Deloitte.

Breast Screen Australia

Funding review stream - FINAL

January 2025

Contents

Glossary

Abbreviation	Term
ABF	Activity-based funding
AI	Artificial intelligence
BI-RADS	Breast Imaging Reporting and Data System
BSA	BreastScreen Australia
CALD	Culturally and linguistically diverse
IHPA	Independent Hospital Pricing Authority
LHD	Local Health District
MBS	Medicare Benefits Scheme
MMM	Modified Monash Model
NHRA	National Health Reform Agreement
NHRA-PHC	National Health Reform Agreement – Public Health Component
NPA	National Partnership Agreement
PHC	Public Health Component
SAS	Screening and Assessment Service

Executive Summary

Introduction

This report summarises the findings of the funding review of the BreastScreen Australia (BSA) Program. The funding review is one of three components of a broader BSA program review occurring over 2023 and 2024.

The BreastScreen Australia (BSA) Review

The environment surrounding the BSA Program is constantly changing, with clinical advancements, workforce constraints and participation rates all impacting operations. Within this context, the Commonwealth in partnership with States and Territory governments is undertaking a comprehensive review of the BSA Program that will be delivered across three streams:

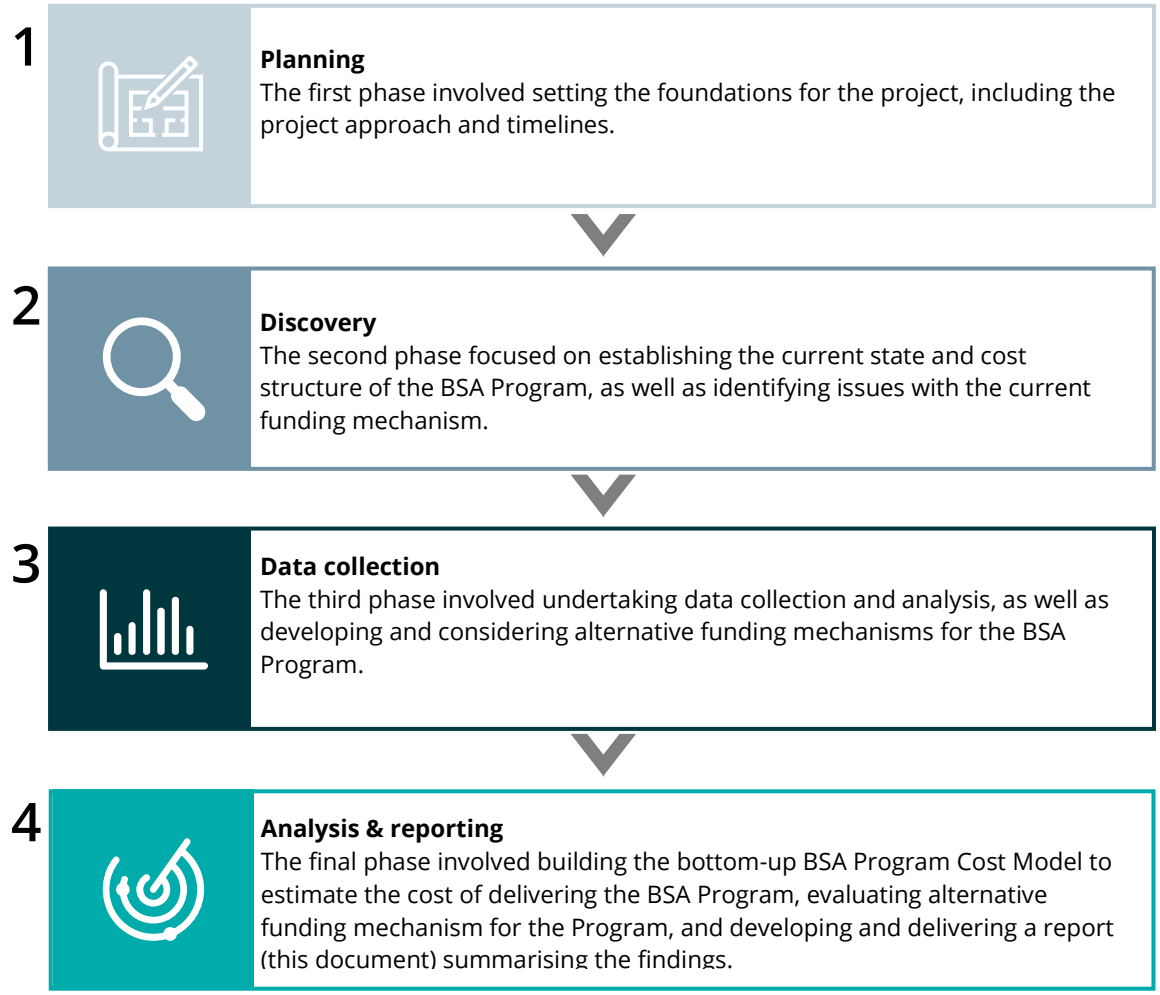
1. **Funding -** Responsible for informing a contemporary funding model for the Program that can support the current model and future evidence-based changes, and sustainably increases participation and equity of access (this report).
2. **Evidence Synthesis and Review** - Responsible for the non-biased consideration of research, including published and funded research that has not been peer reviewed.
3. **Quality and safety -** Responsible for assessing the effectiveness and efficiency of the current accreditation system, alongside alternative and hybrid options/models.

Funding Review project research objectives

Deloitte was engaged to undertake the **funding component** of the BSA Review. The key research questions included:

1. What is the current state total program cost, cost per screen, and cost per assessment across jurisdictions and priority populations?
2. What is the cost of screening in the private sector?
3. What is the impact of future state scenarios on the program costs identified in (1)?
4. What alternative funding mechanisms could allow the Commonwealth and State and Territory governments to fund the Program in a way that supports its ongoing, effective delivery?

Figure E. 1 Project approach



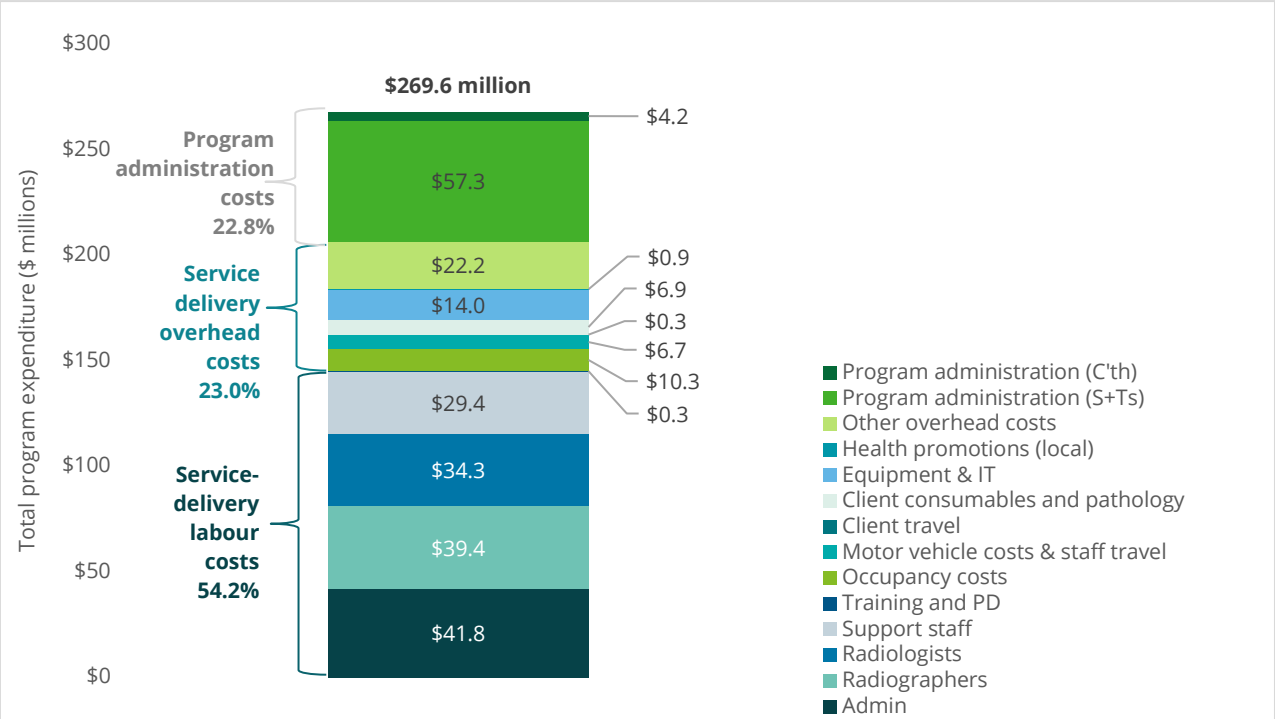
RQ1: Current state of the BSA Program

Current state BSA Program costs were estimated using a detailed cost model based on two years of Commonwealth and State/Territory data, capturing key cost drivers by jurisdiction and priority population.

Total cost of the BSA Program

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).

Chart E. 1 The total annual cost of the BSA Program ($ millions), by cost category

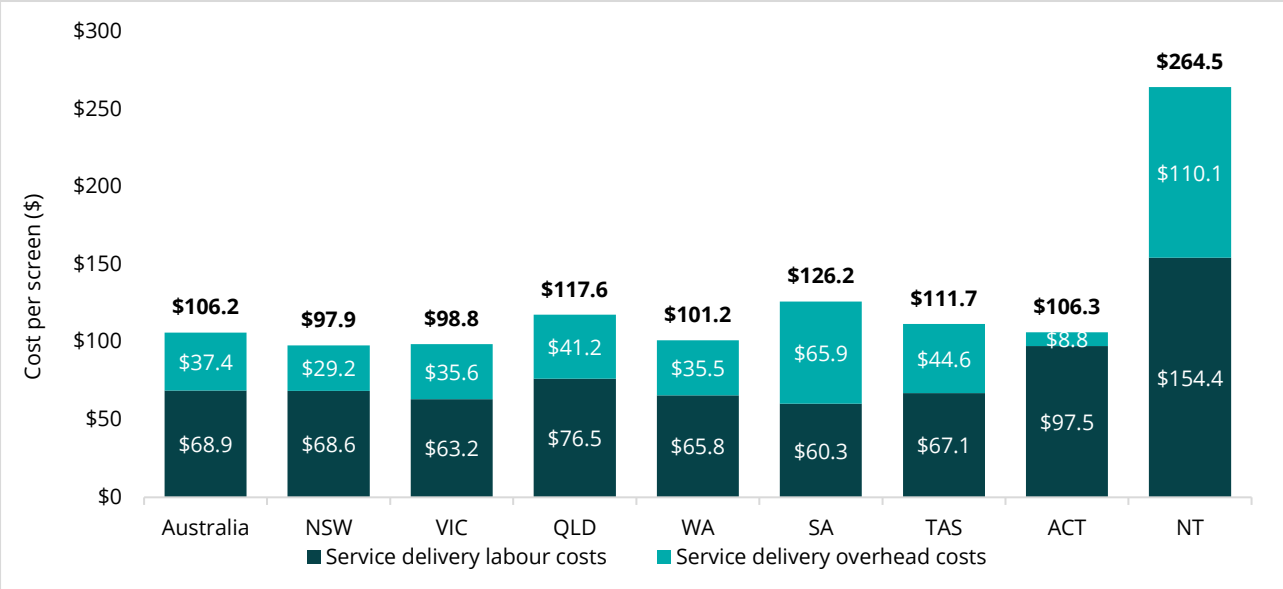


Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.

Screening costs in the NT

The NT has the highest screening cost per screen at approximately $264.5. This is driven by a range of factors, including relatively low service utilisation (i.e., low volume of screens relative to clinical FTE), higher labour costs, and a high prevalence of priority cohorts, compared to other states.

Chart E. 2 The screening cost per screen in the BSA Program, by jurisdiction



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

RQ2: The cost of breast screening in the private sector

Comparing evidence from Medicare data and the results of this report show that the BSA program tends to deliver initial diagnostic procedures for breast cancer at a lower cost than the private sector.

Breast cancer screening in the private sector

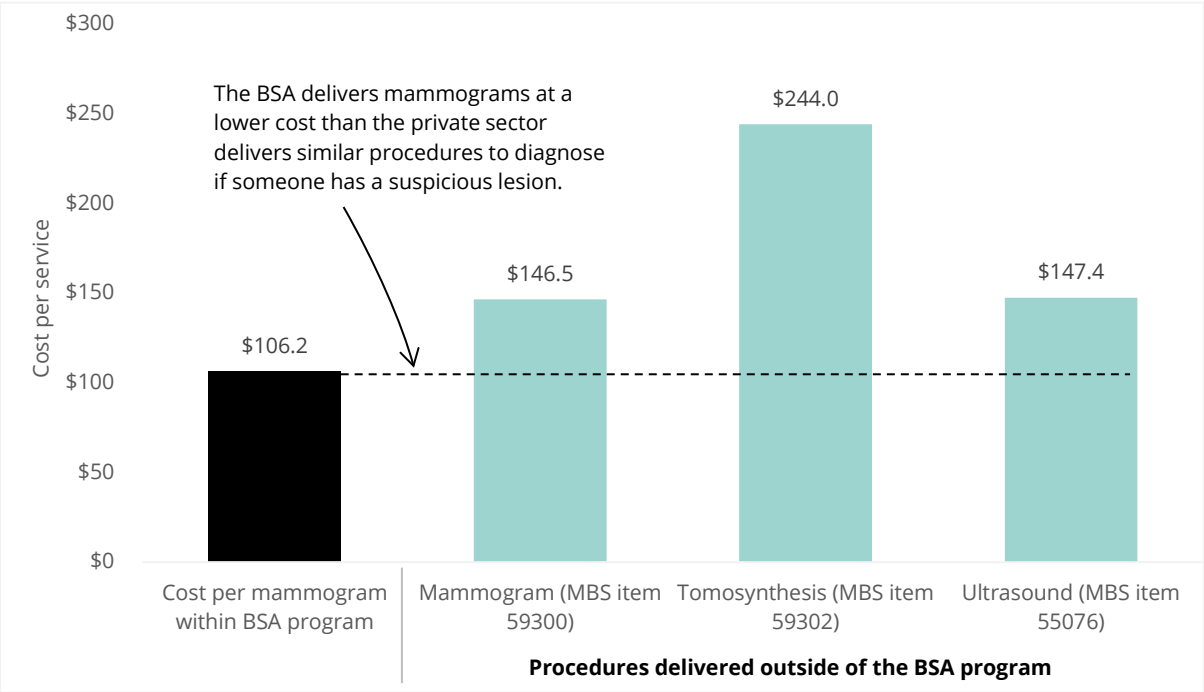
Some eligible women choose to screen for breast cancer in the private sector due to access to faster results, advanced technologies (e.g., tomosynthesis), and a preference for personalised care.

A 2009 study by the Department of Health estimates that 4.3% to 48.6% of mammograms for women aged 40+ may be for screening, and consultations undertaken for this report suggest 5% of mammograms are fully out-of-pocket. This indicates that from 2021-22 to 2022-23, between 40,900–219,200 mammograms undertaken in the private sector could have been used for private breast cancer screening. However, it is likely that this range underestimates the number of women screening in the private sector due to the advancements in screening options in the private sector, and increased awareness of breast cancer risks since 2009.

Estimating private-sector breast cancer screening costs is challenging, given the limited publicly available data on both costs and pathways. However, it is possible to make approximate comparisons by looking at the direct cost per screen in the BSA program versus private-sector fees for mammography (MBS 59300), tomosynthesis (MBS 59302), and ultrasound (MBS 55076)—procedures primarily intended for diagnosing suspicious lesions but sometimes used for screening. These comparisons indicate that BSA typically offers lower per-procedure costs; for example, a mammogram in the BSA program costs about $40 less than an equivalent private-sector procedure (see Chart E. 3).

To understand how overall screening costs differ between BSA and the private sector from the initial procedure to diagnosis, the BSA screening pathway was compared to a potential private-sector pathway for individuals of similar (average) risk. Private-sector screening can be more customised and may leverage additional technologies, so identifying a “typical” pathway required triangulating data from the literature and consultations with private radiology providers. Under this modeled pathway, each procedure and its potential likelihood of use in the private sector were costed and weighted. The results suggest that screening privately could cost at least $200 more per person than through the BSA program for a person of a similar risk level, driven by newer technologies, more tailored pathways, and different overhead structures.

Chart E. 3 The estimated cost per screening procedure in the private sector and in BSA ($), 2022-23

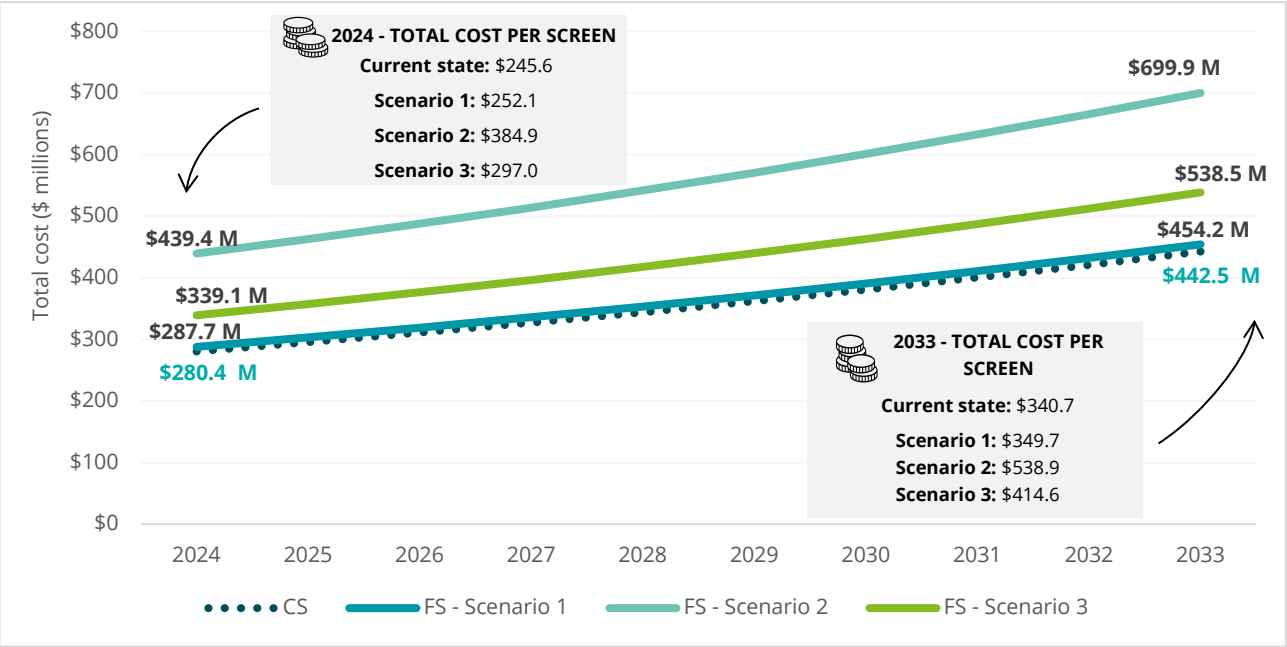


Source: Deloitte Access Economics analysis (2024); Medicare Cost Finder (2024).
Note: Cost per service for procedures delivered outside of the BSA program are sourced from Medicare Cost Finder. These costs take into consideration that some services are bulk-billed and assume out-of-pocket costs are normally distributed.

RQ3: The cost of future state scenarios of the BSA Program

This report costed three future state scenarios, each designed to represent a gradual movement towards a risk-based screening framework. Scenario 1 had the lowest total cost over 10 years, and scenario 2 the highest.

Chart E. 4 The total nominal cost of the BSA Program in the current state and scenario 2, 2024-2033



Source: Deloitte Access Economics analysis (2024) using the BSA Program Cost Model
Note: CS = Current state, FS = Future state

Figure E. 2 Description and total cost of scenarios

Scenario 1

In Scenario 1, tomosynthesis (3D mammography) is introduced as the primary screening technology, replacing 2D mammography for biennial screenings. All other inputs, such as the target population and participation rates, align with the current program state.

ADDITIONAL COST
(total over 10 years)
+$94.2
MILLION

Scenario 2

Scenario 2 introduces a pathway aimed at enhancing cancer detection for women with high breast density (Breast Imaging Reporting and Data System (BI-RADS) C/D). The approach leverages biennial tomosynthesis supported by ultrasound. Screening commencement age is lowered to 45, with a preliminary health check starting at age 40, conducted by BSA.

ADDITIONAL COST
(total over 10 years)
+$2.0
BILLION

Scenario 3

Scenario 3 introduces a risk-based pathway to prioritise screenings for women at higher risk. Comprehensive risk assessments, starting at age 40, replacing health checks. The starting age and frequency of screening is determined by risk. Tomosynthesis remains the primary screening technology, with no supplementary technologies.

ADDITIONAL COST
(total over 10 years)
+$763.6
MILLION

RQ4: Review of funding mechanism options

This report evaluated the strengths and weaknesses of the current funding mechanism for the BSA Program and identified four potential alternative funding options to address shortcomings of current funding.

Review of funding mechanism options to fund the BSA program

Through consultations with BSA Commonwealth and State and Territory stakeholders, the review identified four main issues in the current funding approach: lack of transparency, misalignment with cost drivers, and unclear roles and responsibilities.
A high-level analysis of alternative funding approaches, such as National Partnership Agreements (NPAs) and National Health Reform Agreement (NHRA) Block funding, was conducted to evaluate the feasibility, benefits, and challenges of each option in supporting the program's goals.
Four funding options were developed to address identified gaps in the existing approach, each use a different mix of funding mechanisms to better support the BSA program to achieve its objectives. The options range from maintaining the current model, enhancing flexibility through NPAs, and introducing
NHRA Block funding for screening-only or both screening and assessment (see Figure E. 3).

Figure E. 3 Summary of the funding options evaluated

FUNDING OPTIONS	Mechanism for funding of BSA Program		
	NHRA - Public Health Component (PHC) A block funding mechanism within the NHRA where the Commonwealth allocates a lump-sum payment to States and Territories to cover public health services, including BSA.	**NHRA - Block** A block funding mechanism within the NHRA where the Commonwealth allocates funds to specific services or programs, such as the BSA Program, to ensure that funding is used for the intended purpose.	**NPAs** Bilateral or multilateral agreements between the Commonwealth and States and Territories, where funding is tied to achieving specific outcomes or milestones.
Current State *Both screening and assessment funded through NHRA-PHC.*	✓		
Current State + NPAs *Both screening and assessment primarily funded through NHRA-PHC with discretionary funding provided through NPAs.*	✓		✓
NHRA-Block + NPAs *Both screening and assessment primarily funded through NHRA-Block with discretionary funding provided through NPAs.*		✓	✓
NHRA-Block for Screening Only *The scope of the BSA Program is narrowed to screening only and is primarily funded through NHRA-Block. Assessment is funded through 'usual care' (i.e., MBS and public hospitals).*		✓	✓

RQ4: Review of funding mechanism options

The three funding mechanism alternatives were evaluated using five design principles developed through consultations with stakeholders. A trade-off between increased effectiveness and increased complexity and risk was identified.

Option evaluation

The analysis of alternative funding mechanism options for the allocation of Commonwealth and State and Territory Government BSA funding highlights the inherent trade-offs between improving the current approach and introducing complexity or risk to stakeholders.

