breast health approach	• Suggestions to improve
F5.	**Annual screening eligibility**	• Annual screening criteria		• Issues and risks		• National Consistency	• Barriers • Gaps • Suggestions to improve

Key Findings		Workstream 1 – Evidence Review	Workstream 2 – Priority Populations	Workstream 2 - Quality and safety	Workstream 3 Funding	Online survey	Workstream 4 Consultation summary
F6.	**Younger consumers**	• Evidence reviews				• Suggestions to improve	• Barriers • Suggestions to improve
F7.	**High-risk consumers**			• Issues and risks			• Barriers • Suggestions to improve
F8.	**Risk-stratified breast screening**	• Evidence available • Risk assessment tool				• Suggestions to improve	• Barriers • Suggestions to improve
F9.	**Policy, protocols and guidelines**	• Breast density measured and notification		• Assessment protocols • Issues and risks	• Breast Density Management Costs	• National Consistency	• Barriers • Gaps • Suggestions to improve
F10.	**Screening technologies**	• Evidence reviews			• Costs associated with implementation	• Suggestions to improve	• Barriers • Suggestions to improve
F11.	**Artificial intelligence:**	• Evidence reviews			• Benefits of use with AI		• Barriers • Suggestions to improve
F12.	**Primary care interaction**					• Suggestions to improve	• Suggestions to improve
F13.	**Diagnostic pathways interaction**						• Suggestions to improve
F14.	**Governance**			• QI and QA frameworks			• Suggestions to improve
F15.	**Funding**			• Issues and risks	• Current State • Options analysis	• Suggestions to improve	• Suggestions to improve
F16.	**Enhanced data capabilities**		• Data sovereignty	• Issues and risks	• Current costs	• Support for improved	• Suggestions to improve

Key Findings		Workstream 1 – Evidence Review	Workstream 2 – Priority Populations	Workstream 2 - Quality and safety	Workstream 3 Funding	Online survey	Workstream 4 Consultation summary
				• Data-driven accreditation		data capability	
F17.	**Workforce sustainability**		• Support for workforce matching the population they service	• Issues and risks		• Addressing workforce issues • Using AI to support workforce	• Addressing workforce issues • Using AI to support workforce
F18.	**Quality assurance and quality improvement systems**			• NAS Review • Data and reporting framework • Separation of functions • Streamline	• Current costs		• Suggestions to improve
F19.	**Research and technology evaluation**	• Screening technology evidence			• Cost included in data		• Suggestions to improve

C.1. Participation, access and equity

F1. Participation rates: BSA achieves widespread accessibility with 1,820,994 consumers aged 50-74 in 2021-2022, representing a 50.1% participation rate, significantly lower than the target of 70% and the OECD average of 54.3%, suggesting opportunities for improvement. True screening rates cannot be calculated due to uncaptured private screening data.

Stakeholders consulted as part of the review consistently highlighted that BSA has established itself as a trusted and well-respected brand across Australia, with a strong reputation for early breast cancer detection. The free and regular nature of the service has helped establish it as a cornerstone of preventative health. The program has built significant community trust through decades of service delivery and maintains a strong reputation for high-quality clinical care. The program advocates for the advantages of early diagnosis, aiming not only to reduce mortality but also to lessen the extent of treatment necessary. Medical professionals particularly emphasised the high quality of BSA's clinical standards and QA processes. The screening process and services are noted as being both efficient and effective, with competent and pleasant staff. While stakeholders acknowledge there is room for improvement, the program remains highly regarded within the community for its clinical excellence and commitment to early detection. As previously noted, despite BSA's current participation rates falling below target levels, the program continues to demonstrate a significant positive impact on breast cancer outcomes. The AIHW BSA monitoring report 2024 confirms that BSA detected a substantial proportion of breast cancer cases in both the target age group and women over 40. The program's effectiveness is further highlighted by its superior ability to identify breast cancers at small sizes compared to non-program detection. This earlier discovery enables more breast-conserving surgeries and reduces morbidity while providing increased treatment options. Most notably, AIHW data linkage research confirms that breast cancers detected through BSA are associated with markedly lower mortality risk compared to cases in consumers who have never participated in the program.

Low participation rates exist across all jurisdictions to varying degrees and can be attributed to multiple factors. These include consumer's personal choices not to attend or return, accessibility constraints, and limited awareness of the service. Additional barriers include a poor understanding of mammography screening benefits and a lack of recognition that breast cancer risk increases with age. The quality of a participant's first screening experience—particularly the management of pain, embarrassment and discomfort—significantly influences their likelihood of returning for subsequent screenings.

Some consumers in the target age group choose to be screened outside the Program by seeking a doctor referral and paying for a private radiology service. There are also Medicare Benefits Schedule rebates available that allow doctor referrals for diagnostic mammography of consumers that meet a certain clinical criterion. Participation data from the private system is

not captured in national and BSA reporting, meaning true screening rates are unable to be calculated.

Table 3: Preliminary participation in BSA, by state and territory, participants aged 50–74, 2022–2023

State and territory	Number	Crude rate	AS rate
NSW	609,318	52.9	52.4
Vic	463,802	50.5	50.2
Qld	391,156	51.3	50.7
WA	193,208	49.9	49.4
SA	148,957	53.4	52.5
Tas	53,415	57.8	57.1
ACT	31,493	56.6	56.4
NT	9,774	35.2	35.1
Australia	**1,901,123**	**51.7**	**51.2**

Notes

1. Crude rate is the number of participants screened in 2022–2023, as a percentage of the ABS estimated resident population; age-standardised (AS) rate is the number of participants screened in 2022–2023, as a percentage of the ABS estimated resident population, age-standardised to the Australian population at 30 June 2001.
2. Direct comparisons between the states and territories of Australia are not advised, due to the substantial differences that exist between the jurisdictions including for population, geographical size and structure, policies and other factors.
3. COVID-19 affected these results.
4. Note that actual participation data for 2022–2023 may differ from preliminary data for these years.

Source: AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024.

Key Findings from Workstream 3 found over the period 2021-22 and 2022-23, Commonwealth, State and Territory governments spent:

- $5.8 million on communications activities related to communication with various stakeholders, including the public, healthcare providers, and policymakers. This may include information dissemination and stakeholder engagement.
- $8.3 million on Health promotion activities aimed at raising awareness and increasing participation in the Program. These initiatives involve national and State/Territory-level campaigns, and local events such as group information sessions and building local pathways into the Program.

F2. Priority populations: Disparities exist across population groups, with significantly lower participation rates among Aboriginal and Torres Strait Islander consumers (36.8%), people from non-English speaking backgrounds (38.9%), those in very remote areas (38.7%), and the lowest socioeconomic groups (47.8%) in 2021 – 2022 in the targeted age group of 50–74. The implementation of initiatives varies significantly across jurisdictions, with some showing more comprehensive approaches than others.[15]

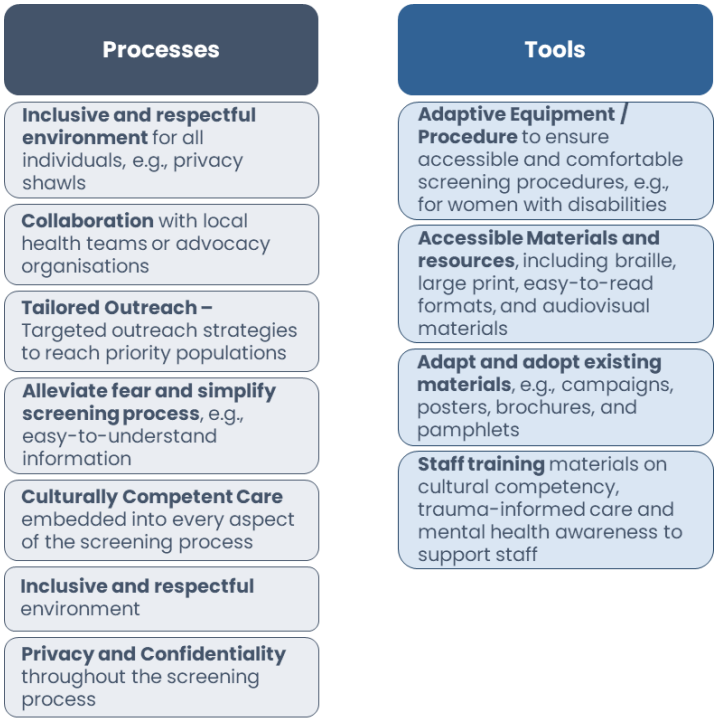
The BSA has implemented a wide range of initiatives to address barriers and improve breast screening experiences for priority populations across jurisdictions. These efforts include culturally sensitive educational materials and awareness campaigns tailored for Aboriginal and

[15] Source: AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024

Torres Strait Islander consumers, CALD consumers, LGBTIQA+ consumers, consumers with disabilities, and consumers with mental health issues. Many services provide essential accessibility features such as mobile screening vans to reach remote communities, wheelchair accessible facilities, access to free interpreters, and options for longer appointments or familiarisation visits. The pockets of excellence can be found in offering culturally appropriate engagement with First Nations communities through initiatives like the Beautiful Shawl Project and dedicated Aboriginal Advisory groups, while also ensuring privacy, dignity and cultural safety through practices such as all-women screening staff and providing privacy shawls.