Feedback from States and Territories suggests that Option 2 (current state + NPAs) and Option 3 (NHRA Block funding + NPAs) are the most viable alternative options to current funding. These options address the transparency, equity, and adaptability issues present in the current approach. Both establish frameworks for using NPAs to target specific program objectives, with Option 2 relying on internal, non-enforceable reporting mechanisms and Option 3 introducing a formal cost reconciliation process to better align indexation with cost drivers.

Option 3 presents greater adaptability but carries higher implementation complexity and risk. It requires additional administrative resources, particularly during transition, and potentially introduces financial risks to the Commonwealth through NPAs and the reallocation of PHC funds. This could limit flexibility for States and Territories.

Figure E. 4 Option evaluation

Legend  	1. Current State	2. Current state + NPAs	3. NHRA Block + NPAs	4. NHRA Block for Screening Only
Effectiveness and equity The funding mechanism supports the BSA Program in achieving its overarching goals.				
Transparency The funding mechanism is accessible, clear, and predictable for stakeholders.				
Adaptability The funding mechanism can respond to changes in demand, evolving practices, and emerging needs, ensuring the Program can adapt and remain effective.				
Feasibility The funding mechanism is viable and realistic to implement, considering available resources, financial sustainability, and operational capabilities.				
Financial risk to Govt. The funding mechanism does not significantly shift financial responsibility between the Commonwealth and State and Territory governments.				
Notes	Provides a flexible funding mechanism that supports States and Territories to address local needs while minimising Commonwealth financial risk. However, it lacks transparency and has limited mechanisms to ensure funding is aligned with key cost drivers.	Improves the transparency of the current system through internal reporting and enhances funding effectiveness via targeted NPAs. Despite these improvements, it still lacks robust mechanisms to align funding with actual cost drivers.	Strengthens adaptability and effectiveness by linking funding to cost drivers and employing targeted NPAs. Enhances transparency but faces feasibility challenges due to increased administrative requirements, stakeholder resistance, and heightened financial risks.	Encourages adaptability and private sector involvement, but raises concerns about equity, increased demand on public hospital services, and potential out-of-pocket expenses. Viewed as low feasibility given the extensive system changes required.

1. Introduction

1.1 Project background

This report summarises the findings of a costing and funding review of the BreastScreen Australia (BSA) Program.

BreastScreen Australia (BSA) and the BSA Review

The BSA Program is a national breast cancer screening initiative that was introduced in 1991.The Program invites non-symptomatic women aged between 50 to 74 years to undertake free screening every two years. The pathway taken by women participating in the BSA Program is depicted in Figure 1.1.

The environment surrounding the BSA Program is constantly changing, with clinical advancements, workforce constraints and participation rates all impacting operations. Within this context, the Commonwealth in partnership with States and Territory governments is undertaking a comprehensive review of the BSA Program that will be delivered across three streams:

1. **Funding** - Responsible for determining a contemporary funding model for the Program that can support the current model and future evidence-based changes and sustainably increase participation and equity of access.

2. **Evidence Synthesis and Review** - Responsible for the non-biased consideration of research, including published and funded research that has not been peer reviewed.

3. **Quality and safety** - Responsible for assessing the effectiveness and efficiency of the current accreditation system, alongside alternative and hybrid options/models.

Project research objectives

Deloitte was engaged to undertake the **funding component** of the BSA review. The key research questions included:

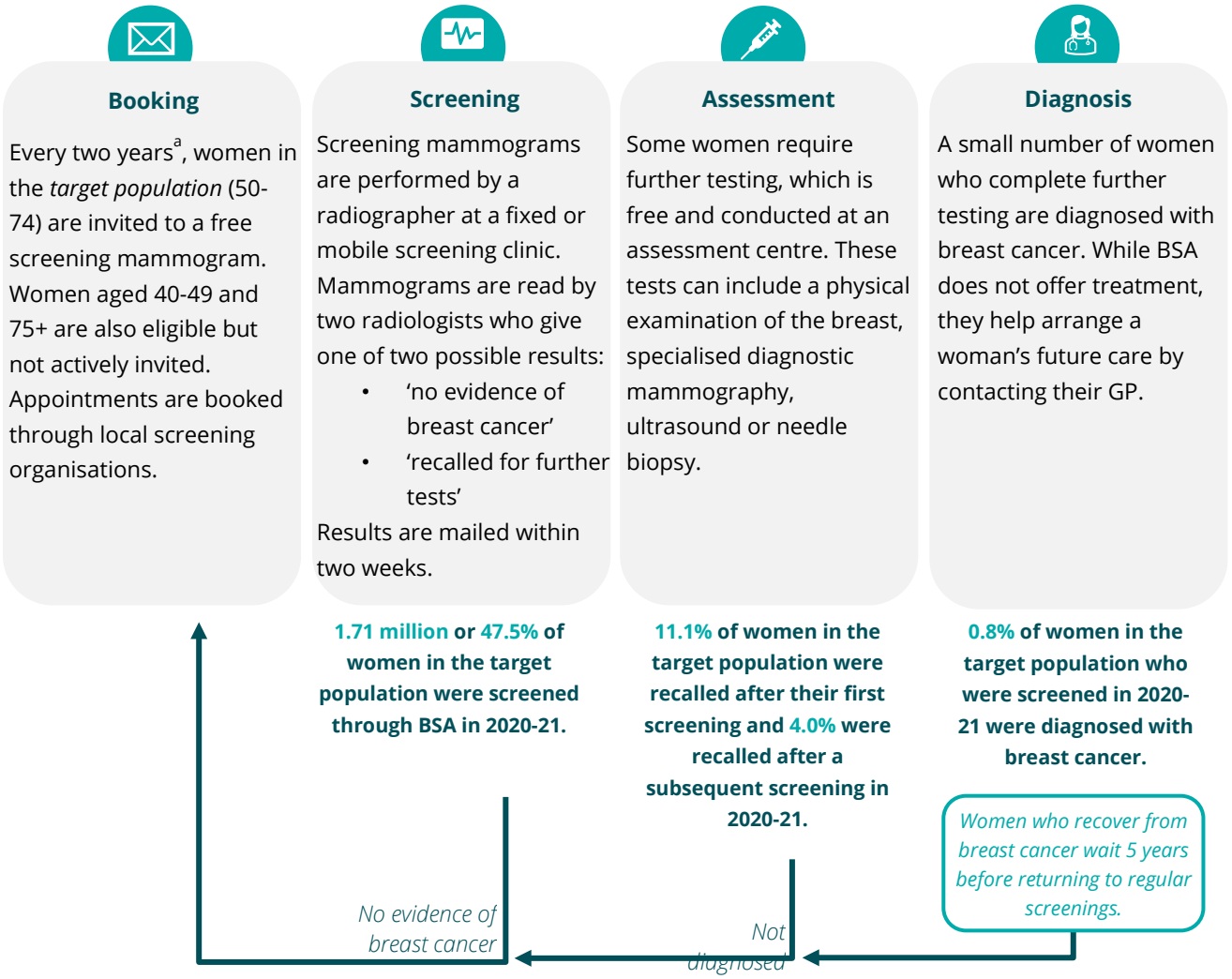
1. What is the current state total program cost, cost per screen, and cost per assessment across jurisdictions and priority populations?

2. What is the cost of screening in the private sector?

3. What is the impact of future state scenarios on the program costs identified in (1)?

4. What alternative funding mechanisms could allow the Commonwealth and State and Territory governments to fund the Program in a way that supports its ongoing, effective delivery?

Figure 1.1 The BSA pathway



Source: Deloitte Access Economics analysis (2024) using BSA monitoring report 2023 [1]
Notes: a) Some women with recognised risk factors may screen annually rather than biannually.

1.2 Project approach

This project was delivered over a 11-month period (November 2023 to October 2024) across four key phases.

1. **Planning**

The first phase involved setting the foundations for the project, including the project approach and timelines. This included:

- A Project Inception Meeting to discuss and confirm scope, outputs and outcomes of the project; and
- Delivering a project plan with detailed Gantt workplans and consultation and risk plans.

2. **Discovery**

The second phase focused on establishing the current state and cost structure of the BSA Program (see consultation summary report), as well as identifying issues with the current funding mechanism. This phase included:

- A data and document request to collect relevant information and inputs for the project;
- An environmental scan of the literature to establish a foundational understanding of the BSA environment; and
- Consultations with representatives from the Commonwealth BSA management team and each State and Territory's BreastScreen Program.

3. Data collection

The third phase involved undertaking data collection and analysis, as well as developing and considering alternative funding mechanisms for the BSA Program. This included:

- Developing and disseminating a data collection tool to collect data on the costs of the BSA Program from the States and Territories (BSA Cost Survey);
- A future state workshop with other BSA review workstreams to agree on future state program scenarios; and
- Additional consultations with the Commonwealth BSA management team and State and Territory treasury departments to develop funding mechanism options.

4. Analysis and reporting

The final phase involved:

- Developing a bottom-up cost model, the BSA Program Cost Model, to estimate the cost per screen of delivering the BSA Program under the current state, and how this differs under various future state scenarios;
- Evaluating alternative funding mechanism options that support the effective delivery of the Program in the future; and
- Developing and delivering a report (this document) to the Department, summarising the findings of the analysis.

1.3 About this report

The project assesses the current and future costs of the BSA Program, examines private sector screening costs, and explores alternative Commonwealth funding options.

Structure of this report

This report brings together the research and analysis gathered in response to the funding review's four key research objectives (refer to page 12).

2 

Current state costing of the BSA Program (pg. 16-31)

Outlines the current structure and costs of the BSA Program, including overall program costs, costs of service delivery and Commonwealth costs.

3

Cost of breast screening in the private sector (pg. 32-35)

Presents a brief overview of the experiences, scale and costs of screening for breast cancer in the private sector.

4 

Future state costing of the BSA Program (pg. 36-52)

Outlines the estimated future costs in the current state and under three potential scenarios. These scenarios involve changes to the participation rate, target population, and screening technologies.

5 

Review of the government BSA funding mechanism (pg. 53-73)

Describes and evaluates potential alternative funding mechanisms for the BSA Program

6 

Conclusion (pg. 74-75)

Provides an overview of the key findings of this report and outlines potential next steps the Commonwealth and State and Territory governments can pursue to design a new funding mechanism for the BSA Program.

2. Current state of the BSA Program

2.0 Current state costing of the BSA Program | Overview

This section presents the total annual cost to Commonwealth, State and Territory governments associated with delivering the BSA Program, drawing on cost and activity data from the 2021-22 and 2022-23 financial years.

Overview of this chapter

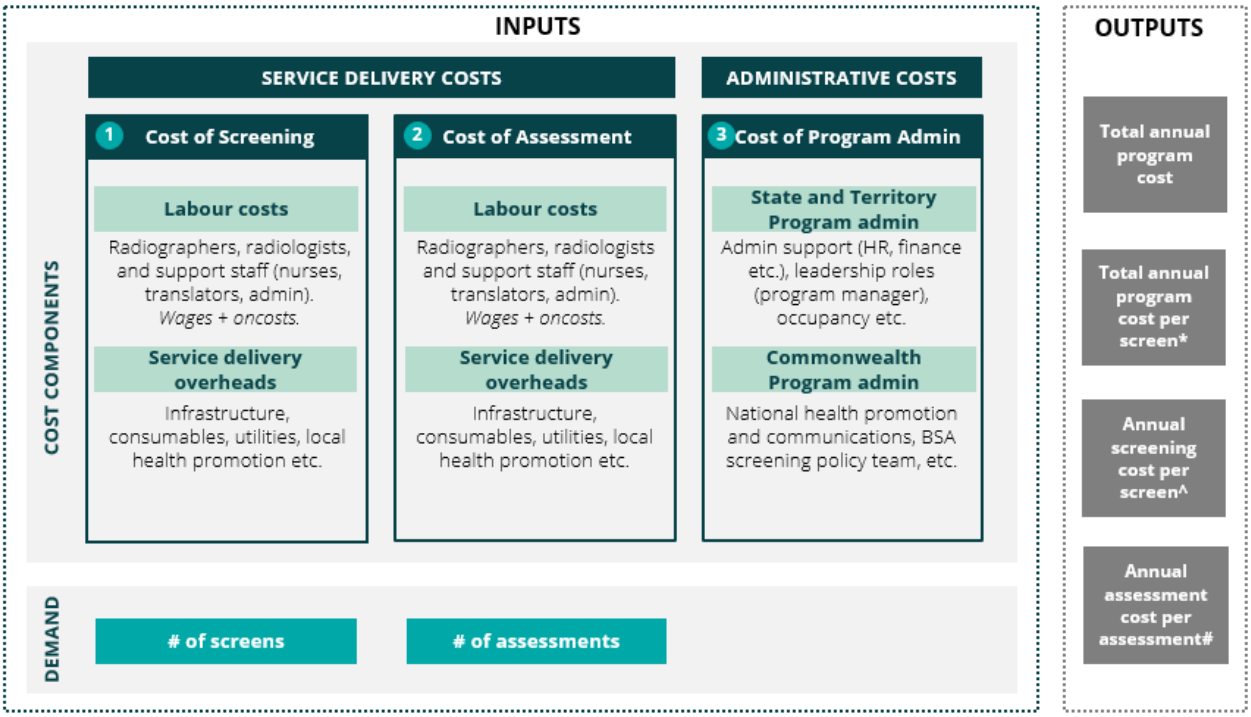
Chapter 2 presents the total current state cost of delivering the BSA Program (overall, total program cost per screen, screening cost per screen, and assessment cost per assessment), drawing on cost and activity data provided by the Commonwealth Government and the State and Territory BSA Program managers for the two-year period: FY 2021-22 to 2022-23. Cost outputs are presented at a national level, by jurisdiction, and in some cases, by priority population.

The two-year period was selected to capture fluctuations in program costs due to mobile screening schedules. It is important to note that several state and territory BSA managers have reported significant cost increases in the most recent financial year, which may limit the analysis's relevance for current program cost insights.

To generate the cost outputs presented in this chapter, a BSA Program Cost Model was developed from cost and activity data inputs provided by Commonwealth Government and the State and Territory BSA Program managers (BSA Cost Survey). The methodology for sourcing the cost and activity data inputs and building the cost model is described in the Appendix A. Limitations of the analysis is also provided in the Appendix A.

The structure of the BSA Program Cost Model is summarised in Figure 2.1. The cost model outputs presented throughout this section are disaggregated by the different cost components displayed under ‘inputs’ to show the key cost drivers of the Program and how this varies by jurisdiction.

Figure 2.1 BSA Program Cost Model – Current State Costs



Notes on output metrics:

*Total annual program cost per screen = ((1) Cost of Screening + (2) Cost of Assessment + (3) Cost of Program Admin))/# of screens

^Annual screening cost per screen = ((1) Cost of Screening)/# of screens

#Annual assessment cost per screen = ((2) Cost of Assessment)/# of assessments

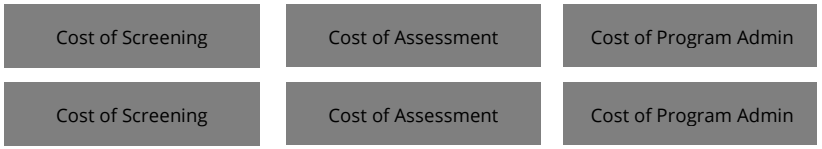
Structure of this chapter

Cost model cost components included in analysis:

2.1

Overall BSA Program costs. Key questions addressed:

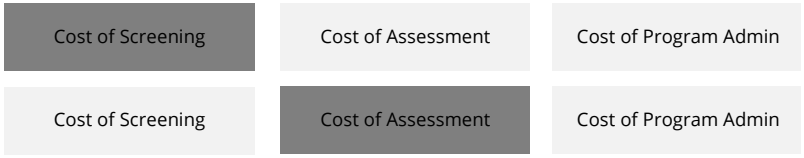
- What is the overall annual cost of the BSA Program?
- What is the total program cost per screen, at an aggregate level and by



2.2

Costs of BSA service delivery. Deep dive on the costs associated with service delivery. Key questions addressed:

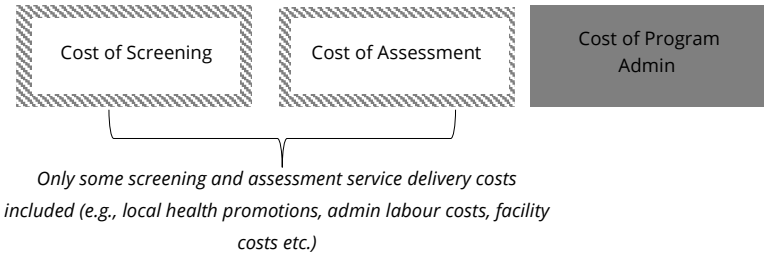
- What is the screening cost per screen, at an aggregate level and by jurisdiction?
- What is the assessment cost per assessment, at an aggregate level and by jurisdiction?



2.3

Costs associated with administrative functions of a national screening program. Deep dive on all costs associated with any of the following categories: Program/service operations; quality and safety systems; data collection and reporting; health promotion; and communication. Key questions addressed:

- What are the overall administrative and support costs associated with delivering a national screening program (including program/service operations, quality and safety systems, data collection and reporting, health promotion, and communication)?



2.1 Overall BSA Program costs

Key insights:

- Over the period FY 2021-23, the Commonwealth, State and Territory governments spent $269.6 million per annum on the BSA Program, equating to a total program cost of $236.0 per screen.
- The largest cost component of the BSA Program was service delivery costs, which accounted for 77.2% of overall program costs.
- Approximately 1.0% of program costs were provided through in-kind contributions from Local Health Districts (LHDs) and State/ Territory health departments.

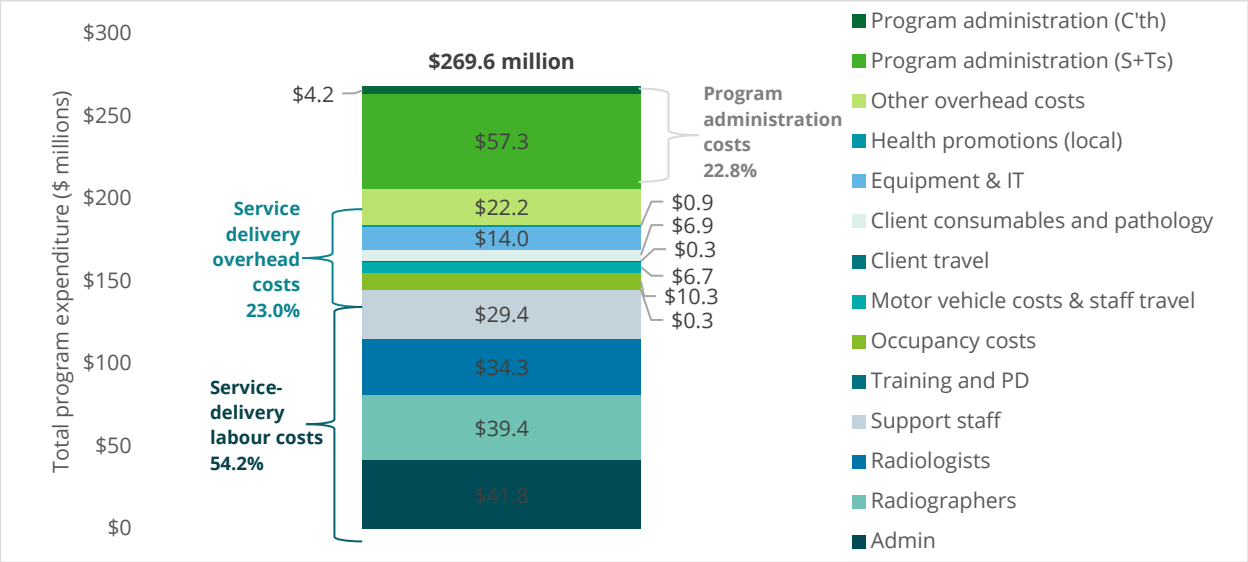
2.1.1 Total program costs

Over the period FY 2021-23, the Commonwealth, State and Territory governments spent $269.6 million per annum on the BSA Program.

What is the overall annual cost of the BSA Program?

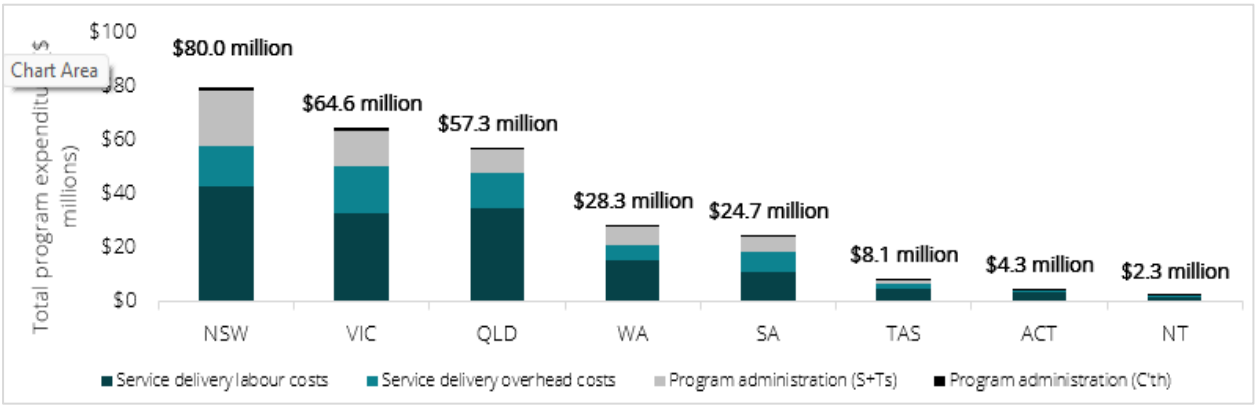
- Over the financial years 2021-23, the Commonwealth, State and Territory governments spent approximately $269.6 million per annum on the BSA Program (Chart 2.1).
- Approximately 77.2% of total costs were service delivery costs – spread across screening and assessment (54.2% for labour and 23.0% for overheads). The remaining costs were associated with program administration, mainly at the jurisdictional level.
- Program spend across jurisdictions generally reflected variation in population size (Chart 2.2).
- Based on the cost information provided by State and Territory BSA Program managers, approximately $2.8 million, or 1.0% of total BSA costs, came from in-kind contributions or external funding sources. This included rent-free facilities in government-owned properties, support provided by government teams, and equipment. However, consultations with BSA managers suggest this is an underestimate as the type and value of all in-kind contributions is challenging to measure. Unpaid, overtime work from radiologists, for example, was noted as an additional unrecorded contribution in some jurisdiction's budgets.

Chart 2.1 The total annual cost of the BSA Program ($ millions), by cost category



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

Chart 2.2 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.

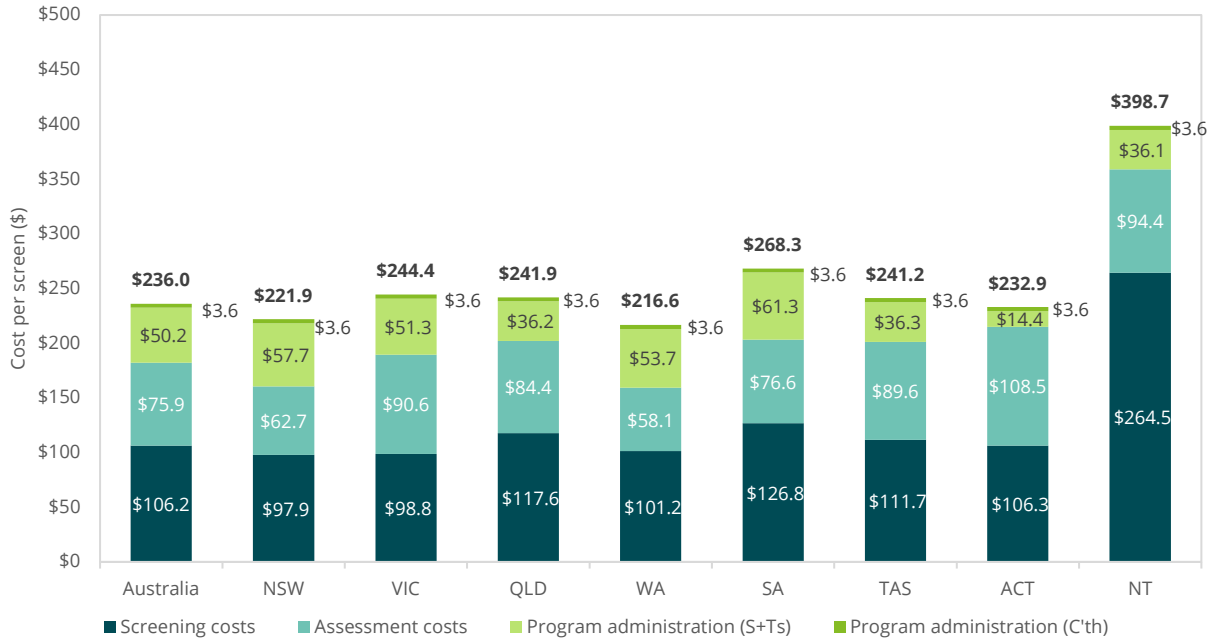
2.1.2 Total program costs

Over the period FY 2021-23, the annual program cost per screen was $236.0, on average.

What is the total annual program cost per screen?

- The number of annual screens is considered a proxy for the number of unique participants in the BSA Program. Note, however, that some women may screen more than once within a two-year period.
- Over FY 2021-23, the annual program cost per screen was $236.0, on average. This disaggregates to $106.2 for screening costs, $75.9 for assessment costs, and $53.8 for program administration (across all jurisdictions) (Chart 2.3).
- Cost variation was evident across jurisdictions, largely driven by variation in service delivery labour costs per screen. Notably, the Northern Territory reported the highest program cost per screen at $398.7. Further analysis of the drivers behind higher costs in the NT is provided in section 2.2.

Chart 2.3 The total annual program cost per screen, by jurisdiction



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

Notes: Commonwealth Government program administration costs were distributed across jurisdictions by the distribution of screening

2.2 Costs of BSA service delivery

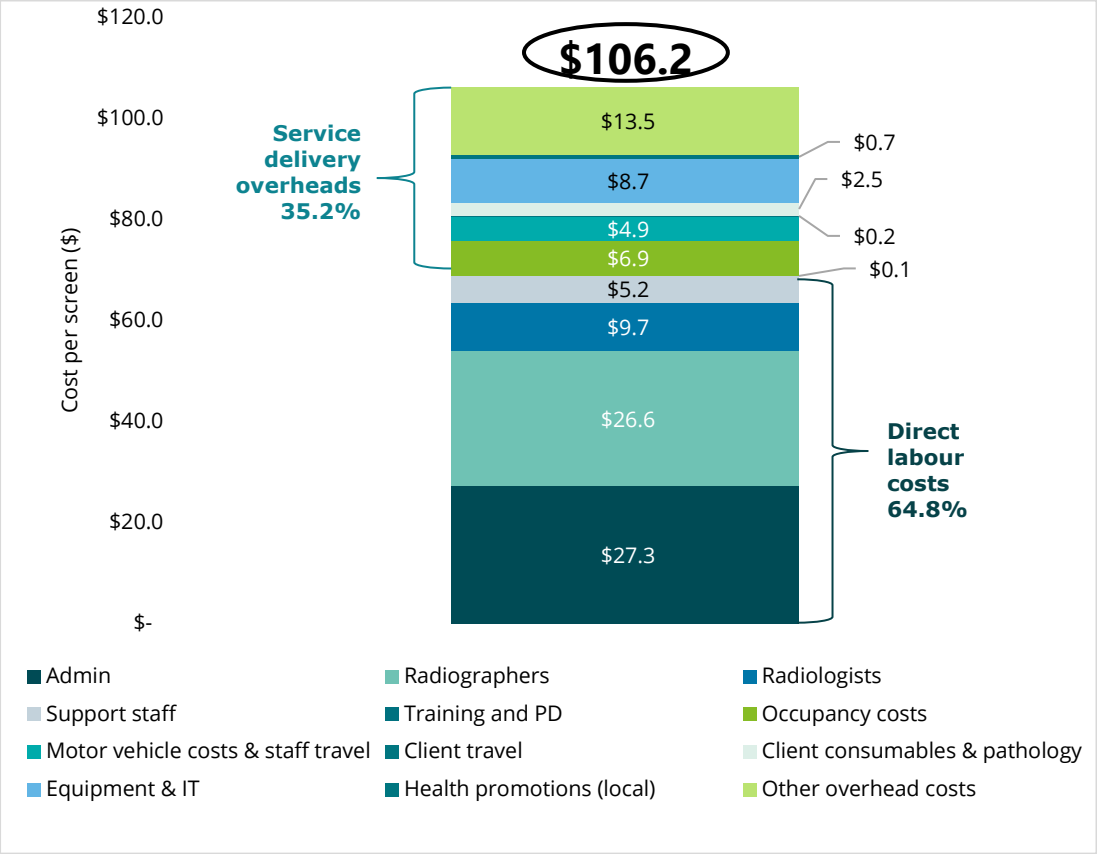
Key insights:

- Over the period FY 2021-23, the annual screening cost per screen was $106.2, on average.
- The screening cost per screen was highest in the Northern Territory and lowest in NSW and Victoria, reflecting economies of scale reached in more populous areas.
- Over the period FY 2021-23, the annual assessment cost per assessment was $1,582.9, on average. The assessment cost per assessment was highest in the ACT and Tasmania.

2.2.1 Costs of screening

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.

Chart 2.4 The screening cost per screen in the BSA Program, by cost category



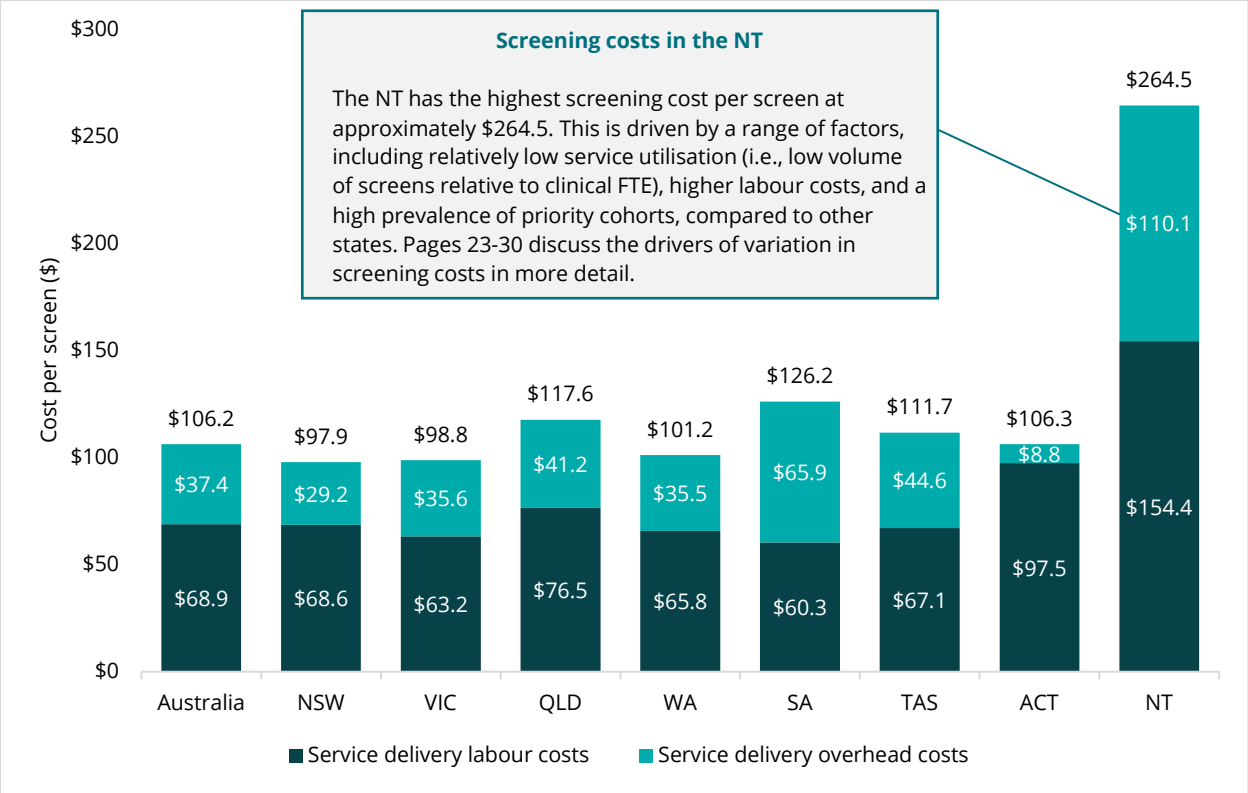
Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.

Notes: Detailed breakdown of cost data by category was not available for all jurisdictions.

Screening costs in the NT

The NT has the highest screening cost per screen at approximately $264.5. This is driven by a range of factors, including relatively low service utilisation (i.e., low volume of screens relative to clinical FTE), higher labour costs, and a high prevalence of priority cohorts, compared to other states. Pages 23-30 discuss the drivers of variation in screening costs in more detail.

Chart 2.5 The screening cost per screen in the BSA Program, by jurisdiction



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

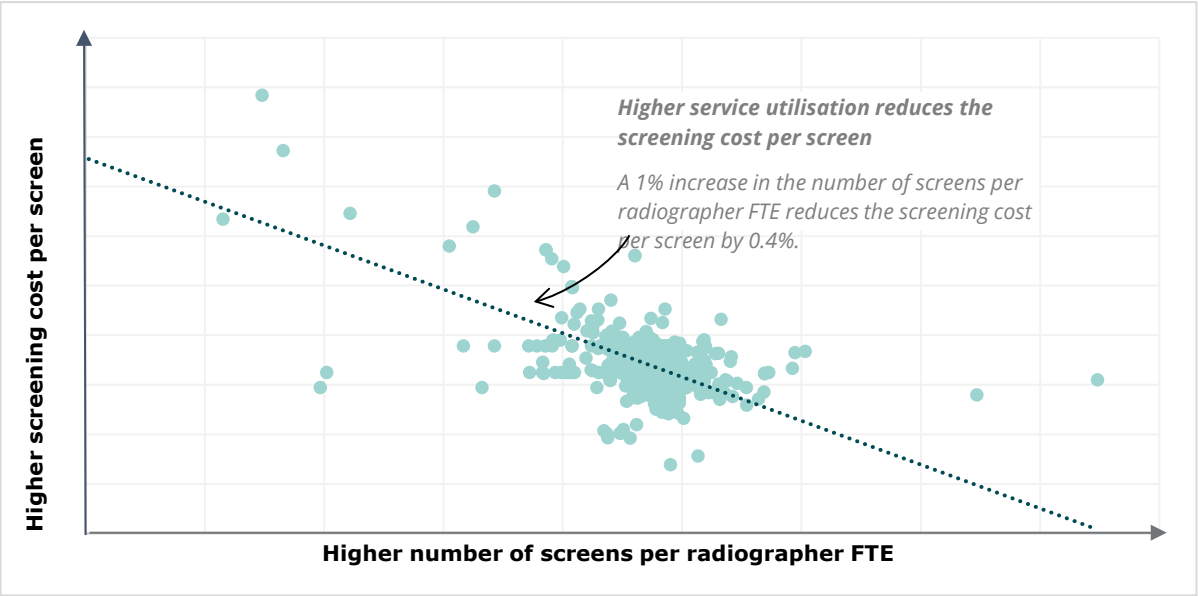
2.2.2 Drivers of screening costs | Structural factors

Screening costs were higher for mobile facilities and facilities in remote areas due to higher travel costs, higher motor vehicle costs, and lower service utilisation.

Service utilisation

- Higher service utilisation reduces costs per screen due to the fixed costs associated with service provision and the economies of scale that can be realised with each additional scan.
- Over the period FY 2021-23, cost data showed an elasticity of less than 1 ($p<0.05$), indicating that as screens increase, costs rise at a slower pace, allowing for efficiencies to be gained as service utilisation increases.
- Mobile facilities and fixed facilities in remote areas tend to face lower radiographer utilisation rates.

Chart 2.6 The relationship between screening cost per screen and screens per radiographer FTE



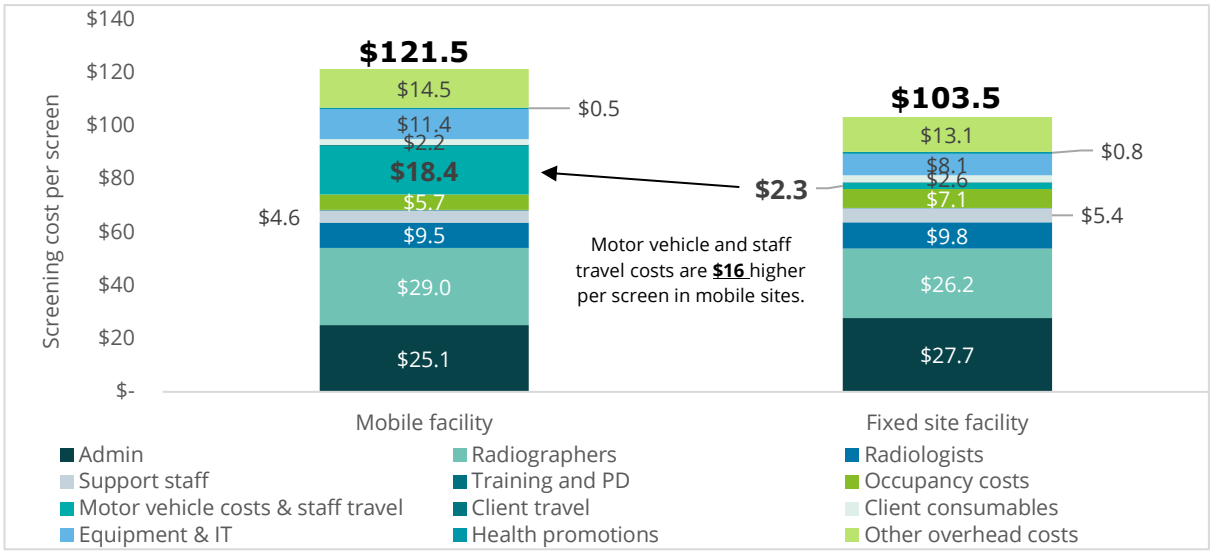
Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.

Notes: Detailed breakdown of cost data by category was not available for all jurisdictions. MMM region groupings in Chart 2.8 are driven by a mathematical formula to ensure each cohort has a sufficient size for statistical comparison across groups.

Fixed vs mobile facility

- 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.

Chart 2.7 The screening cost per screen in the BSA Program, fixed vs mobile facilities



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

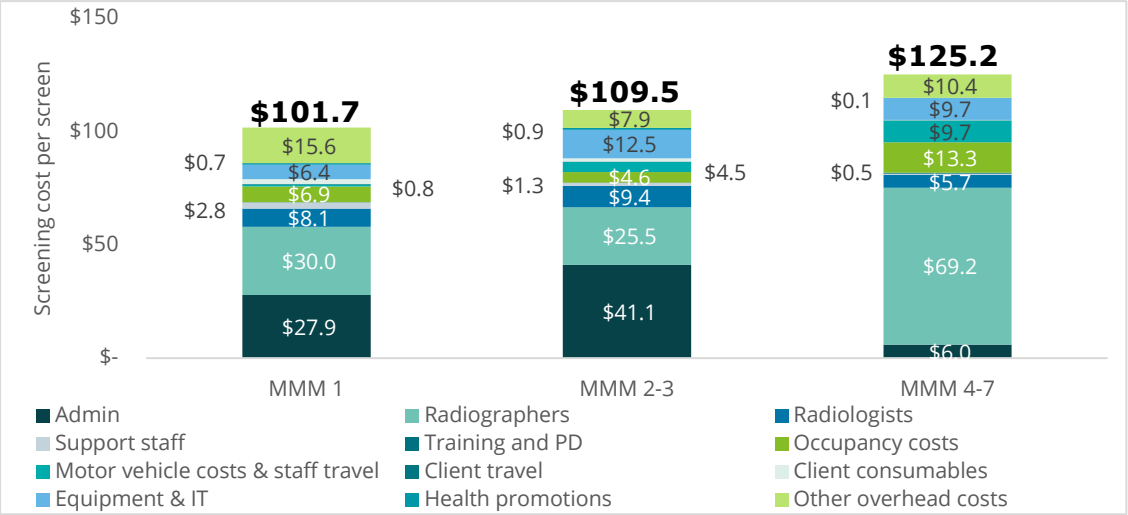
Notes: Detailed breakdown of cost data by category was not available for all jurisdictions. MMM region

groupings in Chart 2.8 are driven by a mathematical formula to ensure each cohort has a sufficient size for statistical comparison across groups.

Remoteness

- Screening costs increase by remoteness. Fixed site facilities in Modified Monash Model (MMM) 2-3 regions cost $8 more per screen than those in metropolitan areas. Facilities in MMM 4-7 regions cost $24 more per screen than facilities in metropolitan areas.

Chart 2.8 The screening cost per screen in the BSA Program, by facility remoteness



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

Notes: Detailed breakdown of cost data by category was not available for all jurisdictions. MMM region groupings in Chart 2.8 are driven by a mathematical formula to ensure each cohort has a sufficient size for statistical comparison across groups.

2.2.3 Drivers of screening costs | Patient cohort

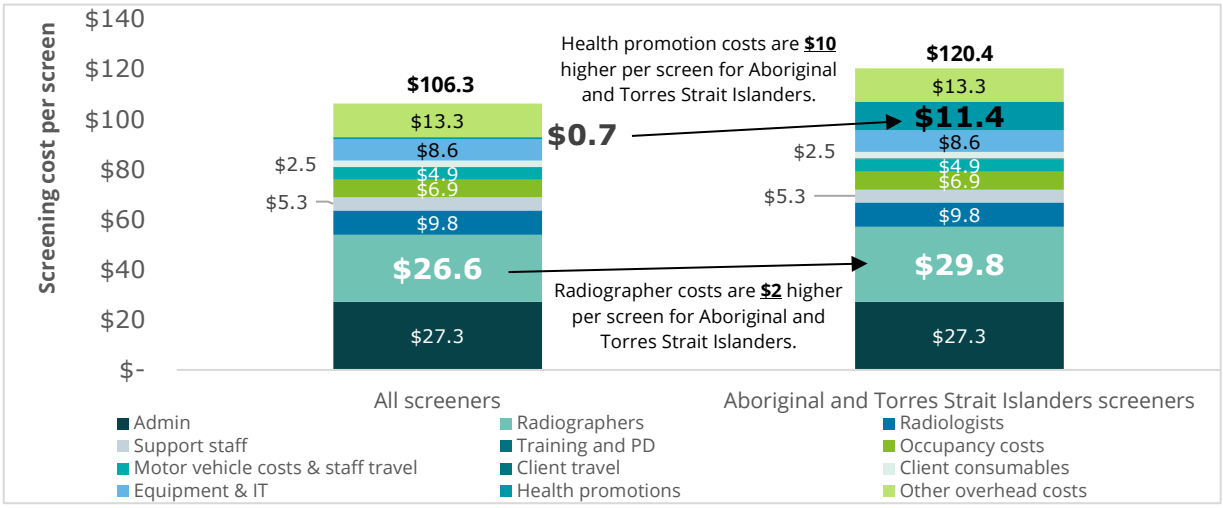
Screening costs were higher for Aboriginal and Torres Strait Islander and culturally and linguistically diverse (CALD) screeners, due to greater need for health promotion and alternative screening models (group and double bookings).

Aboriginal and Torres Straight Islanders

The cost per screen for Aboriginal and Torres Strait Islanders was derived by asking jurisdictions about the additional costs incurred specifically to screen this cohort. Based on this analysis, the screening cost per screen for Aboriginal and Torres Strait Islander women was $14 higher per screen relative to other women. This was driven by:

- **Promotion costs:** Providing culturally appropriate and targeted outreach for Aboriginal and Torres Strait Islander women 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 organizations—are needed to ensure culturally safe and equitable access for Aboriginal and Torres Strait Islander women.

Chart 2.9 The screening cost per screen in the BSA Program, Aboriginal and Torres Strait Islander screeners



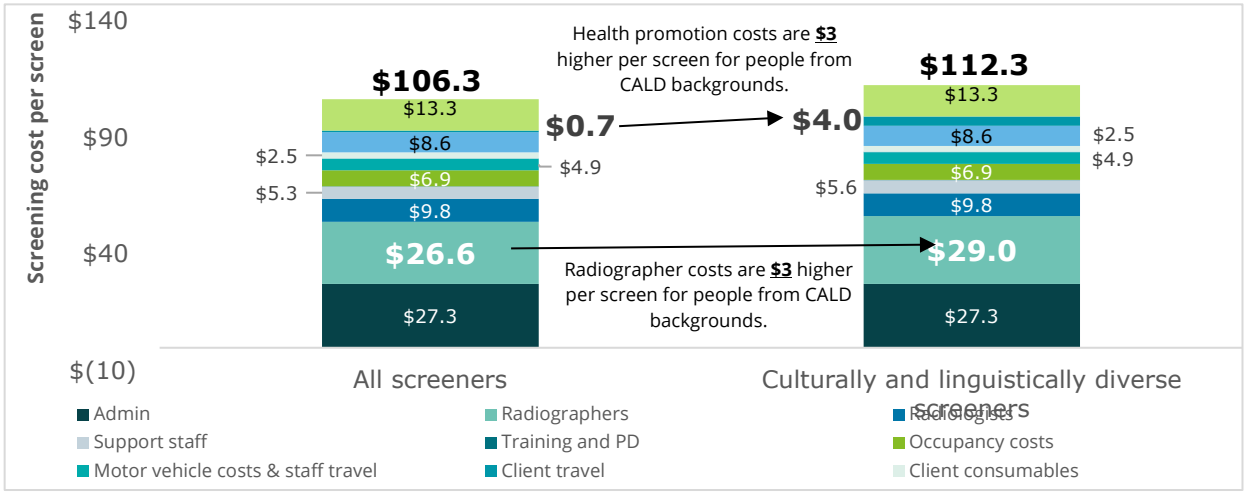
Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.
Notes: Detailed breakdown of cost data by category was not available for all jurisdictions.

Culturally and linguistically diverse (CALD) people

The cost per screen for CALD person was derived by asking States and Territories about the additional costs incurred specifically to screen this cohort. These costs where then allocated to the cost of screening of CALD people only. The screening cost per screen for CALD women was $6 higher per screen relative to other women. This was driven by:

- **Promotional costs:** Providing culturally appropriate and targeted outreach for CALD women can require additional investment
- **Increased support staff:** The need for translators.
- **Alternative screening models:** As per Aboriginal and Torres Straight islander women, more resource-intensive approaches are needed to ensure culturally safe and equitable access for CALD women.