Furthermore, Services demonstrate commitment to inclusivity through progressive initiatives such as LGBTIQA+-specific screening sessions, Rainbow Tick accreditation, and clear policies for transgender and gender diverse consumers. Services increasingly acknowledge individual needs through adaptive procedures for consumers with disabilities, allowing support persons or guide dogs during screening, and providing alternative communication methods for those with sensory impairments. The program's emphasis on staff training in cultural sensitivity and disability awareness reflects a genuine effort to create welcoming environments for all participants. These initiatives collectively demonstrate BSA's dedication to improving screening experiences and addressing the diverse needs of priority populations, even as opportunities for further enhancement and consistency across jurisdictions remain as summarised in Figure 9.

Figure 9: Initiatives currently implemented by jurisdictions



The review identified several key barriers that affect priority populations across three main levels.

- At the **individual level**, people face various personal and cultural concerns including issues around modesty, privacy, and fear of screening results. Many experience communication difficulties and struggle to access clear information about screening. Transport challenges, especially in remote areas, create significant obstacles. Existing health conditions can make screening more complex, while costs related to transport, childcare and lost wages present additional barriers.
- At the **service level**, healthcare staff often lack sufficient cultural understanding and sensitivity when working with diverse populations. Services face resource constraints, particularly around access to interpreters and specialised staff. Workforce burnout and time pressures affect the quality of care, while insufficient diversity among staff and in educational materials makes it harder to meet community needs. Many services struggle to accommodate individual requirements effectively.
- **System-level** barriers present broader challenges. There is inadequate recognition of cultural diversity across the healthcare system, along with limited access to screening centres in many areas. Poor coordination between different services creates additional complications for consumers. Priority groups lack representation in decision-making roles, which affects service planning and delivery. The system also struggles to address barriers around transport and accommodation costs, particularly for those travelling from remote areas for screening services.

The following highlights some key variations in the groups reviewed including:

- **Aboriginal and Torres Strait Islander consumers:** After adjusting for age, the participation rate of Aboriginal and Torres Strait Islander consumers aged 50–74 in BSA was 25% lower than for non-Indigenous consumers (37.0%, compared with the non-Indigenous rate of 49.6%) as identified in Table 4. Despite having a lower incidence of breast cancer (285 compared with 307 new cases per 100,000 consumers) see Table 6, Aboriginal and Torres Strait Islander consumers face significantly higher mortality rates (52.7 compared with 38.6 deaths per 100,000 consumers) age-standardised see Table 6. Several unique barriers affect participation:
  - specific cultural and spiritual beliefs can lead to fatalism or heightened modesty concerns, family involvement plays a crucial role in obtaining consent
  - many face challenges due to fear and mistrust of healthcare providers and systems, along with feelings of disempowerment
  - practical obstacles include transportation difficulties in remote communities, limited access to interpreters and challenges with making appointments due to inaccessible communication methods like internet or phone services.

Table 4: BSA participation, by Indigenous status, participants aged 50–74, 2021–2022

Indigenous status	Number	Crude rate	AS rate
Indigenous	28,002	36.8	37.0
Non-Indigenous	1,784,128	50.1	49.6
Australia	**1,820,994**	**50.1**	**49.5**

Notes

1. Indigenous status is self-reported; therefore, the accuracy of Aboriginal and Torres Strait Islander participation rates will be affected if participants choose not to identify as Aboriginal and/or Torres Strait Islander at the time of screening.
2. Crude rate is the number of participants screened in 2021–2022 as a percentage of the ABS estimated resident population; AS rate is the number of participants screened in 2021–2022 as a percentage of the ABS estimated resident population, age-standardised to the Australian population at 30 June 2001.s3. COVID-19 affected these results. Services had to reduce capacity due to the need to implement COVID-19 safety measures.
4. Australia includes 8,864 (0.5%) participants whose Indigenous status is not stated.
5. Aboriginal and Torres Strait Islander consumers are respectfully referred to as Indigenous consumers in this table.

Source: AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024.

Table 5: Incidence of invasive breast cancer in women aged 50–74 (New South Wales, Victoria, Queensland, Western Australia, the Australian Capital Territory, and the Northern Territory), by Indigenous status, 2016–2020

	NSW, VIC, Qld, WA, ACT and NT		
Indigenous status	New cases	Crude rate	AS rate
Indigenous	818	274.0	284.9
Non-Indigenous	46,770	312.8	306.6
Total	**49,422**	**323.8**	**317.5**

Notes

1. Data shown are for New South Wales, Victoria, Queensland, Western Australia, the Australian Capital Territory, and the Northern Territory only; data from these jurisdictions were considered to have adequate levels of Indigenous identification in cancer registration data at the time that this report was prepared.
2. Some states and territories use an imputation method for determining Indigenous cancers, which may lead to differences between these data and those shown in jurisdictional cancer incidence reports.
3. Crude rate is the number of new cases of breast cancer per 100,000 women; AS rates are the number of breast cancers per 100,000 women, age-standardised to the Australian population at 30 June 2001.
4. Total includes 1,834 (3.7%) women whose Indigenous status is not stated.
5. Aboriginal and Torres Strait Islander women are respectfully referred to as Indigenous women in this table.

Source: AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024.

Table 6: Mortality from breast cancer in women aged 50–74 (New South Wales, Queensland, Western Australia, South Australia and the Northern Territory), by Indigenous status, 2018–2022

	Australia	NSW, Qld, WA, SA and NT		
Indigenous status	Deaths	Deaths	Crude rate	AS rate
Indigenous	169	154	48.9	52.7
Non-Indigenous	7,051	4,936	40.4	38.6
Total	**7,262(a)**	**5,109(b)**	**40.8**	**39.0**

(a) Total includes 42 (0.6%) women whose Indigenous status is not stated.
(b) Total includes 19 (0.4%) women whose Indigenous status is not stated.

Notes

1. Data shown for 'Australia' are for all states and territories combined; data shown for 'NSW, Qld, WA, SA, and NT' are for New South Wales, Queensland, Western Australia, South Australia, and the Northern Territory only; data from these jurisdictions were considered to have adequate levels of Indigenous identification in cancer mortality data at the time this report was prepared.
2. Deaths from 2018 to 2021 were derived by year of death; deaths in 2022 were derived by year of registration of death. Deaths registered in 2019 and earlier are based on the final version of cause-of-death data; deaths registered in 2020 are based on revised versions; and deaths registered in 2021 and 2022 are based on preliminary version. Revised and preliminary versions are subject to further revision by the ABS.

3. Crude rate is the number of deaths from breast cancer per 100,000 women; AS rates are the number of deaths from breast cancers per 100,000 women, age-standardised to the Australian population at 30 June 2001.
4. Aboriginal and Torres Strait Islander women are respectfully referred to as Indigenous women in this table.
Source: AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024.

- **CALD consumers**: CALD consumers face distinct challenges related to communication and cultural understanding. A significant barrier specific to this group is the complexity of managing interpreters in intimate screening situations, which can create additional embarrassment or shame. The evidence suggests that interpreters often lack specific training in the breast screening context, leaving them unprepared for the specialised nature of these appointments. This population also faces unique challenges with biomedical jargon, which becomes particularly problematic when combined with language barriers. There are also specific cultural preferences regarding the gender of healthcare providers that need to be considered in service delivery.
- **LGBTIQA+ people:** This population group faces unique challenges related to dysphoria screening, procedures, information, and correspondence. Some experiences may be complicated by female-centred screening information materials and services that may not be suitable for all members of the community. Transgender and gender diverse people may need breast screening depending on their hormonal and surgical history, and these policies are guided by state and territory-based BSA programs resulting in inconsistencies.
- **Consumers with disabilities:** This population faces distinct challenges related to physical access and sensory needs. Unique barriers include the ability to accommodate guide dogs and support persons and managing sensory over-stimulation in screening environments. The electoral roll absence issue particularly affects this group, leading to missed screening invitations. Their experience is further complicated by the need for specific equipment adaptations and extended appointment times.
- **Consumers with mental health issues:** This population group shows particularly concerning participation rates, with research by Lambeth et al 2023 found only 30.3% of mental health service users participated in breast screening, compared with 52.7% of other NSW consumers. They face unique challenges related to cognitive deficits impacting motivation and ability to engage with screening services. The need for trauma-informed care is particularly crucial for this group, with current services risking re-traumatisation due to a lack of appropriate protocols. Mental health concerns can significantly impact their ability to manage appointments and engage with healthcare providers.
- **Intersectionality considerations:** A crucial finding from stakeholder consultation was the importance of recognising intersectionality across groups. When individuals identify as members of more than one priority population, they face multiple and complex barriers to screening. This creates unique challenges that require more sophisticated and nuanced approaches to service delivery and support.
- **Consumers experiencing homelessness:** While not initially identified as a primary focus group, stakeholder feedback highlighted homeless consumers as requiring particular

attention. This population faces unique combinations of barriers that compound their ability to access screening services, though specific data on participation rates is not currently available.

- **Rural and remote communities:** Mobile mammography services have emerged as an important strategy for improving access in rural and remote areas, with evidence showing participation increases of up to 10% in some regions. However, implementing mobile services presents unique challenges including equipment calibration requirements in rugged terrain, follow-up care coordination, and resource allocation considerations.

Stakeholders consulted recommended a range of priority actions as outlined in Table 7.

Table 7: Identified Priority Actions - participation, equity, and First Nations engagement

Short-term changes needed (1-2 years)	Medium-term (3-5 years)	Long-term (6-10 years)
Strategic development: • Develop a National Equity Framework • Create a National Participation Strategy and Action Plan • Conduct access review for under-screened populations (screening and assessment) • Implement National Agreement on Closing the Gap Priority Reform Areas • Coordinate national approach for awareness events and campaigns • Prioritising funding to keep expanding reach into Rural and Remote communities **Access and service enhancement:** • Refresh the program (e.g., A national media campaign, updated and shared national resources) • Integration of evidence-based engagement strategies and knowledge sharing across all levels of implementation • Provide dedicated funding for Aboriginal Health Program Officers • Establish dedicated Health Promotion roles • Expand Mobile Services in rural and remote communities • Look for new models of awareness such as pharmacy-based screening education **Cultural Safety and First Nations People:** • Establish minimum standards for culturally safe care • Mandate cultural safety training for all staff • Engage with local Aboriginal and Torres Strait Islander Communities/ACCHOs • Increase Aboriginal and Torres Strait Islander workforce within BSA (administrative and clinical) • Facilitate self-determination	**Service enhancement:** • Expand mobile services to remote communities • Create sustainable funding models for cultural engagement • Establish clear pathways for priority populations • Review and implement new models of care for rural and remote areas • Develop multilanguage services for appointment booking • Provide out-of-hours appointments • Enhance support services • Establish cross-border service delivery • Enhance alternative invitation methods • Increase culturally appropriate services • Develop "minimum standards" around distances consumers are expected to travel to access assessment and provision for financial support for consumers required to travel. **Workforce development:** • Implement consistent cultural safety training **Research development**	**Systemic transformation:** • Achieve full integration of culturally safe practices • Develop sustainable partnerships with Aboriginal organisations • Develop a permanent bilingual health education workforce • Reach 90% of the target population by 2030 • Implement comprehensive breast health education in the school curriculum • Research-driven innovation • Long-term funding commitment to support these initiatives **Data collection** • Establish comprehensive data collection about priority populations • Establish Indigenous data sovereignty around data collection

Communication enhancements: • Develop communications in First Nations and a range of other language in collaboration with members from each community • Breast health focus, ways to maintain breast health as you age, types of breast diseases with some potentially leading to cancer, methods for regular breast health check-ups • Misconceptions around discomfort and pain of breast compression **Research and evidence** • National coordination to evaluate and share findings on local initiatives and allocate resources for effective methods. • Participation data (including the private sector) • Partnerships with First Nations, migrant and refugee organisations should be prioritised to facilitate the above**-mentioned** evaluation and research. • Learn from initiatives proven to be effective for First Nations people in other settings (e.g., Canada and New Zealand).	• Review research on cancer incidence rates in diverse populations	

Key findings from Workstream 3 found:

- The screening cost per screen for Aboriginal and Torres Strait Islander consumers was $14 higher per screen relative to other consumers. This was driven by:
  - Promotion costs: Providing culturally appropriate and targeted outreach for Aboriginal and Torres Strait Islander consumers can require additional investment, including tailored communication strategies, advertising, and community-based events.
  - Alternative screening models: In some cases, more resource-intensive approaches—such as group bookings or partnerships with community-controlled health organisations—are needed to ensure culturally safe and equitable access for Aboriginal and Torres Strait Islander consumers.
- The screening cost per screen for CALD consumers was $6 higher per screen relative to other consumers. This was driven by:
  - Promotional costs: Providing culturally appropriate and targeted outreach for CALD consumers can require additional investment
  - Increased support staff: The need for translators
  - Alternative screening models: As per Aboriginal and Torres Strait Islander consumers, more resource-intensive approaches are needed to ensure culturally safe and equitable access for CALD consumers.

F3. Mobile screening services and access: While 99.8% of consumers aged 50-74 live within a one-hour drive of screening services, significant participation disparities persist in very remote areas (36%) and among Aboriginal and Torres Strait Islander consumers (35%).

Current mobile services face critical operational challenges including limited availability windows, inflexible scheduling, and complex assessment pathways. Stakeholders strongly support expanding and enhancing mobile services.

The mobile screening van service was universally praised across stakeholder groups consulted as one of BSA's most successful initiatives. Clinical staff and rural health representatives emphasised how mobile services have been particularly effective in reaching regional, remote communities and outer metropolitan areas where consumers experience travel or convenience barriers. Stakeholders noted that participation rates tend to be higher when mobile vans visit communities, as the time-limited availability creates urgency and reduces no-shows. Several stakeholders mentioned that the vans become embedded in rural communities and create a sense of community around screening visits.

Current data shows significant disparities in screening participation across geographical areas and population groups, similar to other healthcare services, with particularly low rates in very remote areas (36%) and among Aboriginal and Torres Strait Islander consumers (35% compared to 48% for non-Indigenous consumers). While 99.8% of consumers aged 50-74 live within a one-hour drive of a screening service, access challenges persist, especially for priority populations and lower socioeconomic consumers where a lower percentage of consumers own a car, have a driving licence, or have the funds to cover time off work and/or fuel for a 2hour round trip.

Table 8: Participation rates(a) in BSA of Aboriginal and Torres Strait Islander and non-Indigenous consumers aged 50–74, by Remoteness Area, 2019–2020

	Major cities (%)	Inner regional (%)	Outer regional (%)	Remote (%)	Very remote (%)
Aboriginal and Torres Strait Islander	36.1	41.6	38.1	28.5	22.5
Non-Indigenous	47.8	52.8	54.2	46.6	38.5
Rate difference(b)	-11.7	-11.2	-16.1	-18.1	-16.0

a. Rates are the number of consumers screened as a percentage of the eligible female population, calculated as the average of the 2019 and 2020 population estimates modelled by the AIHW (see note 2). Rates are age-standardised; rates are directly age-standardised to the Australian 2001 standard population in 5-year age groups between 50 and 74.

b. Rate difference is the AS rate for First Nations consumers minus the AS rate for non-Indigenous consumers.

Notes:

1. Consumers in the 'not stated' category for Indigenous status are excluded from these data.
2. Rates are calculated using population estimates based on Bayesian smoothing and Iterative Proportional Fitting of ABS projected populations (using the 2016 Census).
3. In 2020, the participation of First Nations consumers from the Northern Territory and those in *remote* and *very remote* areas was impacted by both the COVID-19 pandemic and the absence of the BreastScreen NT mobile truck, which was being upgraded.

Source: AIHW Access to BreastScreen Australia screening services accessed Feb 2024

Key challenges with existing mobile services include:

- limited availability windows, with visiting sites only offering services for discrete periods (e.g., one-week screening blocks every two years)
- inflexible scheduling that may not align with community needs or consumer availability
- barriers for consumers requiring annual screening, who may miss critical appointments due to timing constraints

- complex pathways from screening to assessment services for rural and remote consumers
- resource constraints affecting equipment maintenance and staff accommodation
- coordination challenges across jurisdictional boundaries.

Mobile BSA vans emerge as an important solution for improving access, particularly for priority populations and those in rural and remote areas. Stakeholders strongly support expanding mobile services, noting their potential to enhance accessibility and participation rates. The last comprehensive review of mobile services was conducted in 2009, suggesting a pressing need for updated evaluation and strategic planning.

Stakeholders identified several opportunities for enhancement:

- needs-based funding investment to increase mobile van numbers in areas of greatest need
- interaction of additional health services with mobile screening to maximise impact in regional and remote areas
- streamlining pathways from mobile screening to assessment services
- cross-jurisdictional coordination for communities near state/territory borders
- strategic planning to address unique local characteristics affecting access, including infrastructure requirements, transport availability, and community needs.

Key findings from Workstream 3 found:

- the average screening cost of mobile facilities was $18 more than fixed facilities, on average
- while mobile facilities typically benefited from lower direct occupancy costs (such as rent and utilities), they were significantly more costly to operate due to higher motor vehicle costs and staff travel costs required to support operations
- screening costs increase by remoteness. Fixed site facilities in the Modified Monash Model (MMM) 2-3 regions (regional centres and large rural towns) cost $8 more per screen than those in metropolitan areas. Facilities in MMM 4-7 regions (medium and small rural towns, remote and very remote communities) cost $24 more per screen than facilities in metropolitan areas.

F4. Holistic partnerships: Opportunities exist to partner with other screening programs and health providers for a holistic approach to breast health, drawing from successful models like partnerships with Aboriginal Community Controlled Health Organisations (ACCHOs).

Stakeholders strongly support developing integrated approaches to preventative cancer screening, drawing inspiration from successful models such as partnerships with ACCHOs and Aboriginal Medical Services (AMS). While maintaining the distinct quality of each screening program, there is significant potential to enhance service efficiency and improve the consumer experience through coordinated delivery approaches.