Chart 2.10 The screening cost per screen in the BSA Program, CALD screeners

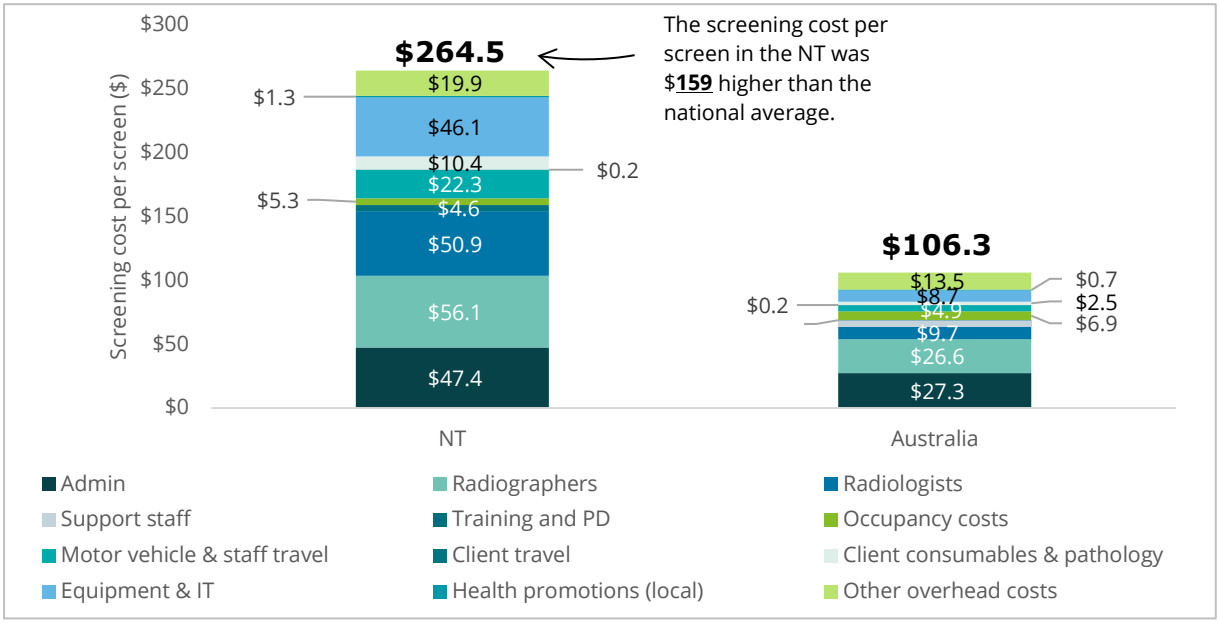


Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.
Notes: Detailed breakdown of cost data by category was not available for all jurisdictions

2.2.4 Drivers of screening costs | Screening costs in the NT

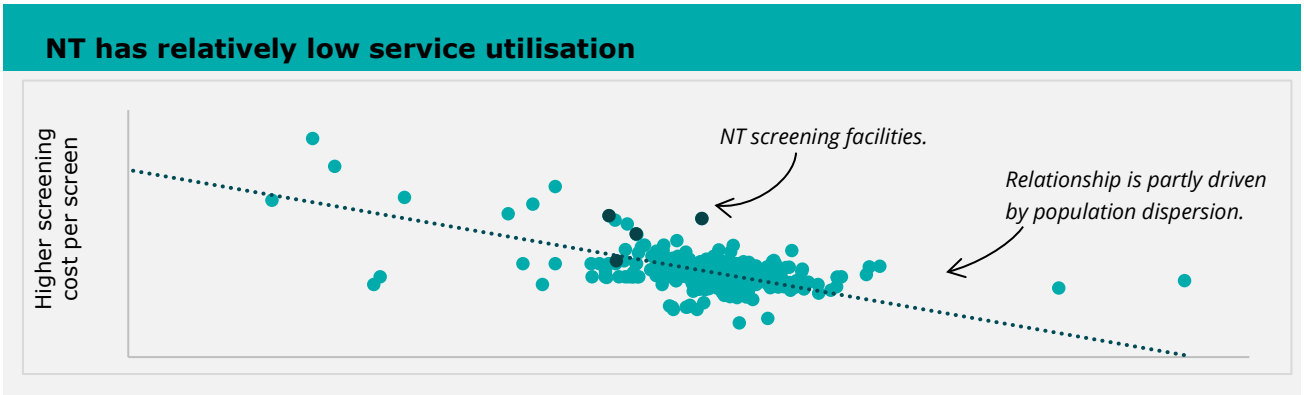
The screening cost per screen in the NT was notably higher than in other jurisdictions. This was driven by relatively low service utilisation due to higher population dispersion, higher staff costs, and a high prevalence of priority cohorts.

Chart 2.11 The screening cost per screen in the BSA Program, NT and Australia



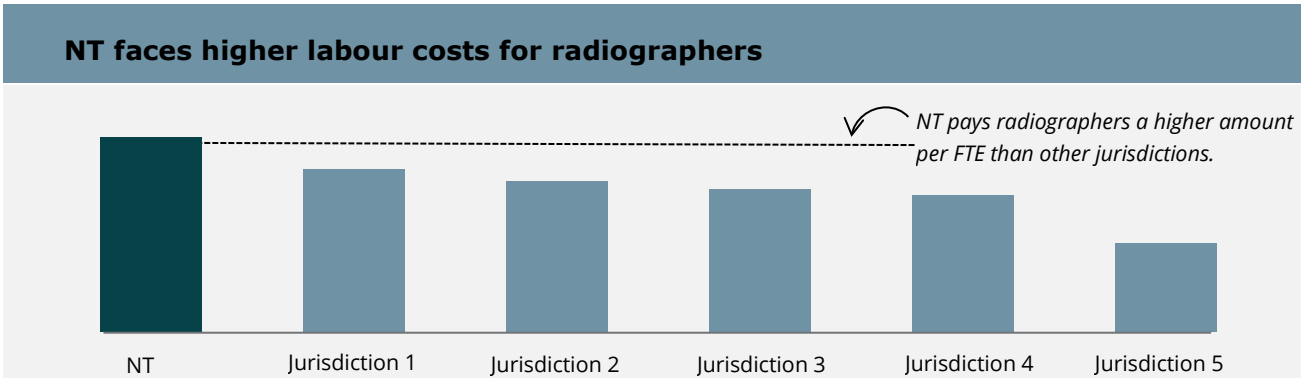
Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.

Chart 2.12 The number of screens per radiographer FTE versus cost per screen, by site



Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.
Notes: Some states excluded due to incomplete data. Population dispersion and remoteness may also drive cost variation. Chart 2 has removed reference to other jurisdictions to protect sensitive data.

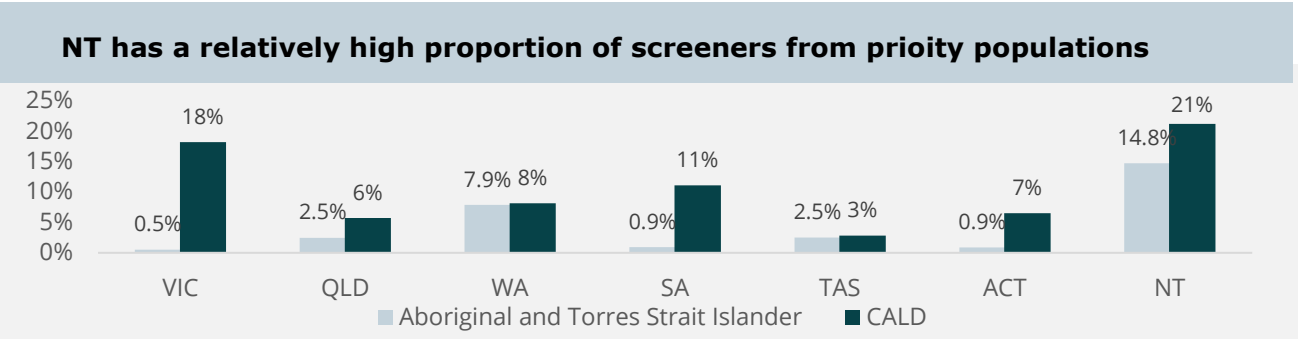
Chart 2.13 The imputed median cost per FTE of radiographers, by state



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

Notes: Some states excluded due to incomplete data. Population dispersion and remoteness may also drive cost variation. Chart 2 has removed reference to other jurisdictions to protect sensitive data.

Chart 2.14 The proportion of screens for Aboriginal, Torres Strait Islander or CALD women, by state



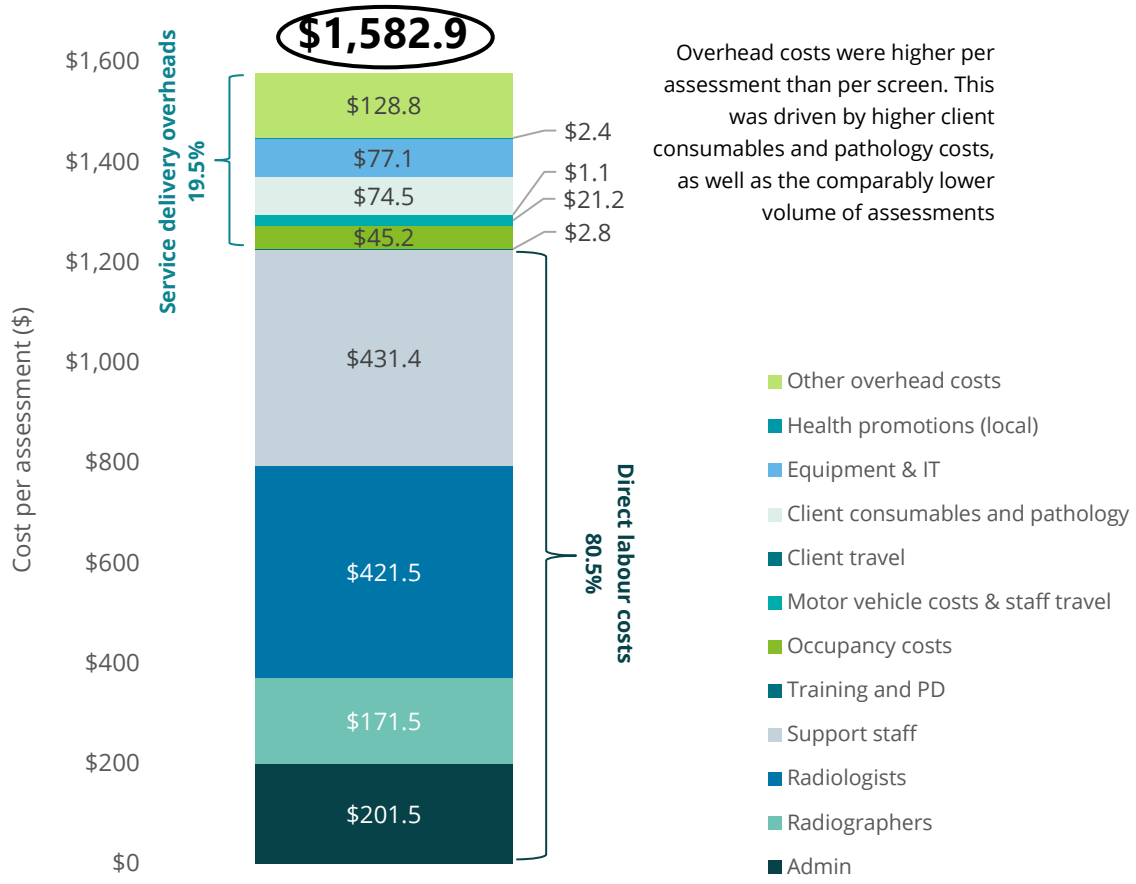
Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.

Notes: Some states excluded due to incomplete data. Population dispersion and remoteness may also drive cost variation. Chart 2 has removed reference to other jurisdictions to protect sensitive data.

2.2.5 Costs of assessment

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.

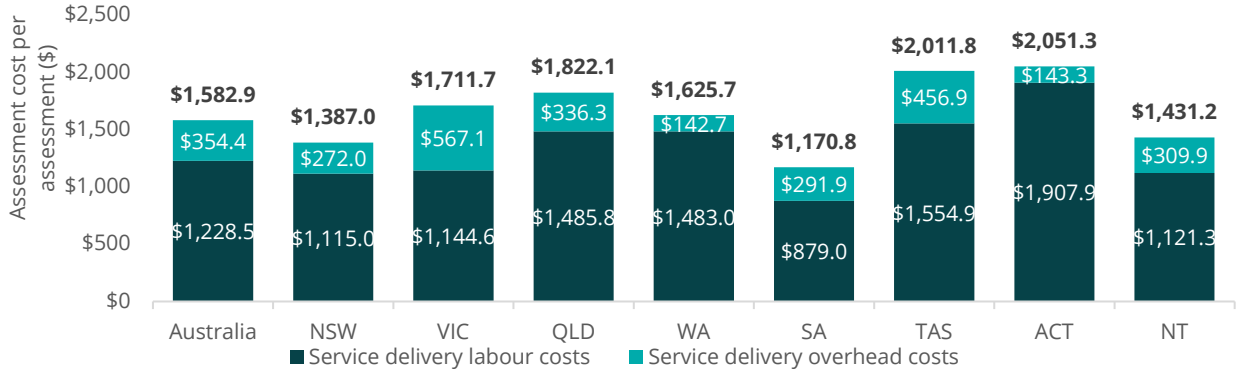
Chart 2.15 The assessment cost per assessment in the BSA Program, by cost category



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

Notes: Some states are excluded from the analysis due to availability of data.

Chart 2.16 The assessment cost per assessment in the BSA Program, by jurisdiction



Drivers of assessment costs per assessment

Chart 2.17 The relationship between assessments per radiologist FTE and assessment costs per assessment

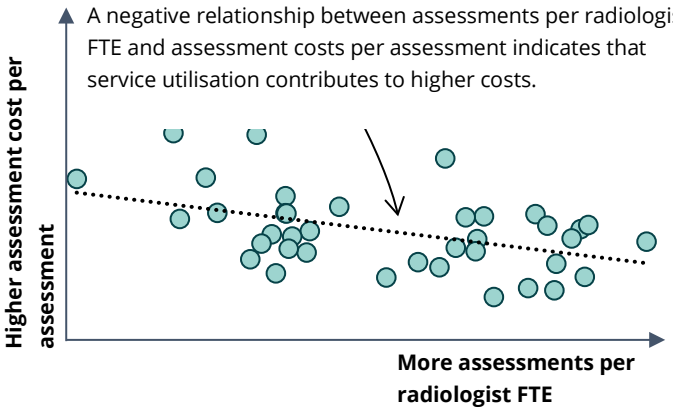
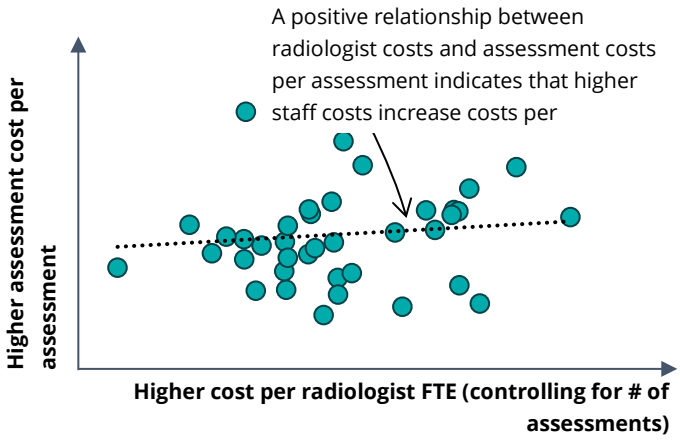


Chart 2.17 The relationship between radiologist cost and assessment costs per assessment



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

Notes: Some states are excluded from the analysis due to availability of data.

2.3 Costs associated with administrative functions of national screening program

Key insights

- Over the period FY 2021-23, Commonwealth, State and Territory governments spent $68 million per annum on costs related to the following administrative functions: program/service operations; quality and safety systems; data collection and reporting; health promotion; and communication
- Activities related to program/service operations were the largest cost component (36.9%), followed by quality and safety (21.7%) and data collection and reporting costs (20.5%).

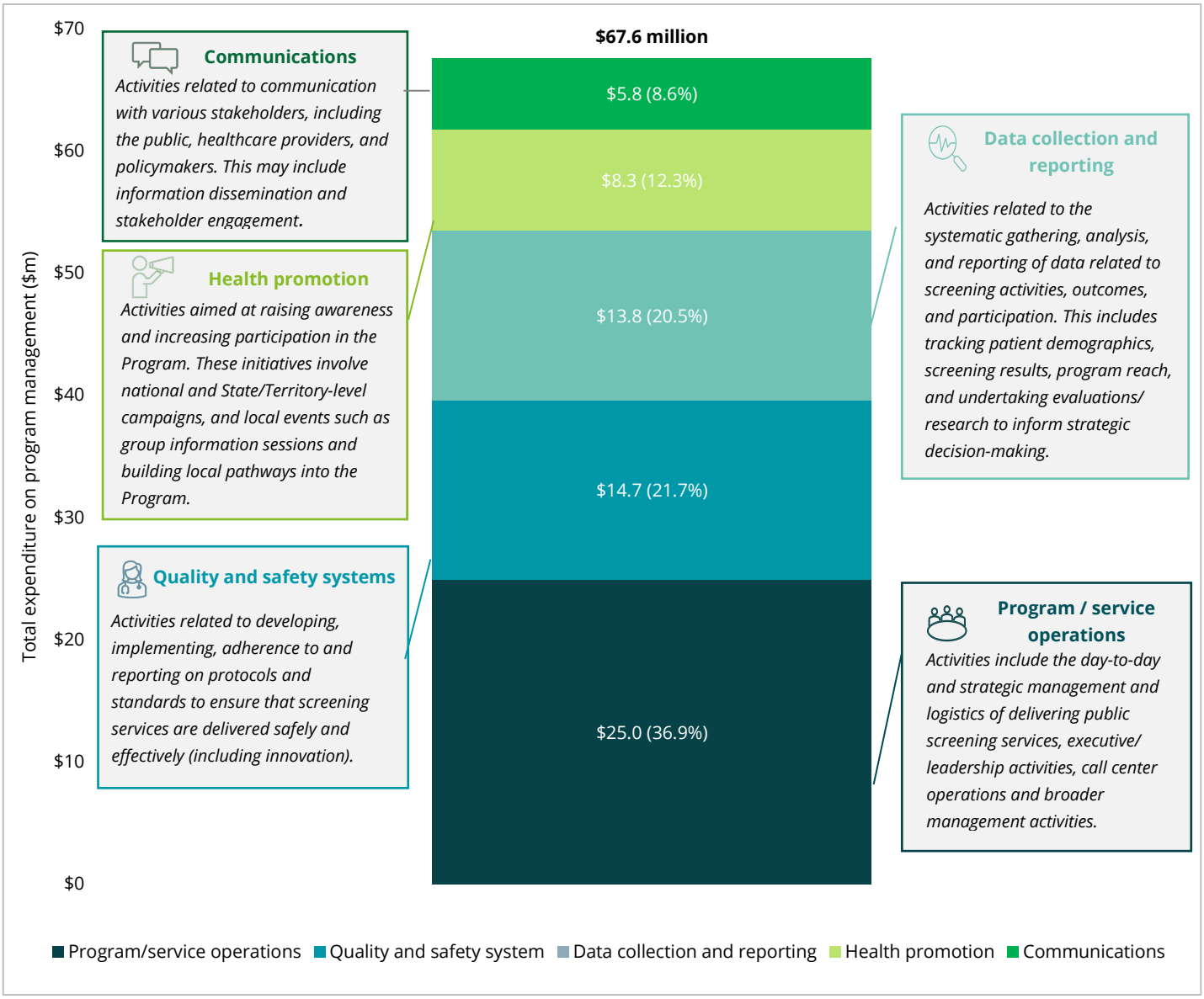
2.3.1 Costs of delivering a national screening program

Over the period 2021-22 and 2022-23, Commonwealth, State and Territory governments spent $68 million on national screening program related costs.

What are the costs associated with the key administrative functions of a national screening program (program/service operations, quality and safety systems, data collection and reporting, health promotion and communication)?

- Over the financial years 2021-23, the indirect and in-kind costs associated with administrative support functions of the BSA Program, was $67.6 million, per annum.
- This accounted for 25.4% of total BSA costs, or $59.2 per screen (Chart 2.18).
- Almost 37% of these costs were attributable to program/service operations, followed by quality and safety (21.7%), data collection and reporting (20.5%), health promotion (12.3%) and communications (8.6%).

Chart 2.18 Annual costs associated with delivering a national screening program, 2021-22 and 2022-23 ($ millions)



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

Note: Total national screening costs were broken into categories based upon distributions from NSW, SA, ACT and NT.

3. Cost of screening in the private sector

This section presents the costs of screening for breast cancer in the private sector.

3 Breast screening in the private sector

This chapter estimates the cost of screening in the private sector. This analysis was undertaken using a range of sources, including secondary data, literature and consultations with private radiology providers.

Characteristics of private screening

A review of the literature and consultations with private radiology providers highlighted that many women tend to screen in the private sector due to the additional screening pathways available to them, which often incorporate more advanced technology and are personalised to their needs. This decision is often further influenced by factors like preferences for faster results, more personalised care, or to consult specific specialists.[2]

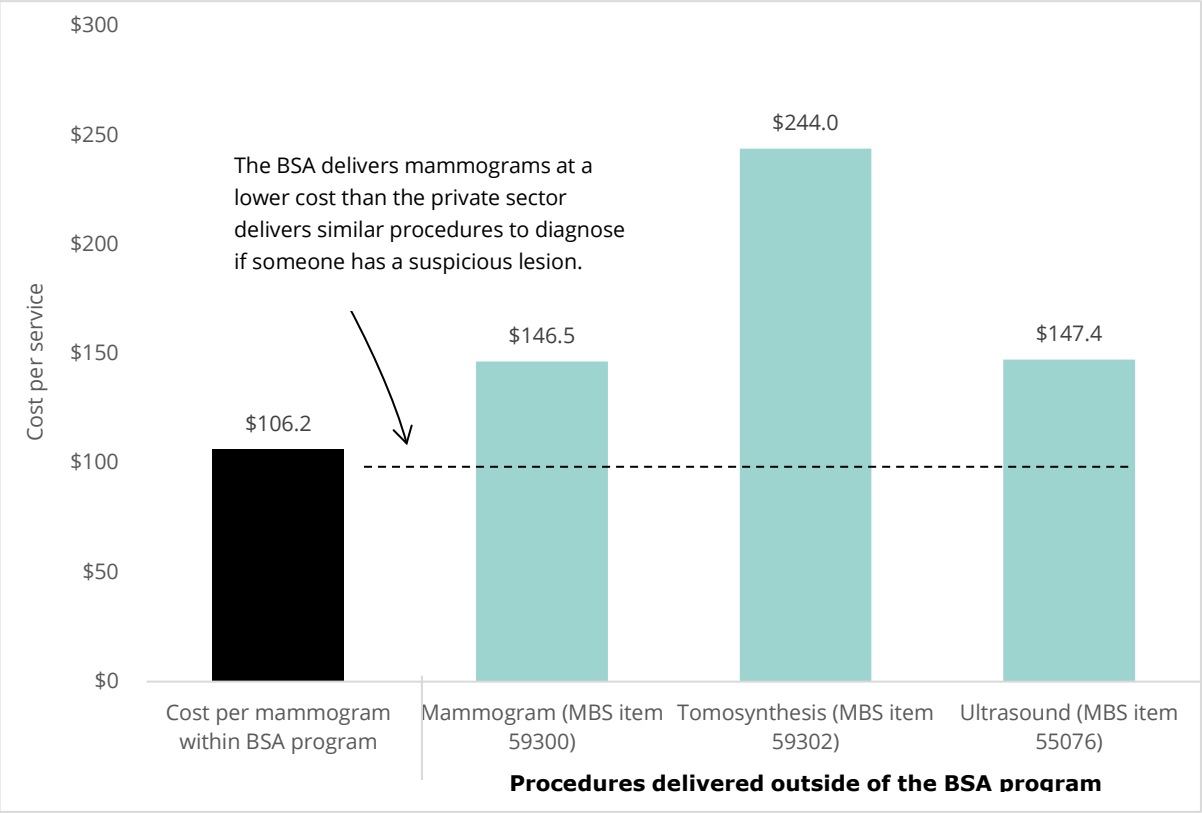
While there is limited data to estimate how many people screen privately, a 2009 Department of Health study estimates that between 4.3% and 48.6% of mammograms for women aged 40 or older are likely for screening purposes.[3] Further, consultations undertaken for this report suggest that 5% of private mammograms are fully out-of-pocket, indicating non-diagnostic use. Combined, this suggests that between 40,900 and 219,200 mammograms may have been undertaken in the private sector per year from 2021-22 to 2022-23 for screening purposes for people aged 40 years and over, equating to between 1% and 3% of this demographic. However, the actual number of women that screen in the private sector is likely larger, as private sector screening and awareness of breast cancer risks have both changed significantly since 2009.