International evidence, such as Denmark's 'three birds' initiative, demonstrates the feasibility of integrating breast, cervical and colorectal cancer screening promotion. This model offers valuable insights for developing an Australian approach where BSA could function as part of a coordinated suite of cancer prevention and early detection services for consumers.

While full clinical integration may not be necessary, stakeholders identified numerous opportunities for cross-promotion and coordinated recruitment, particularly beneficial in rural and remote areas where shared infrastructure could enhance access. Resource implications remain a key consideration, with recommendations for pilot programs to evaluate different partnership models before broader implementation. This strategic approach would help ensure that integration efforts enhance rather than compromise existing service delivery.

C.2. Person centred screening

F5. Risk-stratified breast screening: While acknowledging the implementation complexities, there is a strong potential and demand for risk-stratified breast screening to improve outcomes through:

- more effective targeting of screening intensity and technologies
- better identification of higher-risk groups
- reduced burden of intensive screening for lower-risk consumers (although acceptable is in question)
- more efficient resource utilisation

There is strong cross-sector support for transitioning to risk-stratified screening while acknowledging significant implementation complexities. Currently, no country has fully implemented additional risk factors beyond age and gender into their national population based screening programs, though research is ongoing worldwide. There is increasing evidence internationally that there are other risk factors that could be considered in population screening policies. These include past personal history of atypia, breast density, individual history of breast cancer, family history of breast and other cancers and lifestyle factors such as body mass index and alcohol consumption.

Workstream one also highlighted" It is estimated that implementing risk-stratified screening would be cost-effective with an estimated 2.9% increase in excess deaths among those considered 'low risk,' but there are concerns about the acceptability of reduced screening in these people who are stratified as 'low risk'."

The ROSA project, which commenced in 2018, has provided important groundwork for Australia's potential transition. While the evidence for informing Australian policy now is limited, the ROSA project resulted in a roadmap, with recommendations including reviewing existing guidelines and policies, designing and trialling risk-stratified screening programs in Australia, and

conducting more targeted evidence reviews, with a focus on exploring the evidence gaps in the emerging available technologies.

Risk-stratified implementation would require substantial changes across multiple domains:

- standardised risk assessment protocols and validated risk assessment tool
- standardised pathways for different risk categories
- enhanced IT infrastructure, and sophisticated communication strategies.

Stakeholders emphasised particular focus on supporting consumers at intermediate risk and those with high breast density, estimated to affect one-third of Australian consumers aged 50 and over.

The review identified the following key areas of focus.

Critical success factors include:	**Key challenges to address:**
• Robust evidence base for implementation • Standardised risk assessment protocols based on validated tools which include breast density • Clear clinical pathways and guidelines • Strong stakeholder engagement • Comprehensive evaluation framework • Adequate resourcing and support	• Health service integration requirements with greater coordination between multidisciplinary teams for the early detection of breast cancer • Workforce development needs • Resource and funding review • Equity impact management • Implementation complexity • Change management demands

Stakeholders positioned BSA as the natural leader for this transition, suggesting work must start now to be able to meet a 5–10-year implementation horizon to ensure careful piloting and evaluation.

While evidence suggests risk-stratified screening could be cost-effective, stakeholders emphasised that implementation must maintain or improve current participation rates and avoid exacerbating existing inequities. The program requires Australian-specific evidence and trials, particularly for higher-risk consumers who might benefit from more intensive screening strategies. Overall, for high-risk populations, due to an increased focus on precise risk management tailored to individual consumers, there has been a shift from age-based screening recommendations to personalised suggestions for the recommendation of technologies used and screening intervals based on varied risk factors which may be an important consideration for population based screening programs.

Key Findings from Workstream 3 found:

The estimated cost to the government of risk stratification, including undertaking a risk assessment in the primary healthcare sector and stratifying consumers into three risk categories to determine their commencement age for screening and frequency of screening

was an additional cost of $763.6 million (total over 10 years). Noting more analysis is required here as the analysis did not consider potential cost savings as a result of improving early cancer detection which will reduce the costs associated with the management and treatment of symptomatic consumers.

F6. Annual screening eligibility: Current approaches to breast cancer risk assessment and annual screening eligibility vary significantly across Australian jurisdictions.

While some services utilise the iPrevent tool, others have developed jurisdiction-specific risk assessment questions, and some conduct no formal risk assessment prior to screening. This variation exists in the absence of a national policy framework for risk assessment and annual screening eligibility within the BSA Program. The ROSA project has recommended the evaluation of well-validated risk assessment tools within the BSA context, specifically highlighting the need to gather evidence on the effectiveness of breast density assessment tools. It is important to acknowledge that the evidence available primarily addresses screening pathways for individuals at high risk, considering various risk factors and differences in recommended screening technologies and supplemental screening methods.

F7. High-risk consumers: Current approaches to the management of high-risk consumers vary significantly across Australian jurisdictions.

Consumers identified as being at high risk of breast cancer can currently access specialised services through Familial Breast Cancer Clinics or the private sector. Risk identification primarily relies on family history, as outlined in the RACGP guidelines for preventative activities in general practice. Consumers categorised as 'potentially high risk' are generally eligible for referral to family cancer clinics, where available. These clinics provide personalised risk assessment, genetic testing advice, preventative treatments, and tailored multimodal screening including supplementary ultrasound and MRI outside the BSA program. Stakeholders strongly support developing consistent national approaches to managing high-risk consumers.

While there is general agreement that very high-risk consumers should receive specialised services outside BSA, moderate-risk consumers require clear pathways within the program. Some stakeholders suggested that consumers unable to access specialised services might benefit from testing within BSA as a 'better than nothing' approach. However, significant concerns were raised about resource implications and lack of appropriate resources for these consumers, including workforce needs and technological requirements such as MRI access. Stakeholders particularly emphasised the importance of ensuring that any risk-stratified protocols do not create or exacerbate existing access barriers.

F8. Younger consumers: There is increasing pressure to extend the target screening age to 45-74 years, though views on benefits remain mixed. International policy directions show varying approaches, with different recommendations emerging from similar evidence bases.

BSA has a target age range of 50–74 years and an eligible age range of 40–49 years and 75 years and over. Consumers in the target age range are actively targeted with invitation letters and communication activities, while consumers in the eligible age range can attend screening but are not actively targeted. The increase in the target age ranges from 50-70 to 50-74 was made in 2013 following the BSA Program 2009 Evaluation. This report also included recommendations for extending the target screening age to 45.

The 2009 Evaluation included the following findings:

- for consumers aged 40–44 years, there is limited evidence of the benefit of mammographic screening in relation to mortality reduction. There is also evidence of harm associated with screening in this age group, with a higher rate of invasive investigation without cancer present compared to consumers aged 45 years and over
- for consumers aged 45–49 years and consumers aged 70–74 years, there is some evidence of the benefit in relation to reduction in mortality from breast cancer associated with screening.

Based on the inclusion in the 2009 Evaluation recommendations, there is an expectation for the target age to be reduced to include consumers 45-49 years. This expectation is compounded by confusion between eligible versus target age and variations across services. Currently, some jurisdictions have started to actively re-invite Aboriginal and Torres Strait Islander consumers from the age of 40 and one jurisdiction actively re-inviting all consumers over 45 years which they reported has improved participation in the over 50 age groups.

Globally, there is consensus among high-income countries on the eligibility criteria for and frequency of breast cancer screening. The WHO recommends population based mammography screening programs for consumers between 50-69 years old, with a two-year screening interval in well-resourced settings. This aligns closely with the screening process in many high-income countries, with some variation in the selective recommendations for people aged 40-49 and 75+, as well as some countries recommending three-year screening intervals. Preliminary findings to date indicate a lack of consensus among high-income countries on the starting target age of population based breast cancer screening programs. This is highlighted in the recent international policy directions of Canada and the United States (US), which reviewed the same evidence but generated different recommendations:

- 30 April 2024, the US Preventative Services Taskforce recommended to reduce the target age to 40. Recommendation: Biennial screening mammography for consumers aged 40 to 74 years. (Noting that the US does not have a population screening program. An expert stakeholder added “After modelling for the US population demographics suggested this may help manage current trend in African American consumers who were presenting with advanced cancer. The modelling is not applicable to the Australian setting or population.”)
- 30 May 2024- the Canadian Task Force on Preventive Health Care released their draft recommendations for consumers aged 40 to 49, based on the current evidence (trials,

observational studies, modelling and a review of values and preferences), we suggest not to systematically screen with mammography.

New Zealand's 2004 extension to include consumers aged 45-49 has demonstrated positive outcomes however this extension also included extending from 65 to 69 years and the screening. Additionally, the frequency decreased from annual to biennial.[16]

The systematic review from workstream one identified conflicting results in the literature. A study that initiated mammography screening before the age of 50, starting at 40 or 41 years, was linked to a relative decrease in breast cancer mortality of 25%. However, this effect diminished after 10 years, while the absolute reduction remained consistent. It suggests that lowering the screening age from 50 to 40 years could potentially decrease breast cancer mortality. However, further research is necessary to determine whether advancements in early detection technology and breast cancer treatment could alter the observed reduction in breast cancer mortality seen in randomised controlled trials of screening among individuals aged 40–49 years. While another study showed no significant effect on breast cancer mortality in consumers aged 40–49 years offered screening. For consumers aged 40-49 who were screened annually for five years, overdiagnosis of invasive breast cancer at 5 years post-cessation of the five-year study interval was estimated to be 32% and at 20 years post-cessation of the screening interval to be 48%. The study also recommended that based on the current evidence, extending mammography screening to younger age groups is not recommended.