Costs of screening in the private sector

Cost per screening procedure

Estimating the cost of breast cancer screening in the private sector is challenging due to limited publicly available data on both costs and screening pathways. However, approximate comparisons can be made by looking at the direct cost per screening in the BSA program alongside private-sector costs for mammography (MBS 59300), tomosynthesis (MBS 59302), and ultrasound (MBS 55076)—procedures primarily intended for diagnosing suspicious lesions. Prior research shows these items are sometimes used for screening in the private sector, providing a useful, albeit imperfect, basis for comparison. This analysis indicates that BSA typically offers lower per-procedure costs than private providers. For example, a mammogram under BSA is around $40 less than its private-sector equivalent (see **Chart 3.1**).[3]

Chart 3.1 The estimated cost per screening procedure in the private sector and in BSA ($), 2022-23



Source: Deloitte Access Economics analysis (2024); Medicare Cost Finder (2024).
Note: Cost per service for procedures delivered outside of the BSA program are sourced from Medicare Cost Finder. These costs take into consideration that some services are bulk-billed and assume out-of-pocket costs are normally distributed.

Indicative modelling was undertaken to estimate the potential cost of screening in the private sector across a "typical" screening pathway.

Cost across the screening pathway

This section aims to understand the differences in costs associated with screening inside and outside the BSA program, across the screening pathway (i.e. from the first screening procedure to the point of diagnosis).

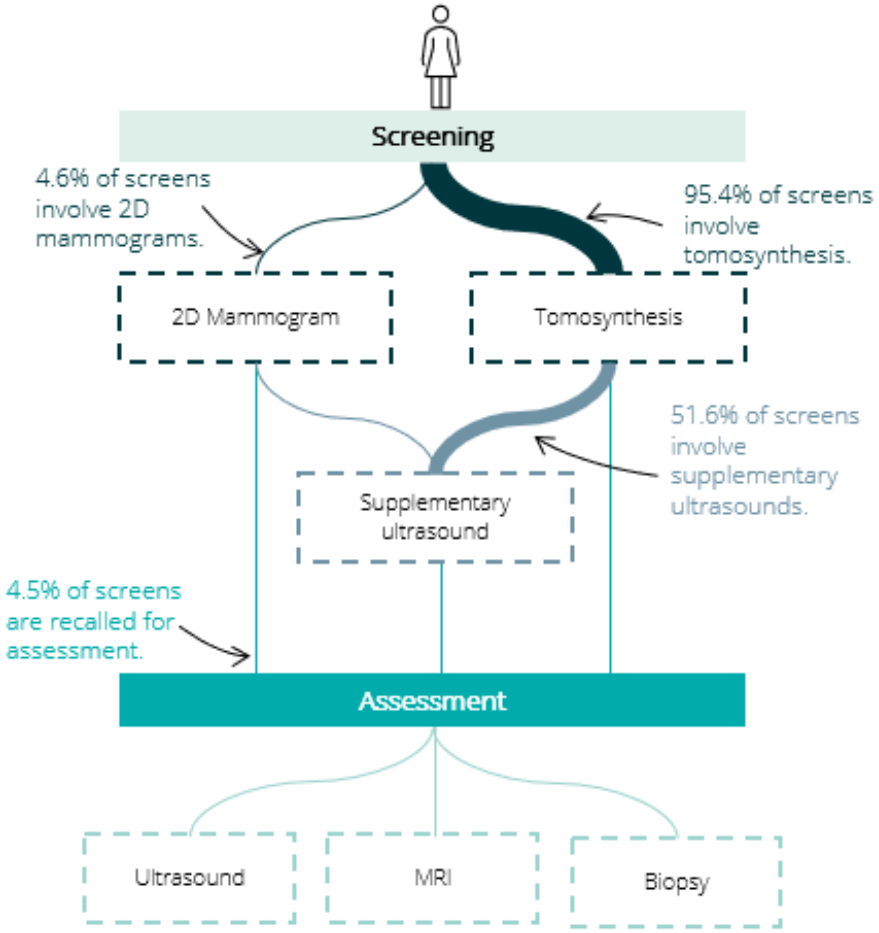
Screening within and outside the BSA program differs significantly. Consultations with private radiology providers indicate that private-sector screening is less standardised than the BSA program, often tailored on a case-by-case basis and incorporating a broader range of technologies. As a result, the private sector frequently serves higher-risk groups or individuals with needs not currently addressed by the BSA program's screening pathway.

Due to the differences in population's, this analysis aims to compare the cost of screening pathways inside and outside the BSA program for individuals with a similar risk profile. However, there is limited evidence available in the literature to identify a "typical" screening pathway in the private sector, particular for those of an average risk level.

Due to these data gaps, data sources were triangulated from the literature and consultations with private radiology providers to identify a potential, "typical" private-sector screening pathway for someone with average risk—similar to a person who would normally

screen through the BSA program (Figure 3.1). This pathway models the likelihood that a person of an average risk level would require individual procedures, if they presented to screening in the private sector. Then, each procedure is costed, weighted by the likelihood that a person would receive that procedure in the private sector.

Figure 3.1 The modelled potential 'typical' private screening pathway



Source: Deloitte Access Economics analysis (2024) using findings from consultation and the literature.
Note: Diagnostic mammograms have been excluded from this analysis. See appendix B for more details.

This chapter estimates that the BSA program tends to provide breast screening services at a lower cost than the private sector. This could be due to several reasons, including differences in screening pathways and operating structures.

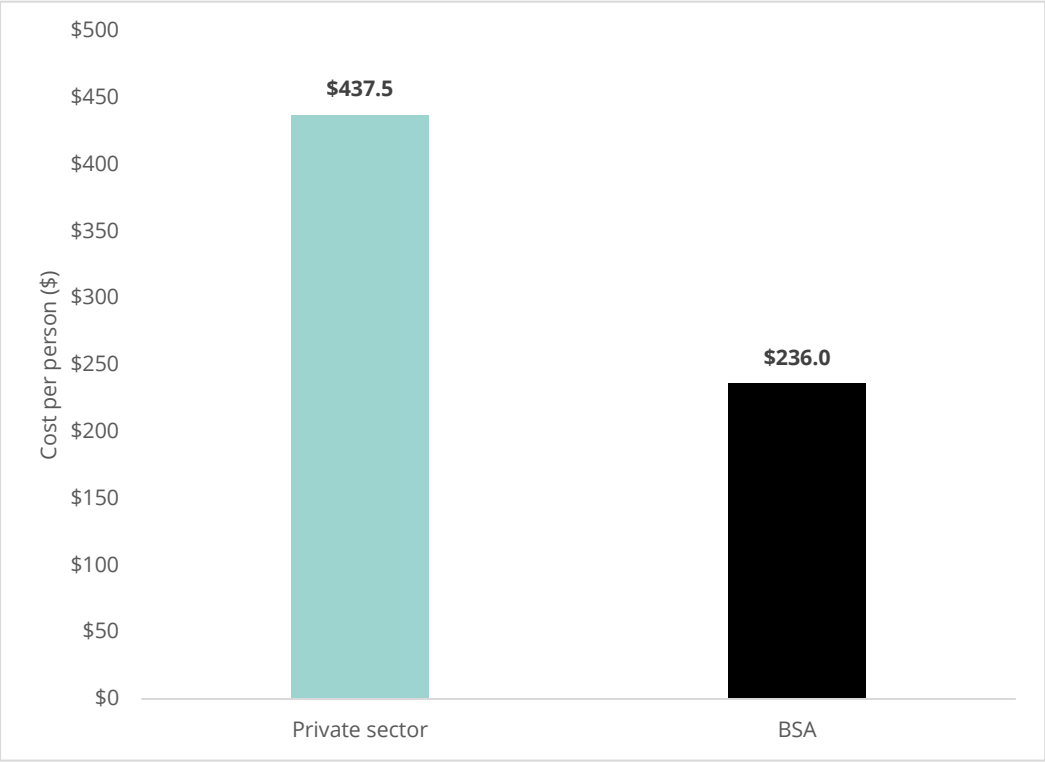
Cost across the screening pathway (cont.)

The results of the analysis indicates that it may cost more than $200 more per person to screen in the private sector than through the BSA program (see Chart 3.2). These higher costs can be attributed to factors such as the use of newer technologies, more customised screening pathways, and different overhead structures in the private sector, all of which contribute to a higher per-screen cost. See Appendix B for more information on how this analysis was undertaken.

Limitations of the analysis

This analysis should be treated as indicative due to the limited availability of data on private sector screening for breast cancer. Specifically, the analysis is based on publicly available data and informed by assumptions gathered through consultations and literature. Due to this, it may not capture a true, representative cost of screening in the private sector, and omits broader costs to support screening, such as client travel costs. To accurately capture costs of private screening, more systematic primary data collection is required to appropriately address data gaps.

Chart 3.2 The estimated cost per person across the screening pathway in the private sector and in BSA ($), 2022-23



Source: Deloitte Access Economics analysis (2024); Medicare Cost Finder (2024); Department of Health and Aged Care (2024).

4. The future state of the BSA Program

The costs of potential future states of the BSA Program.

4.0 The future state of the BSA Program | Overview

This section presents the total costs to the health care system associated with delivering future states of the BSA Program.

Overview of this chapter

Chapter 4 provides a cost analysis for potential future models of the BSA Program, by assessing the financial impact of integrating new screening pathways.

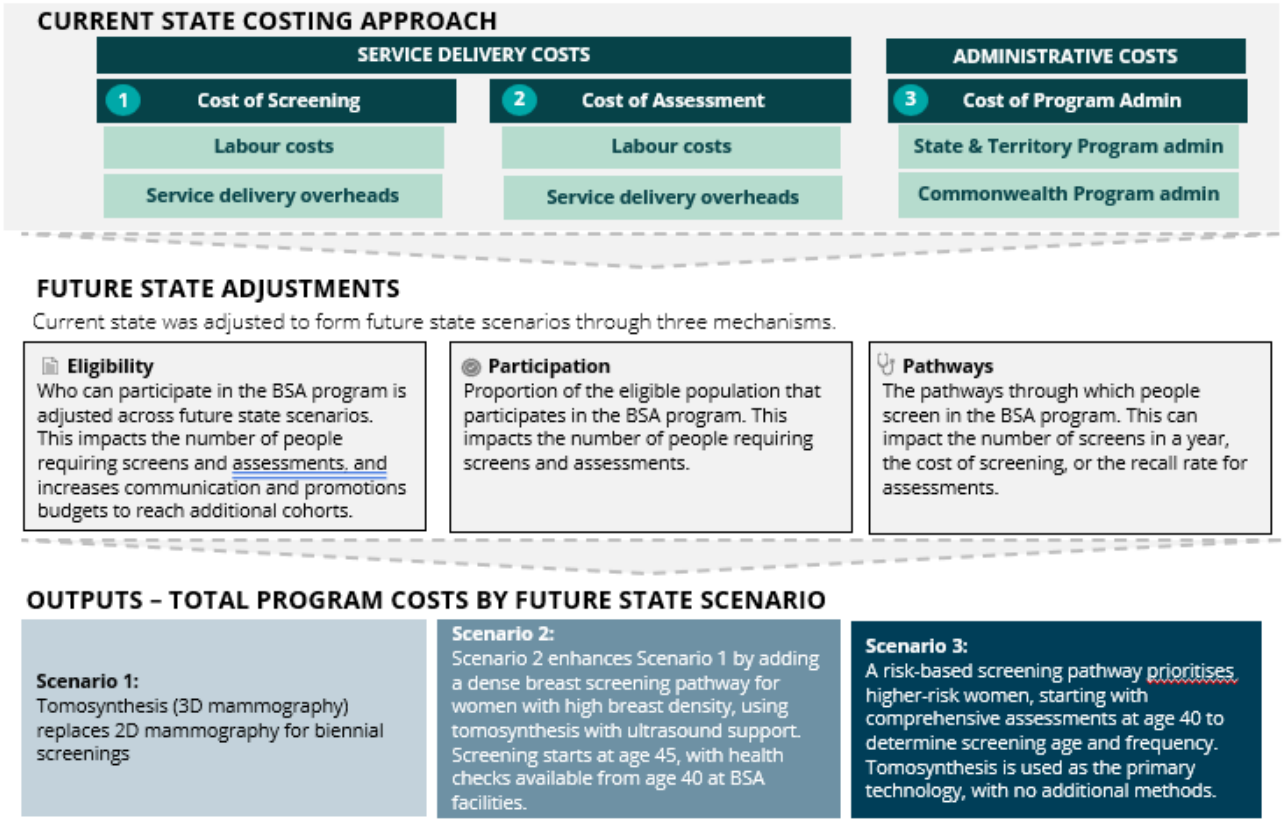
Future state scenarios and the costing approach are presented in Figure 4.1. Future state scenarios were developed with the Department, each designed to represent a gradual movement towards a risk-based screening framework. The scenarios were costed using the BSA Program Cost Model by adjusting the current state assumptions to estimate total costs of the BSA program for future states.

Limitations of the model

Key limitations and considerations of the analysis include:

- **Scope of Model:** The BSA Program Cost Model is designed to estimate the total costs to the health system over the period 2024 to 2033 associated with potential reforms. It is not a cost-effectiveness model and does not assess the benefits that may result from these reforms. Further research and analysis is required to identify the most effective and cost-effective screening pathway/s.
- **Exclusion of Workforce Factors**: Workforce considerations, such as potential shortages or capacity constraints, are not accounted for in the BSA Program Cost Model.
- **Reliance on Literature-Based Assumptions:** Many model assumptions are derived from existing literature. Actual cost implications may vary when applied in the specific context of the BSA program.

Figure 4.1 Future state costing approach



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4.0 The future state of the BSA Program | Future state scenarios

This analysis evaluates three future state scenarios, each designed in collaboration with the Department. These scenarios were designed to represent a gradual movement towards a risk-based screening framework.

Table 4:1 Future state scenario parameters

Category-		Current state	Scenario 1 – Introducing Tomosynthesis	Scenario 2 - Introducing a dense breast screening pathway	Scenario 3 – Risk-based screening
Eligibility *Who can participate in the BSA program*	**Target population:** Population that is actively invited to participate.	• 50-74 years.	• 50-74 years.	• 45-74 years.	• Screening frequency and starting age are determined by the risk category: • **Low-risk:** Screening every three years, from 50-74 years. • **Moderate-risk:** Screening every two years, from 45-74 years. • **High-risk:** Screening each year, from 40-74 years.
	Eligible population: Total population that is eligible to participate.	• 40-49 years • 75 years +.	• 40-49 years • 75 years +.	• 40-44 years • 75 years +.	• As above
Participation *Proportion of the eligible population that participates in the BSA program.*	**Target population:** Population that is actively invited to participate.	• **50-75 years:** 52%	• **50-75 years:** 52%	• **45 – 49 years:** 38% • **50-75 years:** 52%	• As above
	Eligible population: Total population that is eligible to participate.	• **40-49 years:** 13% • **75 years +** - 8%.	• **40-49 years:** 13% • **75 years +** - 8%.	• **40-44 years:** 13% • **75 years +** - 8%.	• As above
Screening pathways *Technology and frequency of screening.*	**Preliminary screening/ eligibility:** Health or risk assessments to support screening.	• NA.	• NA.	• Initial health check conducted at 40 years.	• Initial risk-assessment conducted at 40 years.
	Initial screening: Initial screening test undertaken.	• 2D mammogram every two years.	• Tomosynthesis mammogram every two years.	• Tomosynthesis mammogram every two years.	• Tomosynthesis, as per risk strata frequency.
	Supplementary screening: Supplementary screening	• NA.	• NA.	• Ultrasound for women with dense breasts (Breast Imaging Reporting and Data System • (BI-RADS) C/D).	• NA.

Category-		Current state	Scenario 1 – Introducing Tomosynthesis	Scenario 2 - Introducing a dense breast screening pathway	Scenario 3 – Risk-based screening
	tests undertaken for particularly cohorts.				
Sub-scenarios *Additional adjustments made t scenarios.*	**Eligibility:** Who can participate in the program.	• NA.	• Adjusted to 45 to 74 years and 40 to 74 years.	• Adjusted to 40 to 74 years.	• NA.
	Participation rate: Proportion of eligible population that participates.	• NA.	• Adjusted to 55%, 65% and 70%	• Adjusted to 55%, 60% and 70%.	• **Participation rate:** adjusted to 55%, 65% and 70%.
	Screening pathways: Screening pathways for eligible populations.	• NA.	• Ultrasound & MRI for women with dense breasts (BI-RADS C/D).	• MRI for women with dense breasts (BI-RADS C/D).	• Additional risk strata (highest-risk) commences at 40 years, annual tomosynthesis & MRI. • Ultrasound & MRI for women with dense breasts (BI-RADS C/D).

4.1 Scenario 1 – Introducing Tomosynthesis

Key insights

- Transitioning to tomosynthesis as the primary screening technology could cost approximately $9.4 million per annum, or $94.2 million over ten years (in nominal terms).
- However, the use of tomosynthesis has potential long-term benefits for cost reduction through reduced recall rates. This can be enhanced by using artificial intelligence (AI) for screen reading.

4.1.1 Scenario 1 | Results

Replacing 2D mammograms with tomosynthesis could increase annual costs by $9.4 million over 10 years, mainly due to investments required in upgrading equipment, but could lead to savings through reduced recall rates.

Scenario 1 modelling results

From 2024 to 2033, implementing tomosynthesis under Scenario 1 could increase annual program costs by approximately $9.4 million, totaling an additional $94.2 million over the 10-year period, in nominal terms (Chart 4.1).

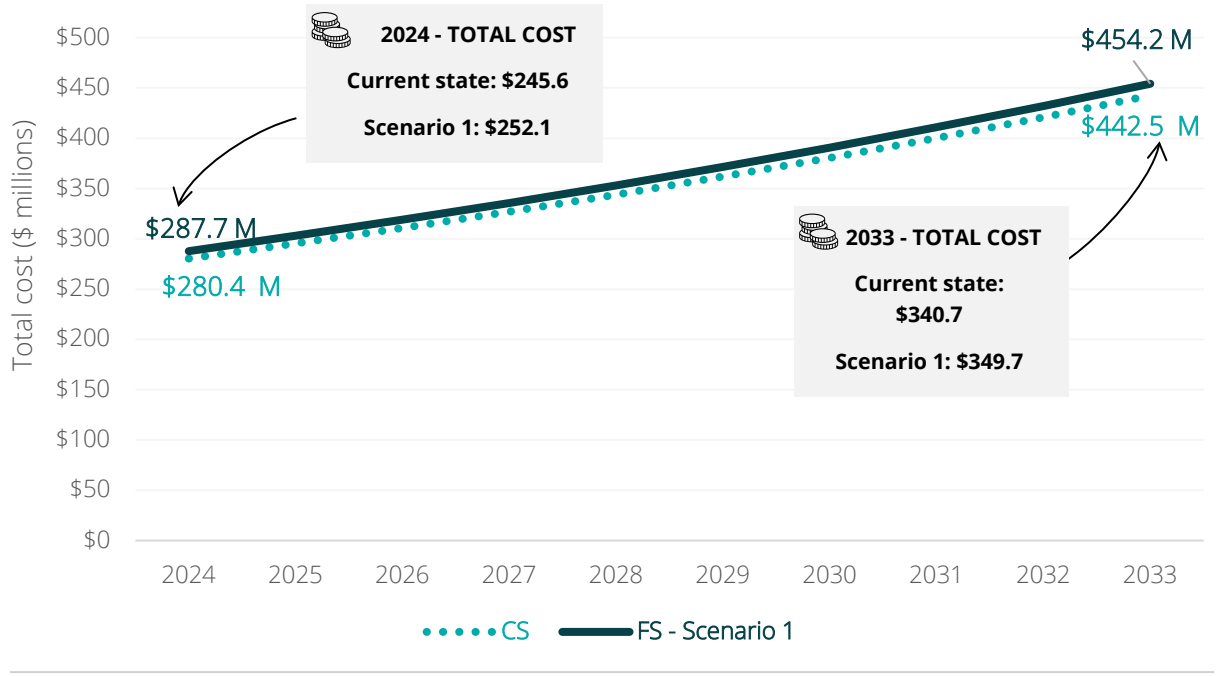
The introduction of tomosynthesis causes two separate changes to costs:

- **Additional costs due to investment in screening technology:** Transitioning to tomosynthesis will add approximately $15.7 per initial scan due to required investments in new equipment and increased data storage costs. This includes early retirement of 2D mammography machines, purchase of additional tomosynthesis licenses, elevated maintenance costs, and increased radiologist costs due to the longer image-reading times associated with 3D scans.
- **Cost reduction from lower recall rates:** Tomosynthesis is expected to reduce the recall rate by about 8.5%, or 5,000 fewer recalls annually, due to enhanced imaging accuracy leading to reduced false positives. This reduction translates to significant cost savings in follow-up assessments.

! Sensitivity analysis: the impact of tomosynthesis on assessment recall rates.

Emerging research suggests that, in screening programs comparable to BSA, tomosynthesis does not substantially reduce assessment recall rates compared to 2D mammography. Although this evidence is still developing, a sensitivity analysis is conducted assuming tomosynthesis has no effect on assessment recalls.[15,16] Under that assumption, implementing scenario 1 would cost approximately $193.0 million over ten years, or $19.3 million per year on average. See Appendix C for sensitivity analysis.