Other stakeholders consulted were concerned about resource implications and workforce capacity. Stakeholders emphasised that expanding services to invite consumers from 45 should not compromise current service delivery to the 50 to 74 year old cohorts. They stressed the importance of evidence-based decisions and comprehensive monitoring of sensitivity, specificity, false positives/negatives, and interval cancers in the new age range.

Some advocated for aligning with the bowel cancer screening age range for consistency (45-74), while others focused on improving participation in the current target group (50-74). If implemented, stakeholders reflected it must be carefully planned and well-resourced to ensure sustainable services for all age groups.

C.3. National consistency

F9. Policy, protocols and guidelines: While BSA operates nationally, implementation varies across states and territories, particularly in:

- Assessment protocols
- Breast density reporting and notification

[16] Fitzjohn J, Zhou C, Chase JG. Socio-economic Benefit Analysis of Breast Cancer Screening Program Changes in New Zealand. IFAC-PapersOnLine. 2024 Jan 1;58(24):1-6

- Invitation and reminder systems
- Management of symptomatic consumers

The review highlighted that while local adaptation is necessary, core elements of the screening program should provide uniform, high-quality care regardless of location. This standardisation would support better data collection, enable cross-jurisdictional workforce sharing, and ensure all eligible Australians have access to the same standard of breast screening services. The review identified the necessity to establish an appropriate capacity to develop national guidelines based on independent, expert, evidence-based policy advice. Within the current governance structure, there is limited funding for essential activities such as developing strategic plans, assessing research, introducing new technologies, or engaging stakeholders.

Key areas identified as a priority for national consistency include:

- **Assessment protocols:** Significant variations in assessment practices across jurisdictions, particularly in bilateral assessment and ultrasound usage, are creating (as perceived by stakeholders) inequitable outcomes for consumers. While the need for standardisation is clear, implementation faces several challenges. These include resource constraints around workforce and technology requirements, and the need to balance standardised protocols with appropriate clinical autonomy. Many jurisdictions have expressed concern about meeting new standards without additional funding support. Stakeholders emphasised that assessment protocols should be evidence-based and regularly reviewed. There was strong agreement that assessments should deliver a complete diagnostic package to treating clinicians, eliminating the need for duplicate testing. Development of new assessment standards will require close collaboration with clinical stakeholders working outside the screening program, including oncologists, pathologists and surgeons, to ensure all essential diagnostic information is captured effectively.
- **Breast density measurement and notification:** BSA services demonstrate significant variation in breast density measurement and reporting practices. While one jurisdiction has maintained these practices for over a decade, others are at different stages of implementation - some have recently introduced programs, others are in pilot phases, and some jurisdictions are not yet prepared to implement. This variation exists despite strong consumer demand for standardised measurement and notification processes, with stakeholders supporting the need for consistent assessment tools and clear communication strategies.

  The current situation contrasts with international practices, where breast density assessment has become routine in several countries including Austria, the Czech Republic, Taiwan, and parts of Denmark and Canada. Many of these programs utilise the Breast Imaging-Reporting and Data System (BI-RADS). Notably, the US has mandated BI-RADS assessment and reporting from September 2024. In the European Union, while the European Society of Breast

Imaging (EUSOBI) recommends breast density reporting, implementation is currently limited to Austria and the Czech Republic.

However, stakeholders raised important concerns about equity implications and the need for clear follow-up pathways for consumers with high breast density who may require supplementary screening. The evidence for supplemental screening remains unclear. While international practices vary - with European guidelines recommending tomosynthesis, Germany offering self-funded ultrasound or MRI, and Canada providing ultrasound - there is no consistent approach. This complexity is illustrated by differing interpretations of the DENSE trial findings: while EUSOBI recommended supplemental MRI for consumers aged 50-70 years with extremely dense breasts based on these results, the Netherlands reached the opposite conclusion from the same evidence.

Key findings from Workstream 3 found: If a pathway was introduced aimed at enhancing cancer detection for consumers with high breast density, BI-RADS C/D. The approach leverages biennial tomosynthesis supported by ultrasound. The screening commencement age is lowered to 45, with a preliminary health check starting at age 40, conducted by BSA. The projected additional cost (total over 10 years) is +$2.0 billion.

- **Invitation and reminder systems:** While jurisdictions have developed locally tailored invitation and reminder systems to support participation and meet specific community needs, significant variations and challenges exist across the BSA Program. Communication methods differ between jurisdictions, with all using mail, most employing SMS, and some incorporating email. There is no standardised approach to reminder timing, methods, or management of non-responders, and re-invitation protocols for non-attendees vary across services. Further challenges include inconsistent implementation of digital communication strategies and an inability to track private screening participation, creating gaps in understanding overall screening coverage.

  There is growing interest in implementing screening reminders for consumers aged in their forties who have previously attended BSA services. This expectation is compounded by confusion between eligible versus target age and variations across services. Current practices vary significantly across jurisdictions. Some services send reminders only to Aboriginal and Torres Strait Islander consumers in this age group, while others do not send any reminders to consumers under 50. This variation extends to older age groups, where no jurisdictions actively invite consumers aged 75 years or older, with one exception where consumers over 75 recalled to assessment receive one additional invitation. Stakeholder consultations revealed a focus on practical implementation rather than policy debate, with strong support for standardising approaches across jurisdictions to reduce confusion.

  While some jurisdictions already utilise reminders for the 40-49 year age group, others raised concerns about system capacity and funding implications for additional services. Stakeholders emphasised the importance of clear messaging about screening benefits and limitations for this age cohort.

The success of any standardised reminder system would depend on addressing several key factors:

- system capacity constraints
- consistent messaging across jurisdictions
- comprehensive data systems
- ensuring that expanded reminder services do not compromise service delivery to the target age group.

This balanced approach aims to improve engagement while acknowledging resource limitations and maintaining service quality across all age groups. Table 9 provides an indication of the number of consumers likely to be reminded.

Table 9: BSA participation rates by age group

	2011–2012		2016–2017		2021–2022(a)	
Age group (years)	Number	Crude rate	Number	Crude rate	Number	Crude rate
40–44	82,242	10.1	84,304	10.4	69,081	8.1
45–49	144,235	18.6	147,878	17.8	112,487	13.6
50–54	372,585	48.9	390,480	49.7	376,440	45.4
55–59	374,778	55.0	404,119	53.1	376,358	48.0
60–64	368,368	59.9	395,020	58.5	395,720	52.0
65–69	291,334	58.5	364,510	60.1	364,444	54.5
70–74	97,957	25.9	258,706	55.0	308,032	52.0

(a) COVID-19 affected these results.

Note: Crude rate is the number of participants aged 50–74 screened in each 2-year reporting period, as a percentage of the ABS estimated resident population.

Source: AIHW (2024) BreastScreen Australia monitoring report 2024 accessed December 2024.

- **Management of symptomatic consumers**: Consumers exhibiting symptoms are not eligible for BSA because population based screening programs are designed for asymptomatic consumers only. Symptomatic consumers require diagnostic testing rather than screening services. Although symptomatic consumers fall outside the scope of the BSA Review, stakeholders highlighted the necessity of establishing clear alternative care pathways, especially in regions where diagnostic services are insufficient. Key concerns highlighted include inappropriate GP referrals of symptomatic consumers to screening services and challenges at the interface between screening and diagnostic services, indicating a need for enhanced primary care education about appropriate referral pathways.

C.4. Service enhancement

F10. Screening technologies: There is increasing evidence base and support for the use of tomosynthesis as a screening technology however implementation feasibility evidence is still required. Current trials are investigating its effectiveness and comparing it with standard mammography.

Prior to the BSA Review, the ROSA project investigated different screening technologies and conducted modelling of their benefits, harms and costs. While the ROSA project acknowledged emerging screening technology as an active area of research, no recommendations on the implementation of any new technology were proposed. The ROSA project recommended that evidence on the benefits and harms of risk-stratified screening technologies be regularly reviewed every 1-2 years. The screening technologies evidence consolidated from Workstream 1 after ROSA as part of this review included:

- **Tomosynthesis** can be used as a primary screening tool or as a supplement to digital mammography. A further tool of tomosynthesis is synthetic 2D mammography, when 2D images are created from the tomosynthesis images thus reducing the radiation exposure to the participant. Literature on tomosynthesis reports on its sensitivity, specificity and safety and the ROSA project found that tomosynthesis combined with 2D imaging increased cancer detection rates across all risk groups based on age, compared to digital mammography. However, implementation faces significant operational challenges, including increased reading times and substantial data storage requirements.

  While stakeholders broadly support the phased implementation of tomosynthesis, they note that its adoption in private healthcare has created service disparities between public and private providers, influencing consumer and healthcare professional expectations. Further investigation of the feasibility and cost effectiveness is needed before widespread implementation can be considered. A range of clinical trials are currently in progress, two trials of interest in Australia are:

  - A Randomised Controlled Trial to Assess if the Implementation of an Artificial Intelligence Mammogram Reader Improves Breast Cancer Screening: A trial to assess the effectiveness of using an AI reader in the breast screening program in BreastScreen Victoria and BreastScreen South Australia. It is being funded by the MRFF for over $3 million and is set to finalise on 30 June 2027.
  - Comparative effectiveness of breast tomosynthesis and mammography in real-world population screening: Evidence to underpin and improve breast cancer screening: This research addresses key evidence gaps in breast cancer screening by investigating tomosynthesis versus standard 2D mammography screening to establish the effectiveness of tomosynthesis in Australia and internationally, including impact on cancers not detected at screening that progress clinically. This study is being co-funded by the NHMRC and the NBCF and is set to conclude on 31 December 2026.

  There is limited high-quality evidence for breast cancer screening technologies such as molecular breast imaging, contrast-enhanced mammography, and ultrasound. Research on the use of supplemental technology and pathways for breast cancer screening is ongoing, with important trials currently underway. For example:

- the UK-based 'PROSPECTS' trial, which will examine the use of tomosynthesis for population based screening in 100,000 consumers.
- the 'MISS' trial to determine the most appropriate screening intervals for consumers aged 45-49. Annual vs. biennial screening with use of tomosynthesis (based on breast density) expected completion date, February 2026.

Key Findings from Workstream 3 found if tomosynthesis is introduced as the primary screening technology, replacing 2D mammography for biennial screenings and all other inputs, such as the target population and participation rates, align with the current program, the additional cost is projected to be (total over 10 years) is +$94.2 million.

F11. Artificial intelligence: Growing support exists for AI integration within BSA, particularly to address workforce challenges and enhance service delivery, though further validation for the Australian context is needed.

While AI shows promise in breast imaging, both as a decision support tool and as an alternative to human readers, current evidence remains limited with mixed results. Workstream one identified a 2021 review[17] indicating that while AI systems are promising, further development and validation for the Australian context is needed before implementation in widespread screening programs. Several jurisdictions report early experiences using AI as a second reader, with stakeholders identifying substantial potential for enhancing screening efficiency.

Stakeholders emphasised that AI implementation requires robust, evidence-based frameworks that maintain clinical oversight and protect consumer interests while accommodating technological advancement. Key considerations include ongoing costs for software licensing and system maintenance, ensuring sustainable implementation. While opportunities exist for AI in risk stratification and breast density measurement, stakeholders stressed the importance of managing public acceptance through clear communication about AI's supporting role to clinical expertise.

Implementation challenges identified include potential impacts on radiologist training traditionally provided through double reading and the need for robust version control for medical-legal compliance. Stakeholders highlighted AI's potential to enhance workflow efficiency through real-time specialist access, reduced reporting delays, and workforce shortage support. Additional benefits include improved data collection and analysis capabilities for cancer detection and research. However, stakeholders emphasised that all technological integration must align with clinical best practices while maintaining high standards of consumer care and professional development.

[17] Allan + Clarke. Artificial intelligence and breast-screening a literature review into the potential role of AI and CADe in the future of the BreastScreen Australia program. Draft report. 2021.

F12. Primary care interaction presents opportunities to enhance program effectiveness, particularly in supporting screening participation, risk assessment and transition to diagnostic services.

The Program's original design as a stand-alone service to improve access has resulted in limited interaction with primary healthcare providers. The review identified primary care interaction as an opportunity to enhance program effectiveness, particularly in supporting screening participation, risk assessment and transition into diagnostic or specialist services. However, current communication challenges between BSA and primary care providers require attention. Stakeholders focus emerged around technical integration, with peak bodies and practising GPs strongly advocating for real-time access to screening data through their clinical information systems to enable point-of-care information access and more effective follow-up care.

While some jurisdictions report successful GP engagement initiatives, stakeholders emphasised that resource implications, including time and effort requirements, need careful consideration. The potential role of Primary Health Networks (PHNs) in facilitating interaction was highlighted, alongside the need for clear protocols governing information sharing. The development of structured communication pathways, particularly for reminder systems and results notification, emerged as a key priority.

F13. Diagnostic and treatment pathways interaction Current fragmentation between screening and diagnostic/treatment pathways creates challenges, emphasising the need for improved interaction.

The review identified significant challenges in the current fragmentation between screening and diagnostic pathways while acknowledging some jurisdictions have successfully implemented integrated service delivery models. The consultations highlighted complex considerations around program scope and resource allocation that would need to be addressed in any interaction efforts.

Resource implications emerged as a critical consideration, with stakeholders emphasising the need for careful planning regarding workforce capacity, equipment utilisation, and facility requirements. These considerations are particularly significant in rural and remote areas where resource constraints are already challenging. The development of clear referral protocols and enhanced data sharing mechanisms between screening and diagnostic services were identified as key priorities.

Stakeholders recommended evaluating different interaction models through pilot programs and trials while maintaining the distinct role of population screening. This would enable evidence-based assessment before broader implementation. Enhanced linkages with surveillance services could facilitate pathways for risk-adjusted screening tests provided by specialist services outside BSA. Additionally, stakeholders supported making clinical results of screening and surveillance tests visible in both directions for consenting consumers through a

BSA portal or the My Health Record platform, promoting better information sharing and continuity of care.

C.5. Program enablers

F14. Governance: BSA's governance structure has led to slow adoption of innovations, with significant variations in implementation across jurisdictions.

The program's current strategy of implementing changes through periodic reviews has created gaps between evidence and practice, limiting the ability to respond to emerging healthcare challenges and technological advances in a timely, coordinated manner. Consumer and priority population representation in governance remains limited, with particularly limited opportunities for Aboriginal and Torres Strait Islander self-determination in program design and implementation and a voice in ensuring priority reforms are implemented.

The absence of transparent accountability frameworks means that entities outside the BSA program governance structure can substantially impact operational capacity where these entities have decision-making roles for funding and do not necessarily understand program-specific requirements or participate in coordinated national planning processes. This fragmented approach contributes to funding inequities between jurisdictions and hampers the program's ability to implement consistent service improvements or innovations across Australia.

BSA needs governance reform that strengthens national coordination while respecting jurisdictional contexts. This should include establishing clearer lines of accountability, with defined responsibilities and expectations for all governance entities, more robust monitoring and reporting frameworks that track progress against national standards, and more transparent decision-making processes that document rationales for jurisdictional variations.

The EAG highlighted the need for a National Strategic Committee that would provide high-level direction while complementing operational governance bodies. Comprising representatives from governments, clinical leaders, consumer advocates (particularly from priority populations), and independent experts, this committee would take responsibility for setting the strategic direction, monitoring the implementation of priority reforms, addressing cross-jurisdictional barriers, and ensuring alignment with broader health system priorities.

Stakeholders consulted also stressed the need for governance committees to be supported by real-time monitoring and benchmarking systems tracking key indicators across all jurisdictions, enabling prompt identification of performance variations and evidence-based decision-making. This integrated approach would strengthen accountability at all levels while ensuring reforms deliver equitable outcomes, particularly for priority populations who currently experience poorer results.

Addressing the accountability deficit is critical for BSA's future effectiveness. BSA may need to review:

- as recommended by the EAG
    - the need for a National Strategic Committee with consumer representations to drive priority reforms
    - key performance indicators for executives outside BSA that impact funding decisions
- and as recommended by the stakeholders consulted:
    - the establishment of working groups as a mechanism to support the implementation of priority reforms
    - the relationship between the NQMC and the State Quality Committees
    - how consumer perspectives, particularly from priority populations, influence strategic decisions.

Implementing priority reforms requires establishing time-limited transformation working groups with specific Terms of Reference, membership representing all jurisdictions, and explicit deliverables and timeframes. Co-chaired by content experts and consumer representatives, particularly from priority populations, these groups would ensure reforms are both clinically sound and consumer-centred. Regular reporting against implementation milestones creates clearer accountability and greater stakeholder ownership while ensuring meaningful input from priority populations.

These governance enhancements would strengthen the translation of the recommendations in this review into tangible improvements in breast screening outcomes. By creating more responsive, accountable, and inclusive decision-making structures, BSA will be better positioned to adapt to emerging challenges, reduce jurisdictional disparities, and ultimately improve early detection of breast cancer across all population groups.

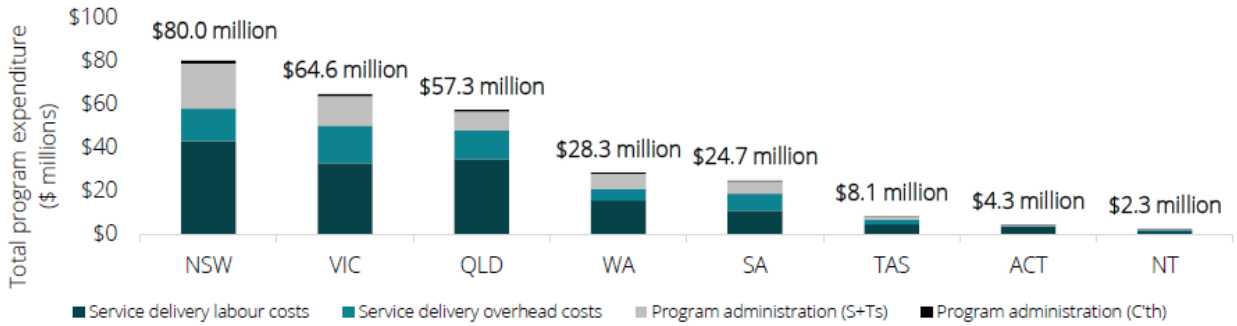
F15. Funding: The current funding model significantly constrains BSA's ability to deliver consistent, high-quality screening services nationwide. The lack of transparency and funding inequities between jurisdictions creates substantial service variations and limits program innovation, particularly impacting priority populations and rural services.