Chart 4.1 The total nominal cost of the BSA Program in the current state and scenario 1, 2024-2033



ADDITIONAL COST (total over 10 years)	ADDITIONAL SCREENS (per annum)	ADDITIONAL ASSESSMENTS (per annum)
+$94.2 MILLION	NO CHANGE	-5,055

Source: Deloitte Access Economics analysis (2024) using the BSA Program Cost Model
Note: CS = Current state, FS = Future state

4.1.2 Scenario 1 | Sub-scenarios

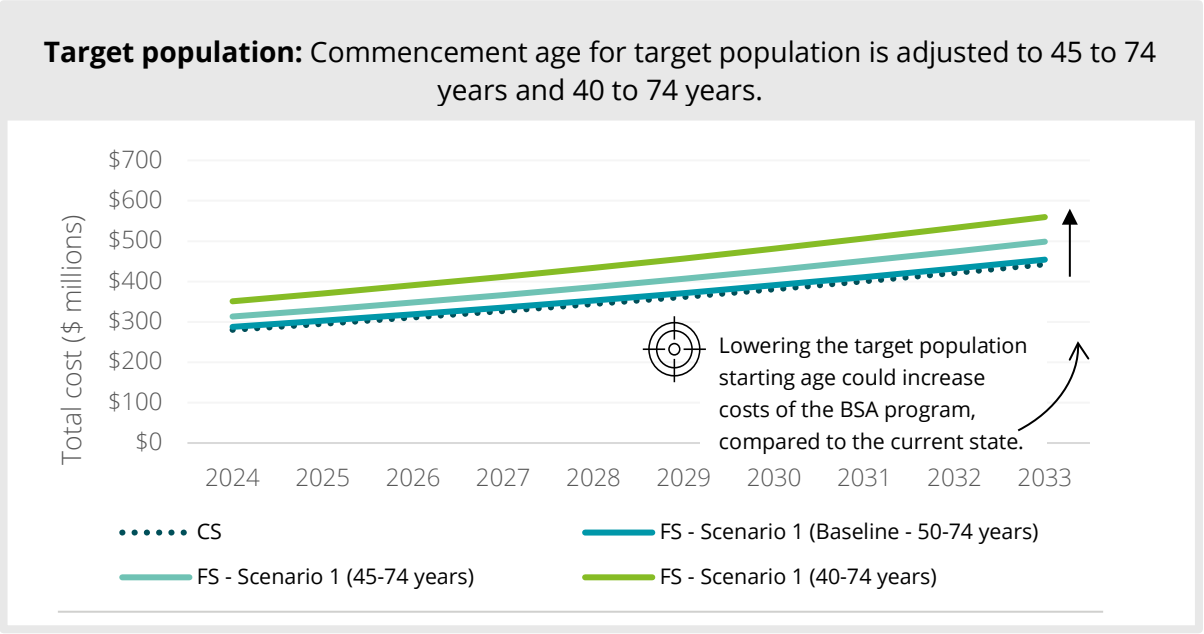
Lowering the commencement age and increasing the participation rate could all further increase the costs of scenario 1.

Target population

Lowering the commencement age to 45 years and 40 years or the target BSA cohort could increase program costs by $43.9 million and $93.1 million per year, respectively, compared to the current state.

- Increased costs are due to the higher volume of scans, higher costs to undertake tomosynthesis scans compared to 2D mammograms, and higher centralised and decentralised promotional costs to extend the program to new cohorts.

Chart 4.2 The total cost of the BSA Program in the current state, scenario 1 – adjusting commencement age

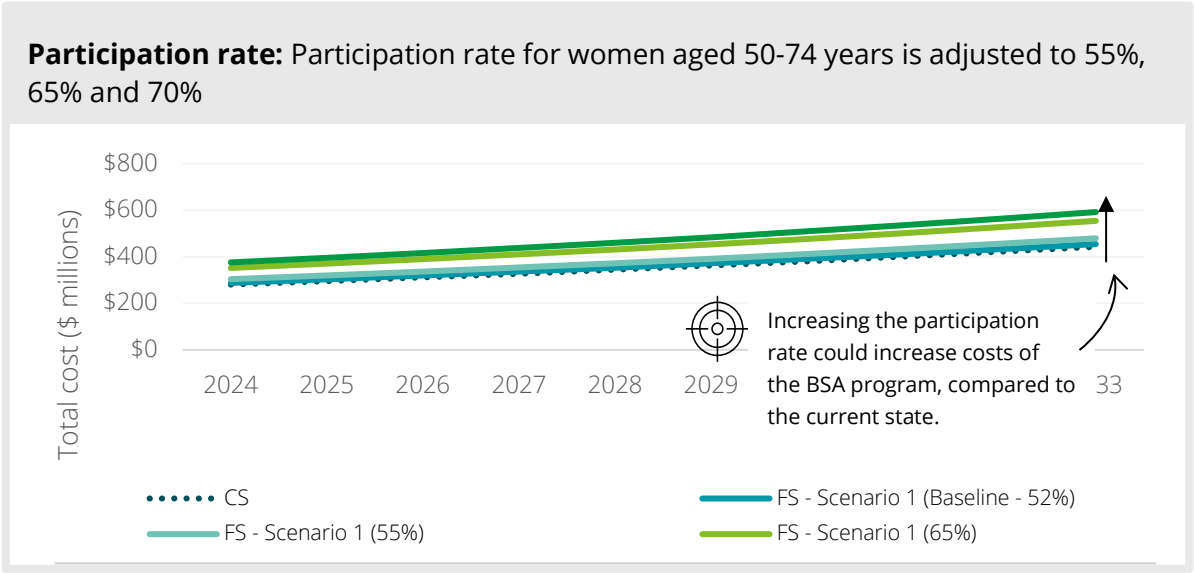


Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.
Notes: Detailed breakdown of cost data by category was not available for all jurisdictions.

Participation rate

- Increasing the participation rate for women aged 50-74 years to 55% increases annual costs by $29.6 million, compared to the current state
- Further increases in the participation rate to 65% and 70% could raise costs by $90.3 million and $120.5 million per year, respectively, compared to the current state.
- Higher costs reflect both the larger number of scans and higher per-scan costs from the use of tomosynthesis.

Chart 4.3 The total cost of the BSA Program in the current state, scenario 1 – adjusting participation rate



Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.
Notes: Detailed breakdown of cost data by category was not available for all jurisdictions.

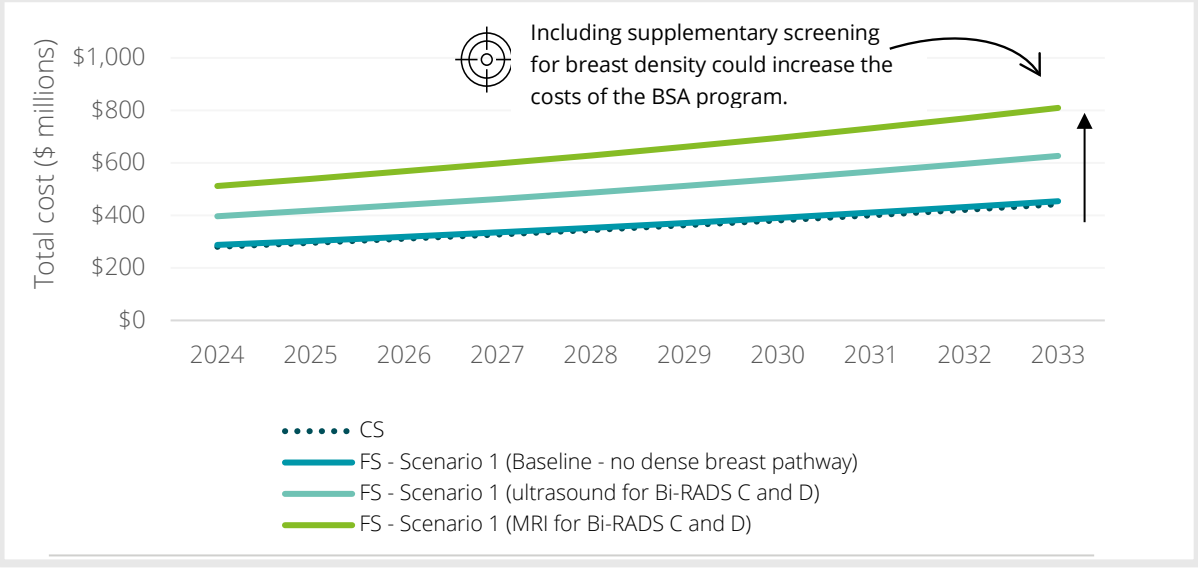
Adding supplementary screening pathways for women with high breast density could further increase the costs of scenario 1.

Screening pathways

- Introducing ultrasound screenings for women with dense breast tissue (BI-RADS C/D) could lead to an annual cost increase of $148.2 million, compared to the current state
- Supplementing with MRI screenings could add $295.2 million per year, compared to the current state.
- Cost increases are due to the higher costs of screening and increased recall rates associated with ultrasound and MRI-based screenings.

Chart 4.4 The total cost of the BSA Program in the current state, scenario 1 – including breast density (Bi-RADS C and D)

Screening pathways: Scenario 1 is adjusted to introduce a biennial ultrasound or MRI for women with dense breasts (BI-RADS C and D).



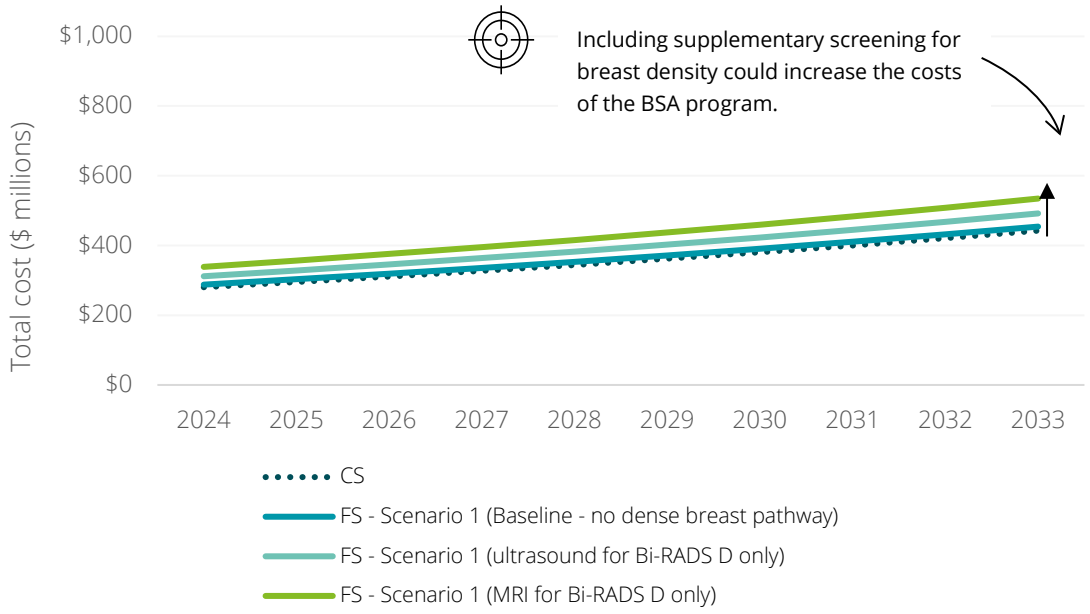
Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.

Notes: Detailed breakdown of cost data by category was not available for all jurisdictions.

- Introducing ultrasound screenings for women with dense breast tissue (BI-RADS D only) could lead to an annual cost increase of $39.9 million, compared to the current state
- Supplementing with MRI screenings could add $74.2 million per year, compared to the current state.
- Cost increases are due to the higher costs of screening and increased recall rates associated with ultrasound and MRI-based screenings.

Chart 4.5 The total cost of the BSA Program in the current state, scenario 1 – including breast density (BI-RADS D only)

Screening pathways: Scenario 1 is adjusted to introduce a biennial ultrasound or MRI for women with dense breasts (Bi-RADS D only).



Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.
Notes: Detailed breakdown of cost data by category was not available for all jurisdictions.

4.2 Scenario 2 – Introducing a dense breast screening pathway

Key insights

- This scenario provides greater nuance in the screening pathways of the BSA program, by lowering the commencement age of screening for the targeted population to 45 years and providing a supplementary screening pathway for women with dense breasts (BI-RADS C/D).
- These changes could together cost approximately $205.1 million per annum, or $2.0 billion over ten years (in nominal terms).

4.2.1 Scenario 2 | Results

Scenario 2 introduces a high breast density screening pathway with tomosynthesis and ultrasound, expands screening to women aged 45, and adds preliminary health checks at age 40, increasing program costs by $205.1 million annually.

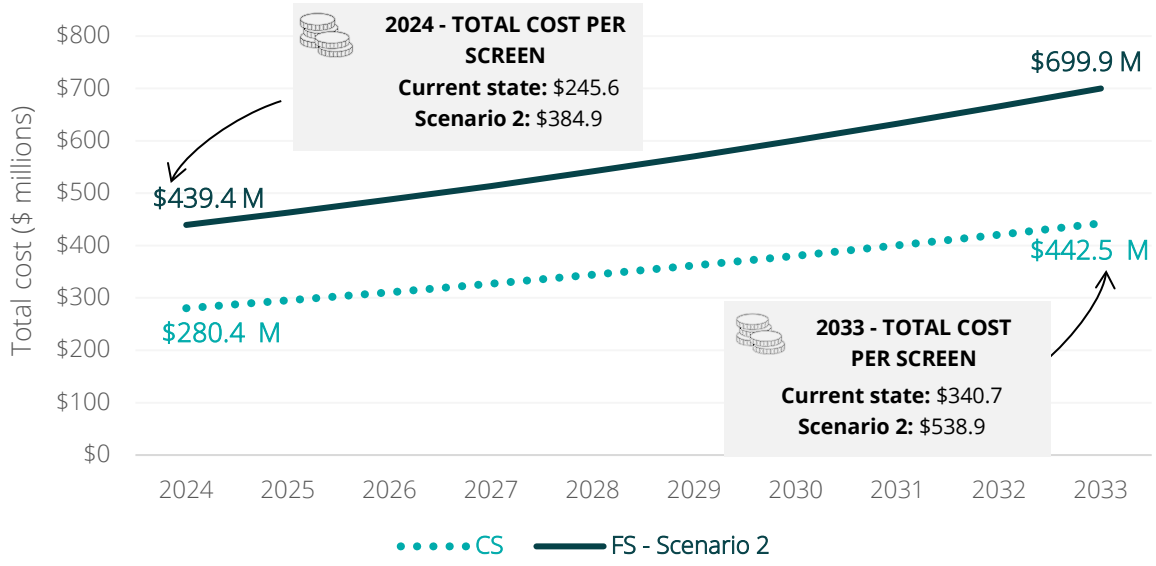
Scenario 2 modelling results

From 2024 to 2033, implementing the dense breast pathway is expected to increase annual program costs by approximately $205.1 million, resulting in a cumulative additional cost of $2.0 billion over the 10-year period (Chart 4.6). Key cost drivers for Scenario 2 include:

- **Investment in screening technology:** Transitioning to tomosynthesis will add approximately $15.7 per initial scan, contributing to about 2% of the total additional costs in Scenario 2.
- **Preliminary health check:** Scenario 2 introduces around 85,000 health checks annually, costing an estimated $1.8 million per year.
- **Lowering commencement age to 45 years:** Lowering the screening age increases the annual screening volume by approximately 98,000 scans, representing 18% of Scenario 2's additional costs.
- **Dense breast pathway:** The introduction of ultrasound for women with dense breast tissue (approximately 50% of the screened population) accounts for 67% of the additional costs. This approach is associated with higher follow-up costs due to an increased rate of false positives compared to mammography.

Note, the percentages presented above represent the impact on costs of including each component of the scenario in isolation. They do not include the interaction effects between components and therefore do not sum to 100%.

Chart 4.6 The total nominal cost of the BSA Program in the current state and scenario 2, 2024-2033



ADDITIONAL COST (total over 10 years)	ADDITIONAL SCREENS (per annum)	ADDITIONAL ASSESSMENTS (per annum)
+$2.0 BILLION	+97,867	+44,954

Source: Deloitte Access Economics analysis (2024) using the BSA Program Cost Model
Note: CS = Current state, FS = Future state

4.2.2 Scenario 2 | Sub-scenarios

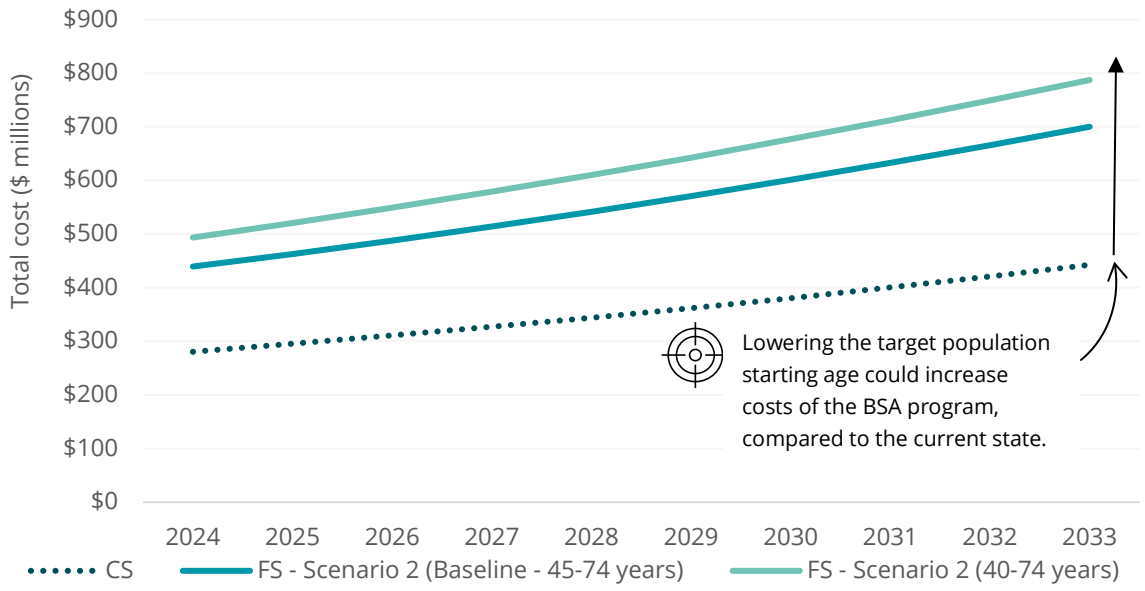
Lowering the commencement age and increasing the participation rate could all further increase the costs of scenario 2.

Target population:

- Lowering the commencement age to 40 years could add $275.6 million per year to program costs, compared to the current state.
- Increased costs are due to the higher volume of scans, higher costs to undertake tomosynthesis and supplementary scans, and higher centralised and decentralised promotional costs to extend the program to the new cohort.

Chart 4.7 The total cost of the BSA Program in the current state, scenario 2 – adjusting commencement age

Target population: Commencement age for target population is adjusted to 40 to 74 years.



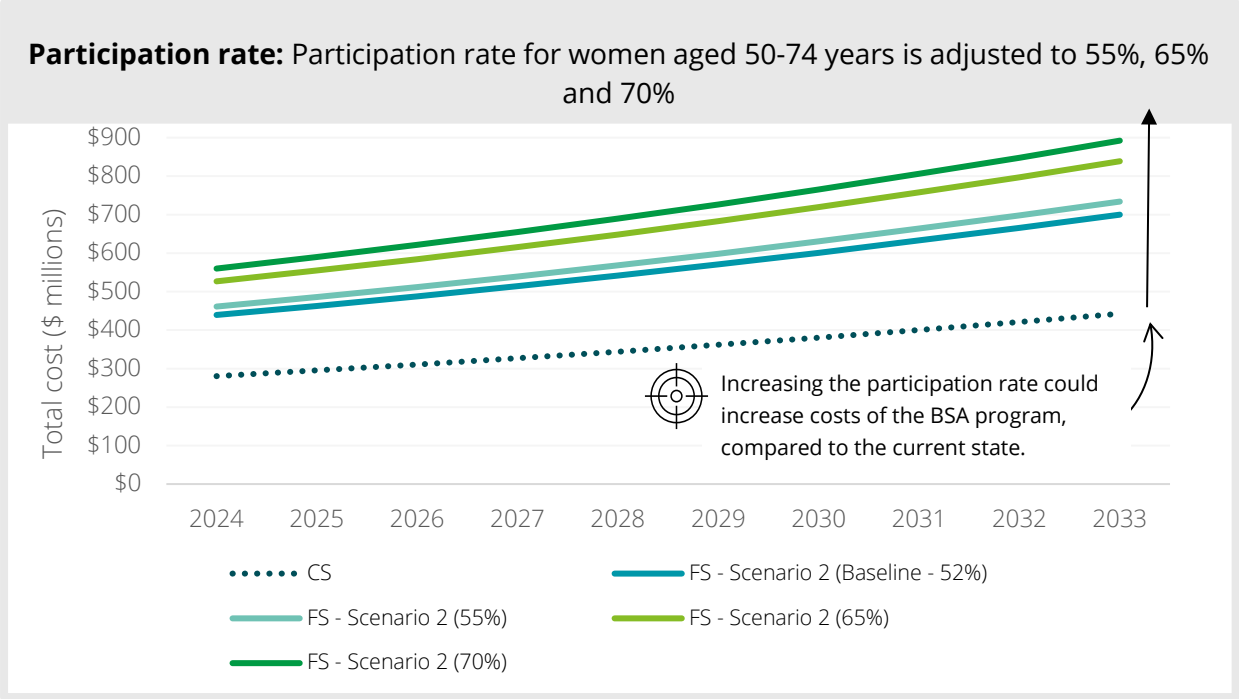
Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.

Notes: Detailed breakdown of cost data by category was not available for all jurisdictions.

Participation rate

- Increasing the participation rate for women aged 50-74 years to 55% could increase annual costs by $232.7 million, compared to the current state
- Further increases in the participation rate to 65% and 70% could raise costs by $316.2 million and $359.1 million per year, respectively, compared to the current state.
- Higher costs reflect both the larger number of scans and higher per-scan costs from the use of tomosynthesis.

Chart 4.8 The total cost of the BSA Program in the current state, scenario 2 – adjusting participation rate



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

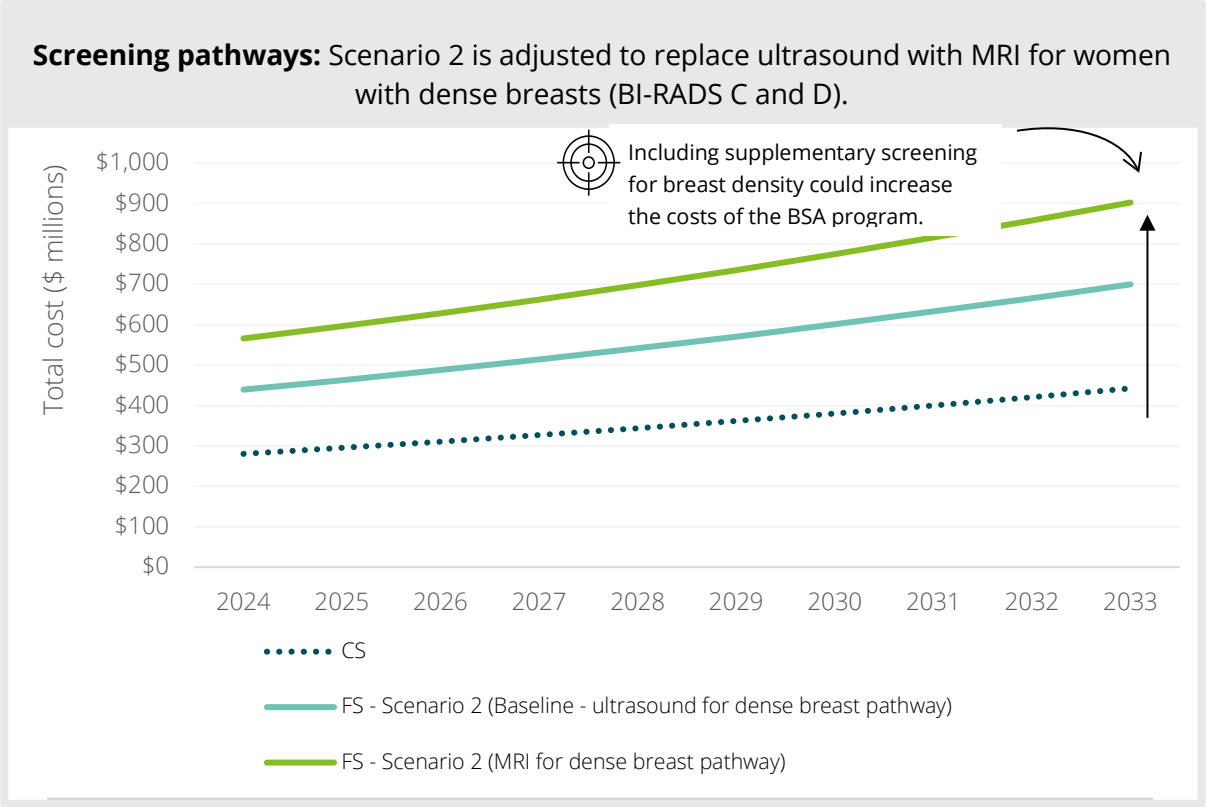
Notes: Detailed breakdown of cost data by category was not available for all jurisdictions.