Key Findings from Workstream 3 found:

- over the financial years 2021-23, the Commonwealth, State and Territory governments spent approximately $269.6 million per annum on the BSA Program. Approximately 77.2% of total costs were direct service delivery costs – spread across screening and assessment (54.2% for labour and 23.0% for overheads). The estimated cost per state is detailed in Figure 10
- over the period FY 2021-23, the screening cost per screen was $106.2, on average. The screening cost per screen was highest in the Northern Territory and lowest in NSW
- BSA delivers mammograms at a lower cost than the private sector and delivers similar procedures to diagnose if someone has a suspicious lesion

- over the period FY 2021-23, the assessment cost per assessment was $1,582.9, on average. Assessment costs were highest in the ACT and lowest in WA. Higher costs are generally driven by higher staff costs and lower service utilisation
- the current funding mechanisms and models lack transparency and do not align with cost drivers. Funding roles and responsibilities between the Commonwealth and state and territory governments are unclear to stakeholders

Figure 10: The total annual cost of the BSA Program ($ millions), by jurisdiction



Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.

Funding emerges as a fundamental constraint affecting BSA's service delivery, innovation, and program sustainability, with stakeholders universally identifying areas requiring urgent reform including:

- the Commonwealth's contribution to program service delivery to states and territories through block funding via the National Health Reform Agreement lacks transparency and accountability. The Commonwealth has limited oversight of funding distribution within states and territories
- jurisdictions are unable to increase participation due to insufficient funding for timely screening and assessment
- significant funding inequities between jurisdictions create substantial service variations, with some jurisdictions struggling to maintain basic services while others can invest in innovation
- dedicated funding streams for priority initiatives are inadequate, particularly for priority population engagement, workforce development, technology modernisation and fund research. This especially impacts culturally appropriate services for Aboriginal and Torres Strait Islander communities, which often lack sustainable funding despite demonstrated effectiveness

Stakeholders highlighted specific funding pressures around new technologies and assessment services, noting that essential services like tissue marker clips and additional lesion investigations often go unfunded. Rural and remote service delivery faces challenges, with mobile services requiring significant additional resources that are inadequately captured in current funding models. While stakeholders suggest exploring alternative approaches such as

activity-based or mixed funding models, any reform requires careful consideration to avoid unintended consequences and ensure long-term program sustainability.

Workstream 3 also presented alternative funding mechanism options for the allocation of Commonwealth and State and Territory Government BSA funding. These highlighted the inherent trade-offs between improving transparency and accountability and introducing complexity or risk to governments.

F16. Enhanced data capabilities, particularly in four critical areas:

- data standardisation
- cross-jurisdictional data and image sharing
- Interaction with broader health information systems and data sharing platforms e.g., implement a shared electronic health record system that enables seamless information exchange between healthcare services that supports the National Cancer Data Framework's goal of "a harmonised, fit for purpose, sustainable cancer data ecosystem" that improves cancer control and addresses equity challenges across prevention, screening, and treatment. Data and technical infrastructure modernisation to address system variations and data format inconsistencies.

Recent technological improvements in communication and booking systems were widely recognised by stakeholders consulted as successful innovations. Online booking systems, SMS reminders, and email communications were consistently cited as having improved accessibility and convenience for consumers. Staff consulted noted that digital engagement has been particularly successful in reaching younger consumers and first-time screeners. The transition to digital communications was seen as especially beneficial during and after the COVID-19 pandemic.

Current data management, IT infrastructure, and monitoring systems require significant enhancement to meet current program needs and future aspirations including:

- cross-jurisdictional data and image sharing emerged as a fundamental requirement, with current limitations affecting service delivery for mobile populations and workforce flexibility. While some jurisdictions have implemented successful smaller-scale initiatives, stakeholders strongly support national solutions such as a shared Picture Archiving and Communication System (PACS), though noting potential risks with national databases and data quality issues
- interaction with broader health information systems requires attention. Implementation levels vary across jurisdictions, with some services successfully sharing results while others face technical and operational barriers. Enhanced interaction with other health datasets would support more comprehensive care delivery
- data and technical infrastructure modernisation as current variations in IT systems and data formats create inefficiencies and potential gaps in care.

The review highlighted challenges in collecting and reporting consistent national data, exemplified by difficulties in compiling data for the 40-44- and 45-49-year age groups. While the AIHW collects data for annual monitoring reports, the limited dataset and lack of routine analysis of accreditation data hamper informed policymaking. Key gaps include but are not limited to assessment outcomes and stage of diagnosis information. Stakeholders emphasise the need for standardised data definitions and collection methods while acknowledging resource implications and privacy considerations in system modernisation efforts.

Key Findings from Workstream 3 found over the period 2021-22 and 2022-23, Commonwealth, State and Territory governments spent: $13.8 million on data collection and reporting activities related to the systematic gathering, analysis, and reporting of data related to screening activities, outcomes, and participation. This includes tracking consumer demographics, screening results, program reach, and undertaking evaluations/ research to inform strategic decision-making.

F17. Workforce sustainability faces significant challenges, including:

- critical shortages of radiologists and radiographers
- remuneration disparities between public and private sectors
- need for culturally safe and diverse workforce development
- implementation of innovative service delivery models
- limited availability of programs to maintain and enhance expertise across disciplines.

Clinical stakeholders consulted consistently praised the dedication and expertise of the BSA workforce, particularly radiographers and radiologists. The program was credited with maintaining high professional standards and providing excellent training and professional development opportunities. However, this was tempered by concerns about workforce sustainability and recruitment challenges.

Workforce challenges emerged as a threat to program sustainability across all jurisdictions, with significant shortages of radiologists and radiographers particularly acute in rural areas. These shortages have forced services to reduce screening capacity and extend waiting times, with rural and remote communities experiencing severe impacts due to limited mobile service availability. The situation is exacerbated by remuneration disparities between public and private sectors, creating substantial recruitment and retention challenges. The disparity is not limited to public and private but also includes between jurisdictions. There are incentivised recruitment strategies and bonuses in some states/territories whilst others have introduced extra hourly payments to align with private practice rates for both radiologists and radiographers.

While emerging technologies such as AI present opportunities to optimise workforce utilisation, there is a pressing need for innovative service delivery models, including expanded roles for nurse practitioners and allied health professionals. The workforce constraints have significantly impacted services' ability to implement new technologies and approaches. For instance, while

tomosynthesis screening could improve detection rates, the increased reading time required makes implementation challenging without adequate radiologist staffing. These limitations also affect services' capacity to participate in research and QI activities.

The development of a culturally safe and diverse workforce requires comprehensive strategies, particularly as services struggle to maintain staff with appropriate cultural competencies. Key initiatives identified by consultation with stakeholders include:

- implementing mandatory cultural safety training across all positions to ensure consistent, culturally appropriate care delivery and create welcoming environments for diverse community members
- establishing targeted recruitment and retention programs for Aboriginal and Torres Strait Islander staff, supported by clear career development pathways and mentoring opportunities
- developing bilingual and multicultural workforce capabilities through dedicated training and support programs to better serve CALD communities (such as BCEs)
- integrating trauma-informed care principles into standard practice through comprehensive staff training and ongoing support mechanisms
- creating dedicated cultural broker and health worker positions to enhance cultural safety and strengthen community engagement.

Professional development and retention strategies are key for ensuring stable workforce coverage across all regions. This includes establishing dedicated training centres, developing graduate mammography courses, and creating specialised fellowship programs in radiology and pathology. Recognition of breast screening as a distinct sub-specialisation requiring specific expertise is essential for building long-term workforce capacity. These initiatives are particularly important for building the capability to serve diverse communities effectively and maintain consistent service quality across all regions.

F18. QA and improvement systems require enhancement, with the current resource-intensive accreditation processes, outdated standards, and complex jurisdictional governance structures restricting the program's ability to enhance service quality. Combined with fragmented QI activities and underutilised data, these limitations significantly impair BSA's capacity to respond to evolving healthcare needs and technological advancements.

BSA accreditation provides valuable opportunities for services to showcase their work and receive recognition while establishing accountability for quality and safety standards. The process offers meaningful learning experiences through review and expert feedback, helping services identify gaps and improvement areas that might otherwise remain unaddressed. Many stakeholders consulted reported that accreditation creates a sense of pride when services receive positive recognition, instilling confidence in both staff and the public regarding program

quality. Importantly, accreditation findings often support business cases for additional resource requirements, enabling services to secure funding for necessary improvements. The four-year cycle effectively captures biennial trends, giving services adequate time to observe the impacts of implemented QI strategies. Despite its resource-intensive nature, the accreditation system maintains program integrity by ensuring consistent standards across all BreastScreen services nationally.