Replacing ultrasounds with MRIs in supplementary screening for women with high breast density could increase the costs of scenario 2. Including only women with BI-RADS D in the supplementary pathway could lower costs of scenario 2.

Screening pathways

- Introducing MRI screenings for women with dense breast tissue (BI-RADS C/D) could lead to an annual cost increase of $367.4 million compared to the current state.
- This cost increase is due to the higher costs of screening and increased recall rates associated with MRI-based screenings.

Chart 4.9 The total cost of the BSA Program in the current state, scenario 1 – including breast density (Bi-RADS C and D)

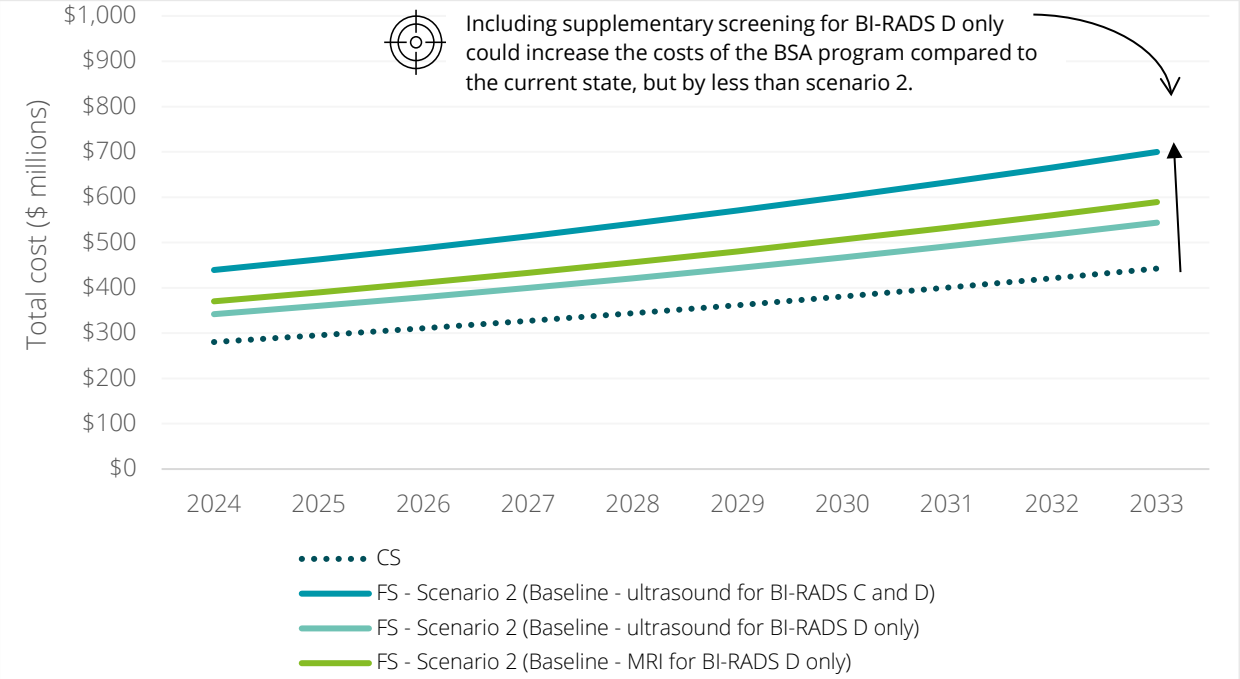


Source: Deloitte Access Economics analysis (2024) using data from the BSA Cost Survey 2021-22 to 2022-23.
Notes: Detailed breakdown of cost data by category was not available for all jurisdictions.

- Providing supplementary screening only to women with BI-RADS D could lead to an annual cost increase of $80.3 million, compared to the current state
- Supplementing with MRI screenings for BI-RADS D only could add $116.6 million per year, compared to the current state.
- Cost increases are due to the higher costs of screening and increased recall rates associated with ultrasound and MRI-based screenings.

Chart 4.10 The total cost of the BSA Program in the current state, scenario 1 – including breast density (Bi-RADS D only)

Screening pathways: Scenario 2 is adjusted to include BI-RADS D women only in the dense breast pathway.



4.3 Scenario 3 – Introducing risk-based screening

Key insights

- This scenario provides a risk-based screening pathway, supported by a risk assessment at age 40 to identify women with high risk of developing breast cancer.
- These changes could together cost approximately $76.3 million per annum, or $763.6 million over ten years (in nominal terms).

4.3.1 Scenario 3 | Results

Scenario 3 introduces risk-based screening, where starting age and screening frequency depend on age, as well as risk assessments at age 40, increasing program costs by $76.3 million annually.

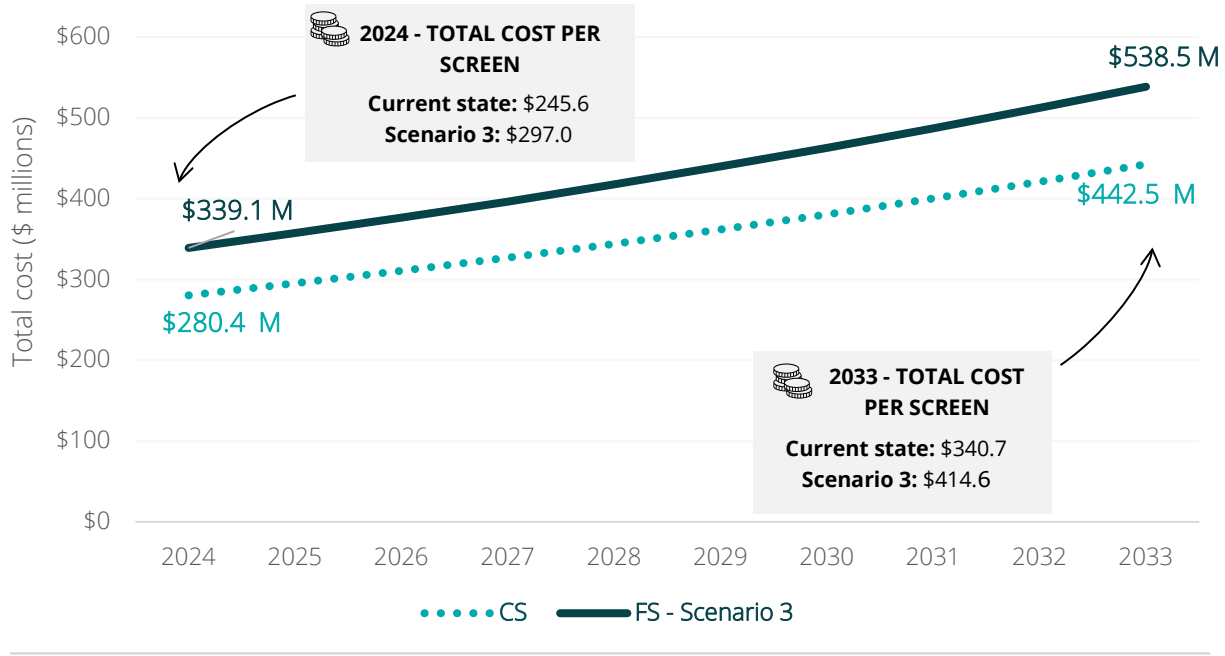
Scenario 3 modelling results

From 2024 to 2033, implementing a risk-based screening approach is expected to increase annual program costs by approximately $76.3 million compared to the current state, resulting in an additional $763.6 million over the 10-year period, in nominal terms (Chart 4.11). The key cost drivers for scenario 3 include:

- Investment in screening technology: Transitioning to tomosynthesis will add approximately $15.7 per initial scan, contributing to about 6% of the total additional costs in Scenario 3.

- Preliminary risk assessments: Scenario 3 introduces around 85,000 risk assessments annually, costing an estimated $3 million per year. This cost covers staff time and the scans and tests performed during the assessment.
- Adjusting commencement age and screen frequency by risk: The reduction in screens from decreasing screening frequency for low-risk women is outweighed by the increased number of screenings from lowering the commencement age and increasing the frequency for high-risk women. This leads to approximately 197,000 additional screens annually and costs an estimated $63.1 million per year.

Chart 4.11 The total nominal cost of the BSA Program in the current state and scenario 3, 2024-2033



ADDITIONAL COST (total over 10 years)	ADDITIONAL SCREENS (per annum)	ADDITIONAL ASSESSMENTS (per annum)
+$763.6 MILLION	+197,438	+6,572

Source: Deloitte Access Economics analysis (2024) using the BSA Program Cost Model
Note: CS = Current state, FS = Future state

4.3.2 Scenario 3 | Sub-scenarios

Increasing the participation rate and adding supplementary screening pathways for women with high breast density or the highest risk of breast cancer could all further increase the costs of scenario 3.

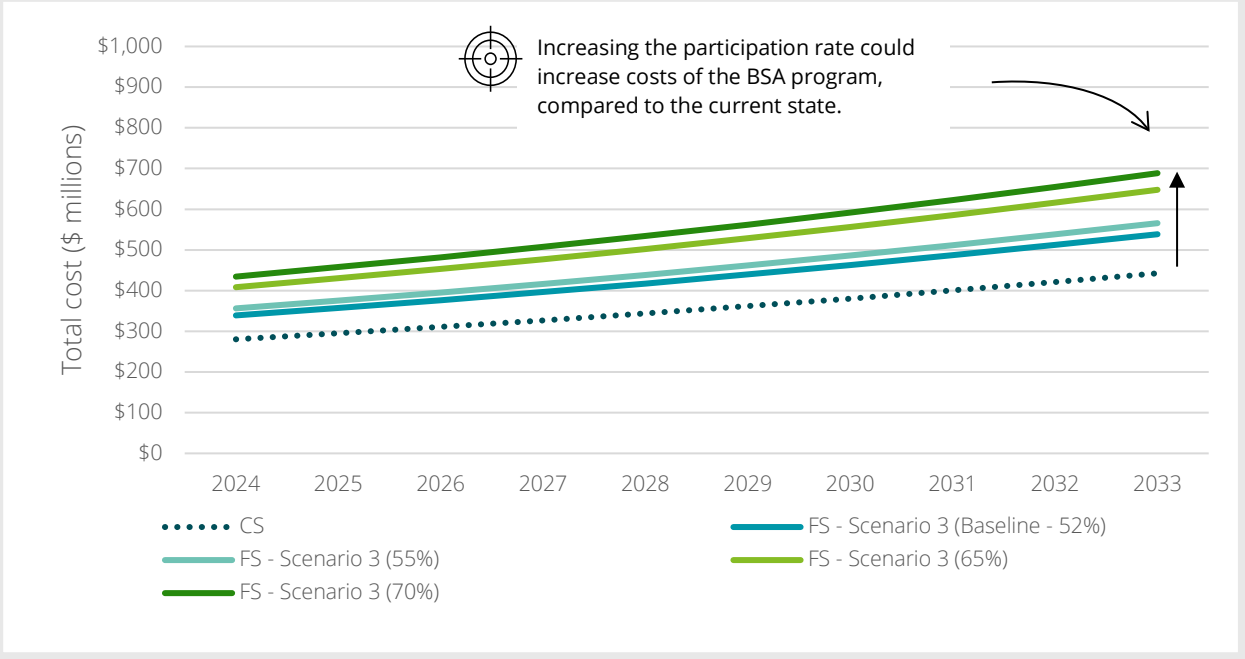
Target population

- Increasing the participation rate for women aged 50-74 years to 55% could increase annual costs by $98.2 million, compared to the current state

- Further increases in the participation rate to 65% and 70% could raise costs by $164.3 million and $197.2 million per year, respectively, compared to the current state

Chart 4.12 The total cost of the BSA Program in the current state, scenario 3 – adjusting participation rate

Target population: Participation rate for women aged 50-74 years is adjusted to 55%, 65% and 70%.

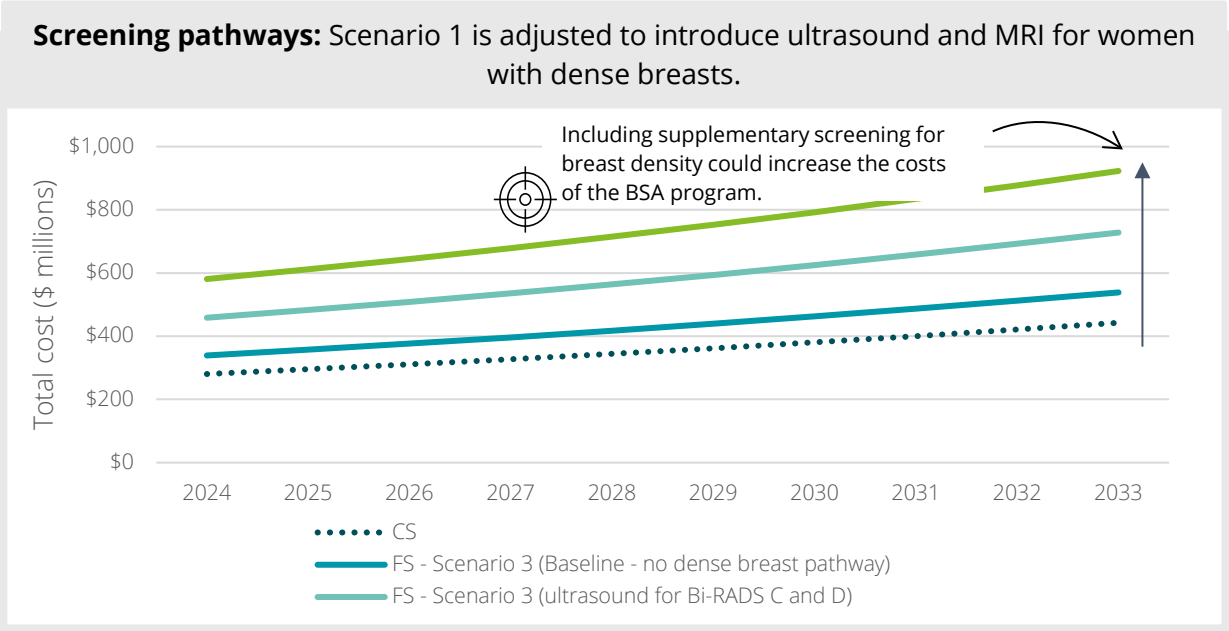


Source: Deloitte Access Economics analysis (2024) using the BSA Program Cost Model
Notes: Note: CS = Current state, FS = Future state. See Appendix C for further information on the assumptions and inputs used in the future state modelling.

Screening pathways

- Introducing ultrasound screenings for women with dense breast tissue (BI-RADS C/D) could lead to an annual cost increase of $228.5 million, compared to the current state
- Supplementing with MRI screenings could add $384.8 million per year, compared to the current state.
- Cost increases are due to the higher costs of screening and increased recall rates associated with ultrasound and MRI-based screenings.

Chart 4.13 The total cost of the BSA Program in the current state, scenario 3 – including breast density

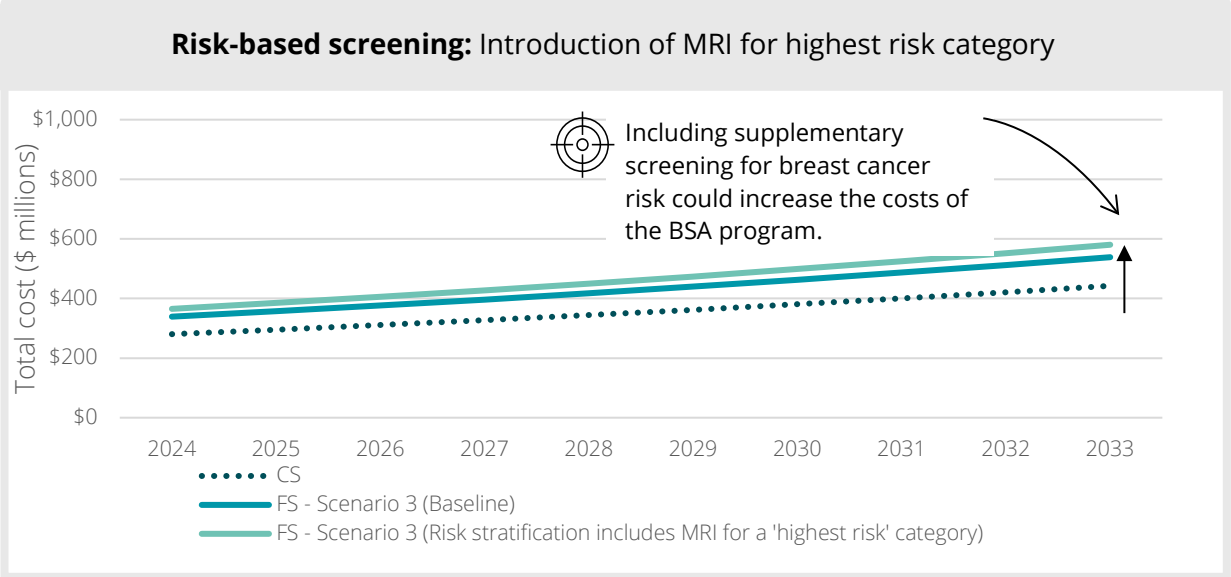


Source: Deloitte Access Economics analysis (2024) using the BSA Program Cost Model
Notes: Note: CS = Current state, FS = Future state. See Appendix C for further information on the assumptions and inputs used in the future state modelling.

Risk-based screening

- Introducing MRI screenings for women in the highest risk category (top 1%) could lead to an annual cost increase of $109.9 million compared to the current state.
- This cost increase is due to the higher costs of screening and increased recall rates associated with MRI-based screenings.

Chart 4.14 The total cost of the BSA Program in the current state, scenario 3 – including highest risk strata (top 1%)



Source: Deloitte Access Economics analysis (2024) using the BSA Program Cost Model
Notes: Note: CS = Current state, FS = Future state. See Appendix C for further information on the assumptions and inputs used in the future state modelling.

5. Review of the government funding mechanism

Review of the approach to allocating Commonwealth and State and Territory government funding for the BSA Program.

5.0 Review of the BSA funding approach | Overview

This funding review aims to provide guidance on potential, alternative mechanisms that could allow the Commonwealth, States and Territories to fund the BSA Program in a way that supports its ongoing, effective delivers.

Overview of this chapter

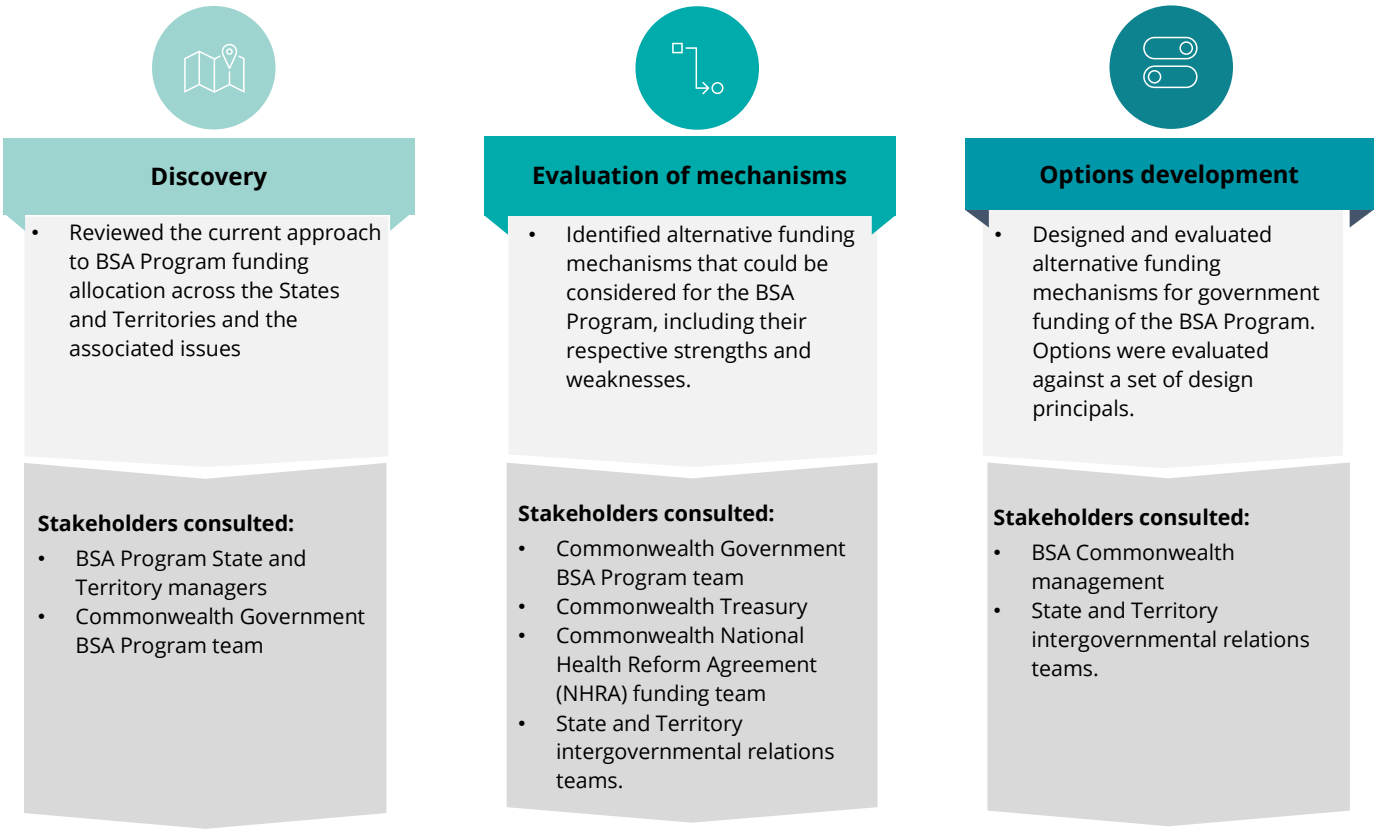
This chapter reviews the funding mechanism used by the Commonwealth and State and Territory governments to fund the BSA Program.

The review was conducted in three stages, supported by a series of stakeholder consultations, as summarised in Figure 5.1. The findings are structured across the following sections:

- **Current funding mechanism (Section 5.1):** An overview of the existing funding mechanism for the BSA Program and the key challenges.
- **Review of alternative funding mechanisms (Section 5.2):** An assessment of the strengths and weaknesses of alternative funding mechanisms available to enable Commonwealth and State and Territory joint funding to support the BSA program.
- **Funding mechanisms for the BSA Program – options analysis (Section 5.3):** An exploration of potential alternative mechanisms for allocating the Commonwealth funding contribution to the States and Territories for the BSA Program. This section builds on the findings from Section 5.2 to design options that address the issues identified in Section 5.1.