The review identified significant challenges with BSA's current accreditation system. The NAS are outdated and, in some instances, unattainable, failing to keep pace with technological advancements like digital mammography and AI. The accreditation process places a substantial burden on services, requiring months of preparation and extensive resources. Services report insufficient staff and resources to effectively manage accreditation requirements while maintaining regular operations. Additionally, there is a concerning shortage in the peer reviewer workforce needed to conduct accreditation surveys.

A key issue is the lengthy duration between accreditation surveys and receipt of reports, which delays the implementation of necessary improvements. The Annual Data Report (ADR) process, while helping maintain accountability, is considered onerous and inefficient. Services must frequently submit data points unlikely to vary significantly over time. More critically, the wealth of collected data is not being strategically utilised at an aggregated national level to drive national QI initiatives, though some jurisdictions and services use it internally for benchmarking.

The peer review system, while valuable for learning opportunities, faces challenges with potential conflicts of interest and resource constraints. Services struggle to release staff to serve as peer reviewers, impacting the sustainability of the assessment process. The recent introduction of the National Surveyor role has been positive but requires enhanced support (including access to additional accreditors) to be effective.

International and national comparisons revealed various accreditation models, including Australia's dual-role systems like the Australian Council on Healthcare Standards (ACHS)/Evaluation and Quality Improvement Program (EQuIP), professional standards accredited by external agencies like the Australian Commission on Safety and Quality in Health Care (ACSQHC), and specialised accreditation bodies like National Association of Testing Authorities (NATA). International breast screening programs showed different approaches to accreditation cycles, standards, and consumer involvement, with many implementing more dynamic, outcomes-focused systems.

Stakeholders expressed strong support for streamlining the accreditation process, implementing short-notice assessments (while acknowledging workforce availability challenges), and developing a core set of standards. They advocated for regular review cycles of 4-5 years to ensure standards remain contemporary and called for increased consumer involvement in standard-setting and review processes.

BreastScreen services across Australia have implemented diverse QI initiatives that have significantly enhanced consumer experiences and clinical outcomes. Consumer-centred approaches feature prominently, with services introducing consumer co-design of clinic areas, surveys for feedback, and dedicated consumer representatives on quality committees. Clinical quality initiatives include breast density reporting, improved assessment procedures, and enhanced multidisciplinary team reviews of results. Many services have implemented workforce innovations to address staffing challenges, including flexible work options, dedicated training centres, and the creation of specialised quality manager positions. These initiatives demonstrate the program's commitment to equitable access and consumer-centred care.

The review found that QI activities in BSA have been largely ad-hoc and locally driven, with limited national coordination or sharing of successful initiatives. While services have implemented various QI projects, often through grant funding or local collaboration, there is minimal sharing of these innovations across jurisdictions.

Each service operates within separate jurisdictional governance structures with different requirements for managing quality and safety issues, adding complexity to national coordination efforts. The governance structures show limited agility in responding to evolving healthcare challenges and technological innovations.

International examples provided valuable insights into effective QI approaches:

- New Zealand's National Screening Unit Quality Framework defines key principles and requirements for screening programs
- The US National Breast and Cervical Cancer Early Detection Program demonstrates the value of continuous monitoring, benchmarking, and professional development
- The Netherlands' framework shows how program improvements can be coordinated through structured committees and working groups.

The review highlighted that while the current system has maintained service quality, there is a significant opportunity to evolve towards a more dynamic, integrated approach to QA and improvement. Stakeholders supported moving towards a multi-level QA system with core national standards complemented by jurisdictional activities, combined with a more structured and collaborative approach to QI. This transformation would require careful change management, adequate resourcing, and strong leadership to implement successfully.

Key Findings from Workstream 3 found over the period 2021-22 and 2022-23, Commonwealth, State and Territory governments spent: $14.7 million on quality and safety systems. Activities related to developing, implementing, adhering to and reporting on protocols and standards to ensure that screening services are delivered safely and effectively (including innovation).

F19. Research and technology evaluation: BSA faces a fragmented approach to both research and technology adoption. Without a coordinated national framework for evaluating and implementing new technologies or translating research into practice, the

program struggles to develop Australian-specific evidence and modernise its services. This has created growing disparities between services and private screening providers. A dedicated research capability and coordinated evaluation framework are urgently needed to maintain best practice screening services and reduce reliance on external funding for program improvements.

Research stakeholders consulted highlighted the program's strong research capabilities in some jurisdictions, particularly Victoria, though noted this was not consistent across all services. The program's extensive data collection was seen as a valuable resource for research, though accessibility and integration of research findings into practice were identified as areas for improvement.

The integration of research capabilities and systematic technology evaluation has been shown internationally to be crucial for:

- developing population specific evidence that accounts for local demographics and needs
- enabling rapid evaluation and implementation of new technologies and approaches
- improving equity in screening access and outcomes
- supporting evidence-based policy decisions and resource allocation
- facilitating continuous QI in service delivery.

Stakeholders strongly support embedding research capabilities within BSA, while identifying significant resource and coordination challenges that currently limit program improvement.

International examples demonstrate the value of this approach. The UK National Screening Committee Research and Methodology Group[18] provides a well-documented model of an integrated research framework. This group's objectives demonstrate key elements of effective research integration:

- identifying and prioritising research requirements
- advising on methodologies for research synthesis and in-service evaluations
- maintaining connections with stakeholders including funding bodies, researchers, and screening program teams
- ensuring currency with UK screening research.

As referenced above, currently BSA lacks a coordinated national approach to both research and technology evaluation. Services often depend on external grants to address local research needs, limiting systematic program improvement and creating variations across jurisdictions in research capacity and capability.

[18] https://www.gov.uk/government/publications/uk-nsc-rmg-terms-of-reference/uk-nsc-research-and-methodology-group-terms-of-reference

There is a need to develop Australian-specific evidence to inform screening practices, considering our unique population characteristics and healthcare context, rather than relying solely on international research. A dedicated research funding stream would enable the development of evidence that directly addresses Australian screening program needs and supports continuous QI in service delivery.

Stakeholders broadly supported the development of a national research framework with dedicated funding streams, emphasising implementation research and evaluation of program innovations. They highlighted the importance of genuine consumer involvement in research design and execution, alongside better mechanisms for sharing research findings across jurisdictions. This coordinated approach would enable more systematic program improvement and ensure research outcomes directly benefit service delivery and consumer care.

The rapid emergence of diverse screening and assessment technologies, particularly those supporting risk-stratified screening approaches, makes this framework increasingly urgent. These innovations, combined with the growing technological divide between public and private services, highlight the need for frameworks ensuring equitable access for all Australians. Local validation studies and enhanced capacity for domestic technology trials are essential, rather than relying on overseas evidence that may not reflect our population.

An Australian-focused technology evaluation framework must emphasise governance structures aligned with existing healthcare standards, particularly regarding AI implementation. Important considerations include preventing technologies from worsening inequities across metropolitan, regional and remote areas, maintaining program quality, and establishing sustainable funding mechanisms. Meaningful consumer involvement in assessment and implementation processes remains key to ensuring innovations meet the distinct needs of Australian communities.

Appendix D Acknowledgements

The development of this paper was overseen by the Department of Health and Aged Care Screening Policy and BreastScreen Australia Section project team.

Representatives from the following organisations have been consulted as part of this paper. While their views may have been personal, they have influenced the development of this paper:

- Aboriginal Health and Medical Research Council NSW
- ACON
- Australian Breast Density Consumer Advisory Council
- Australian Indigenous Doctors Association
- Australian Institute of Health and Welfare
- Australian Society of Medical Imaging and Radiation Therapy
- Breast Cancer Network Australia
- BreastScreen ACT, NSW, NT, QLD, SA, TAS, VIC, WA
- BreastScreen Victoria's Consumer Advisory Group.
- Can at 40. Do at 45
- Cancer Council Australia
- Clinical Advisory Group
- Department of Health and Aged Care
- Greater Southern Consumer Advisory Committee
- Indigenous Allied Health Australia
- Medical Oncology Group of Australia
- Multicultural Centre for Women's Health
- Multicultural Youth Advocacy Network
- National Aboriginal Community Controlled Health Organisation
- National Breast Cancer Foundation
- National Quality Management Committee
- National Rural Health Alliance

- Royal Australian College of General Practitioners
- Royal Australian and New Zealand College of Radiologists
- Royal College of Pathologists of Australasia
- Settlement Council of Australia
- So Brave Ltd
- Social Policy Group, Multicultural Youth Advocacy Network
- Townsville Aboriginal and Islanders Health Services
- University of Adelaide
- University of Melbourne
- University of NSW
- University of WA
- Victorian Aboriginal Community Controlled Health Organisation Inc.
- Women with Disability Australia

Appendix E Workstream 1 – Evidence synthesis and analysis

Appendix F Workstream 2 – Priority populations

Appendix G Workstream 2 – Quality and safety

Appendix H Workstream 3 - Funding review