The findings aim to support the Commonwealth and State and Territory governments in making decisions about the future approach to funding the BSA Program. However, it is important to note that the analysis presented is high-level and conceptual. Further consultation with key stakeholders is necessary to develop more detailed evaluations of the risks and benefits of any preferred funding approach.

Figure 5.1 Approach to the review of the BSA funding approach



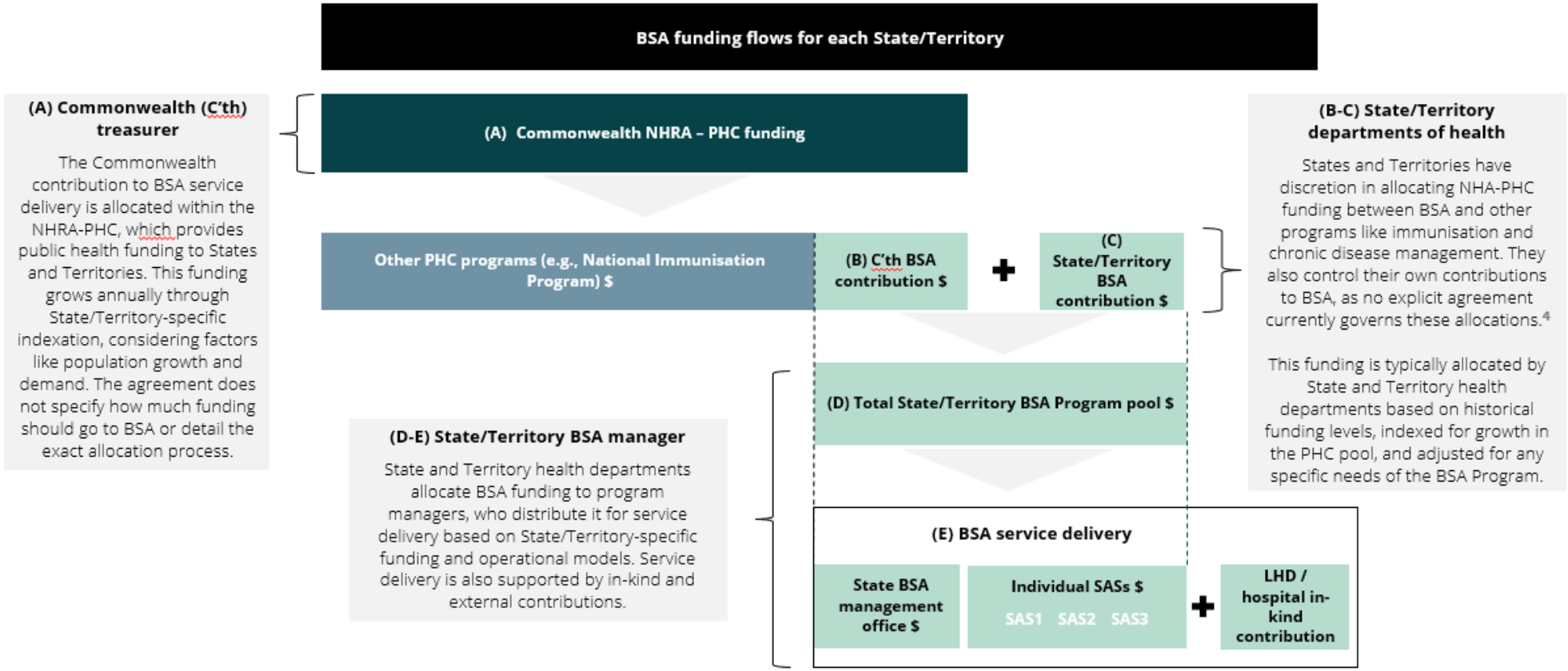
5.1 Current funding mechanism

Key insights

- The BSA Program is jointly funded by Commonwealth and State and Territory governments to support service delivery. Commonwealth funds have been allocated to States and Territories through the NHRA - Public Health Component (PHC) since 2012. State and Territory Treasuries allocate funds to State and Territory managers, who distribute them to Screening and Assessment Services (SASs).
- Stakeholder consultations identified four key issues with the current allocation of government funding (NHRA – PHC) including a lack of transparency, misalignment with cost drivers, and unclear roles and responsibilities across certain aspects of funding.

5.1.1 Overview of BSA Program funding flows

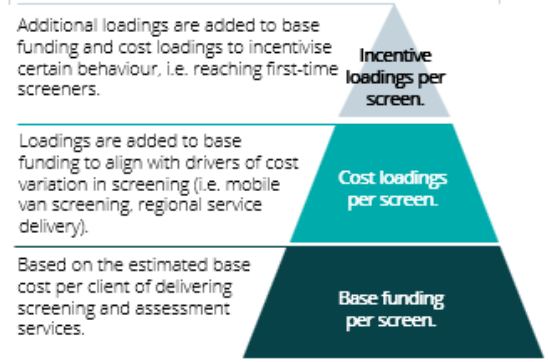
The BSA Program is jointly funded by Commonwealth and State and Territory governments. Commonwealth funds have been allocated to States and Territories through the NHRA-PHC since 2012.



5.1.2 BSA State/Territory manager allocations

After funds are allocated to State and Territory managers, they distribute them to SASs through jurisdiction-specific funding models. These models fall into two types: activity-based funding (ABF) and resource-based funding.

BSA State and Territory program managers use one of two methods to allocate the State/Territory BSA Program funding pool across SASs. As shown below, some employ an activity-based funding model (ABF), others employ a resource-based funding mechanism.

	Method 1: ABF allocation	Method 2: Resource-based funding allocation
About the funding approach	Funding is allocated to SASs through an activity-based model, which uses activity targets, loadings and incentive payments to allocate funding on an annual basis. Funding is allocated through two channels: **1. Variable funding** **Funding allocation per screen * number of screens per SAS.**  **2. Fixed funding** $ allocation per SAS to support non-activity driven service delivery costs, such as: • Local health promotions costs. • Service unit maintenance. • Service unit leases and overheads.	Funding is allocated based on historical agreements and grown annually by an index rate. Annual funding per SAS are allocated through a three-step process: **1. Resource planning** Planning is undertaken periodically to determine resource allocations across SASs, including: • Staffing allocations. • Mobile van allocations. • Service delivery overheads (such as maintenance, fixed-unit leases etc.). Resource planning is generally dependent on historical allocations. **2. Cost indexation** Resource costs per SAS are determined by historical funding plus cost indexation, which can be determined by a range of factors (dependent on region), including: • Inflation. • Cost variation across regions. • Total growth in allocated funding for the BSA Program. **3. Funding adjustments** Adjustments to the allocation of funding per SASs are sometimes made due to feedback from SASs. Examples of funding adjustments include: • Unscheduled maintenance • Above-planned activity.
Relevant jurisdictions	NSW, Queensland, Victoria.	ACT, NT, South Australia, Tasmania, Western Australia.

5.1.3 Issues with the current government contribution to service delivery

Stakeholder consultations identified four key issues with the current allocation of government funding (NHRA – PHC), including lack of transparency, misalignment with cost drivers, and unclear roles and responsibilities.

	Issue	Impact
Transparency of funding allocation. 	Stakeholders identified that there is a lack of transparency in overall funding allocation across the BSA Program. Under Clause A15 of the NHRA-PHC, State and Territory health departments have full discretion over how public health funds are distributed among various programs, including BSA. However, there is no national reporting on the amount allocated to BSA from the PHC, or how much State and Territory governments contribute to the Program.[5]	The lack of transparency can affect local service planning. Stakeholders identified that they often do not fully understand the process of how the BSA Program funding is allocated each year, creating uncertainty about future funding. This can impact long-term workforce, infrastructure and maintenance planning, particularly in an environment of rising costs. At the national level, limited transparency also restricts reporting and evaluation. Without clear data on how much funding is dedicated to BSA, the Commonwealth and stakeholders cannot assess whether the Program is adequately resourced or where additional funding is required. The inability to track funding also weakens national coordination of the Program, preventing the Commonwealth Government from assessing the allocative efficiency of funds across jurisdictions or identifying causes of differences in outcomes across jurisdictions.
Alignment of funding growth with cost-drivers. 	Stakeholders identified concerns of a misalignment between funding growth and BSA's specific cost drivers. While NHRA-PHC includes annual escalations for population growth and demand, these adjustments do not reflect key cost drivers unique to BSA, such as rising radiologist fees, the increasing cost of consumables, and growing workforce expenses. As one stakeholder explained, "The indexation probably isn't adequate… costs of repairs/maintenance and consumables have gone up and the budget hasn't increased by the same amount."	This misalignment has a direct impact on the Program's ability to meet its objectives. Stakeholders identified that cost pressures often lead to increased in-kind contributions from radiologists and other staff to meet demand and can lead to delays in key equipment maintenance and technology upgrades. This can impact the Program's overall efficiency and quality in the longer-term, limiting its ability to adapt to changing service needs through key investments and impacting its long-term sustainability.

Levers to meet Commonwealth objectives. 	The Commonwealth sets overarching goals and plays a key role in coordinating the national policy, strategy and direction of the BSA Program. However, it cannot directly allocate funds for these purposes through the current funding mechanism (NHRA-PHC).	This lack of control can lead to inconsistent service delivery and experiences across States and Territories, particularly for those that face higher service delivery costs. For example, the Commonwealth Government cannot ensure that all jurisdictions are implementing essential innovations or improvements at the same pace. Furthermore, the Commonwealth's inability to directly fund short-term national priorities, such as adopting new screening technologies or addressing short-falls in State/Territory funding allocations, weakens its ability to ensure the BSA Program keeps pace with evolving healthcare standards and demands.
Clarity of funding roles and responsibilities. 	There is a lack of clarity regarding the roles and responsibilities of the Commonwealth and State/Territory governments in funding BSA. At the delivery level, there is uncertainty about the roles and responsibilities of BSA funding in undertaking post-assessment activities, such as the insertion of markers. Further, some stakeholders identified that there is some uncertainty about the role of Commonwealth Government funding in ensuring service consistency and access across jurisdictions and investing in future innovation.	This lack of clarity in the roles and responsibilities of BSA stakeholders can create uncertainty about how funding and costs are managed and the consistency of practices across jurisdictions.

5.2 Review of alternative funding mechanisms

Key insights

- This section presents six funding mechanisms available to the Commonwealth and State and Territory governments to support the allocation of funding for the BSA Program.
- Mechanisms can be categorised as those within the NHRA and those outside of the NHRA.

5.2.1 Government funding mechanisms

The Commonwealth and State and Territory governments have several funding mechanisms available to support the allocation of funding for the BSA Program, each of which have specific benefits and drawbacks.

Funding allocated within the NHRA

1. **NHRA – PHC (Current Model):** The NHRA-PHC is a block funding mechanism where the Commonwealth allocates a lump-sum payment to States and Territories to cover public health services, including BSA. The allocation grows annually by a set growth factor, typically based on population growth, demand, and other demographic factors. The funding is not earmarked for specific programs, giving States and Territories full discretion over how the funds are distributed among public health initiatives. The NHRA framework requires minimal reporting on how these funds are used, limiting direct Commonwealth oversight of their impact on programs like BSA.5
2. **Block Funding within the NHRA:** Block funding within the NHRA is more targeted than the NHRA-PHC. The Commonwealth Government allocates funds to specific services or programs, such as the BSA Program, to ensure that the funding is used exclusively for the intended purpose. The amount of funding is determined based on detailed cost analysis, population data, and service demand. Although the States and Territories retain operational flexibility, they must adhere to the purpose outlined in the funding agreement.[5]
3. **ABF within the NHRA:** In ABF, funding is allocated based on service activity levels. States and Territories report the number and types of services delivered and the Commonwealth calculates funding accordingly. Each service has a defined unit price, established by the Independent Hospital Pricing Authority (IHPA), which determines how much the Commonwealth will reimburse States and Territories based on the volume of services provided. Determining the unit price requires robust data collection and regular reporting on service delivery, with the National Health Funding Body and IHPA overseeing the accuracy of reported activities and ensuring that payment aligns with actual service volumes.[5]

Funding allocated outside of the NHRA

4. **Medicare Benefits Schedule (MBS):** The MBS is a fee-for-service model in which specific medical services are subsidised by the Commonwealth Government. Under this mechanism, services bill the Commonwealth Government directly through specific MBS items (such as biopsies or ultrasounds).[6] Consultations identified that, as the BSA Program cannot currently bill Medicare due to it being a public health program, structural changes would need to be implemented, such as the creation of

new MBS items that existing BSA clinics can claim and potentially through allowing private clinics to also provide BSA services.

5. **National Partnership Agreement (NPA):** NPAs are bilateral or multilateral agreements between the Commonwealth and States and Territories, where funding is tied to achieving specific outcomes or milestones. NPAs are often used for time-limited initiatives, such as expanding services or upgrading infrastructure. The Commonwealth specifies the funding amount, desired outcomes, and timelines in the agreement, and States and Territories are responsible for delivering the services and reporting on progress. NPAs include performance-based funding, meaning States and Territories must meet agreed-upon targets to receive funds. Regular reporting and accountability mechanisms are established as part of the agreement.[7]

5.2.2 Strengths and weaknesses of funding mechanisms | NHRA components

The strengths and weaknesses of each funding mechanisms were assessed through consultations with Commonwealth, State and Territory treasury stakeholders

Mechanism	Strengths	Weaknesses	Implementation considerations
NHRA – PHC (current funding)	• Provides flexibility for States and Territories to allocate funds according to local public health priorities. • Simplifies administration by bundling multiple programs into a single public health funding stream. • Allows for operational discretion at the State/Territory level without Commonwealth intervention. • NHRA-PHC funding is exempt from adjustments made due to a breach of the current NHRA growth cap.	• Lacks transparency in how funds are distributed to specific programs like BSA. • Limited accountability mechanisms to ensure funds are used effectively to meet national objectives. • The Commonwealth has little control over the allocation of resources to critical services. • Difficult to evaluate the cost-effectiveness of the funding due to the lack of detailed reporting.	• The mechanism needs stronger reporting and accountability measures to improve transparency. • May be required to be coupled with other mechanisms, such as NPAs or grants, if more targeted funding for specific States and Territories is required.
NHRA-Block funding	• Targets specific programs or services, ensuring dedicated funding for key initiatives like BSA. • States and Territories retain operational flexibility while the Commonwealth maintains oversight over the purpose and outcomes.	• Funding is not activity based, potentially limiting the ability to meet unexpected service demand levels. • Block funding may still require significant negotiation between the Commonwealth and States and Territories, particularly in determining the	• Requires clear agreement on the scope and scale of funding across jurisdictions. • Stronger reporting mechanisms are needed so program costs can be incorporated into

	• Can be designed based on detailed cost analysis and service demand, aligning drivers of funding to specific program cost-drivers. • Improves the transparency of funding allocated by stakeholders to specific programs. • Like the NHRA-PHC, block funding is exempt from adjustments made due to a breach of the current NHRA growth cap.	appropriate amount of funding for each State and Territory. • Block funding may cause greater restrictions to how States and Territories can share funding across public health initiatives to meet periodic or shared costs.	funding allocation and indexation decisions.
NHRA-ABF	• Links funding directly to service delivery, incentivising efficiency and increasing accountability. • Funding is tied to actual activity levels, allowing funding to adapt quickly to meet fluctuates in demand. • Ensures more equitable distribution of resources based on program use and demand.	• ABF is currently designated for acute hospital services. Programs such as BSA do not fit the definition of activity that can be funded under ABF. • May not cover the fixed costs associated with small-scale service delivery. • Administrative burden may increase as detailed reporting on service delivery is required.	• ABF funding would require a change in structure to allow for programs, such as BSA, to be funded. • Additional funding is likely required to support fixed costs of small-scale service delivery. • May require new data collection systems to accurately track activity levels and funding needs.
MBS	• Provides a well-established funding mechanism with transparent pricing. • Links funding directly to service delivery, incentivising efficiency and increasing accountability. • MBS is already a key component of the health system, with broad familiarity across stakeholders.	• Would require a change in program structure, or the establishment of specific MBS items to allow for claims for public health services like the BSA Program. • Pricing can be rigid and may not reflect service delivery costs across jurisdictions. Further, price increases may not keep pace with inflation and cost increases, which may disproportionately impact more vulnerable communities who face higher costs to receive care. • If physicians do not bulk bill, participants	• Regulatory amendments would be necessary to add specific BSA services to the MBS. • Careful and robust planning and analysis would be required to determine MBS pricing for BSA activities and the implication on service access across providers. • May require a robust private sector with the capacity to deliver the required services, if the private sector is able to claim BSA MBS items. • Would require the development of quality assurance processes to

		will incur out-of-pocket costs, creating inequitable access to the Program.	ensure program quality in the private sector.
NPA	• Provides a flexible, targeted funding mechanism that can address specific program outcomes. • Clearly defines milestones and outcomes, ensuring accountability and alignment with national priorities. • Allows for negotiation between the Commonwealth and States and Territories, ensuring that both parties' priorities are addressed.	• NPAs are time-limited, which can create uncertainty if used for ongoing or long-term funding. • Administrative complexity is high, particularly at the negotiation stage. • Negotiations of NPAs can be delayed, limiting the use of NPAs for funding urgent situations.	• Should be used for targeted, non-permanent and non-urgent funding, not for core operational funding. • Requires clear reporting structures and measurable milestones to ensure success. • Planning for the long-term funding requirements of resources paid for through NPAs is important to avoid unintended consequences, such as expanding the Program's ongoing cost base with additional revenue.

5.3 Funding mechanisms for the BSA Program - Options analysis

Key insights

- This section assesses four separate options for the allocation of Government funding for the BSA Program
- Each option presents a unique trade-off between effectiveness of funding and increased complexity and risk.

5.3.1 Funding options

This section evaluates five options for the allocation of funding for the BSA Program.

Table 5:1 Options evaluated

	Mechanism for funding of BSA Program					Scope of BSA Program	
	NHRA-PHC	**NHRA-Block**	**NHRA-ABF***	**MBS^**	**NPAs**	**Screening**	**Assessment**
Current State *Both screening and assessment funded through NHRA-PHC.*	✓					✓	✓
Current State + NPAs *Both screening and assessment primarily funded through NHRA-PHC with discretionary funding provided through NPAs.*	✓				✓	✓	✓
NHRA-Block + NPAs *Both screening and assessment primarily funded through NHRA-Block with discretionary funding provided through NPAs.*		✓			✓	✓	✓
NHRA-Block for Screening Only *The scope of the BSA Program is narrowed to screening only and is primarily funded through NHRA-Block. Assessment is funded through 'usual care' (i.e., MBS and public hospitals).*		✓			✓	✓	*Becomes part of 'usual care'*

**Note: NHRA-ABF is viewed to be not a feasible funding mechanism due to its restriction to funding hospital-based activity.*

^Note: MBS is viewed to be not feasible within the BSA program.

5.3.2 Design principles

To guide this review, five design principles were developed through consultations with stakeholders to align government funding with the needs of the BSA Program.

Through consultations with stakeholders, five design principles were developed to support the evaluation of Government BSA funding approach options (Figure 5.2). Evaluation of each option against design principles was undertaken through a rating system, presented in Figure 5.3.

Figure 5.3 Approach to evaluating funding options against design principles

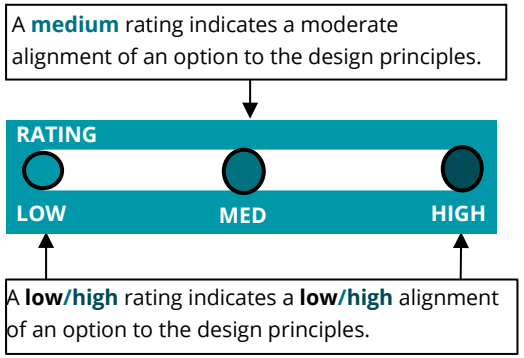


Figure 5.2 Design principles for the evaluation of alternative funding options

1	2	3	4	5
Effectiveness & Equity	**Transparency**	**Adaptability**	**Feasibility**	**Reduced exposure to risk for the government**
The funding mechanism supports the BSA Program in achieving its overarching goals. **Dimensions:** • **Reach of Program:** Ensures the Program is accessible to the target population. • **Equity of Access:** Promotes equal access to services for all eligible individuals, regardless of socioeconomic status or geographic location. • **Sufficiency of Service Delivery**: Ensures adequate resources and capacity to meet the demand for screening services.	The funding mechanism is accessible, clear, and predictable for stakeholders. **Dimensions:** • **Clarity of Funding Calculation:** The method for calculating funding is understandable. • **Predictability of Year-on-Year Funding:** Provides consistent and reliable funding levels to allow for stable program planning. • **Accountability:** Expenditure can be tracked to understand the costs and cost drivers of the Program.	The funding mechanism can respond to changes in demand, evolving practices, and emerging needs, ensuring the Program can adapt and remain effective. **Dimensions:** • **Responsiveness to Demand:** Capable of scaling up or down based on fluctuations in demand for screening services. • **Responsiveness to Changing Circumstances:** Capable of meeting needs associated with changing screening pathways and new technology.	The funding mechanism is viable and realistic to implement, considering available resources, financial sustainability, and operational capabilities. **Dimensions:** • **Stakeholder Buy-In:** Gains support and acceptance from key stakeholders. • **Feasibility of Implementation:** Practical and achievable within the current resource constraints. • **Disruption to Current Funding:** Funding from approach is not less than current allocations.	The funding mechanism does not significantly shift financial responsibility between the Commonwealth and State and Territory governments. This includes risks of one government level bearing a disproportionate share of costs, increased accountability for unforeseen expenses, or the financial burden of program expansion and service delivery.

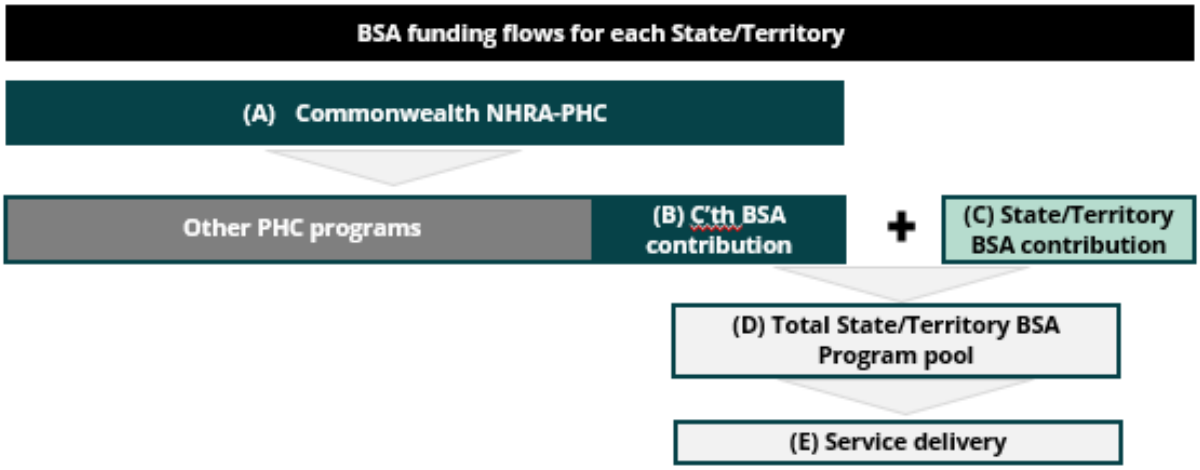
5.3.3 Option evaluation | Current state

All funding for BSA Program delivery continues to be allocated through the NHRA-PHC.

About the funding approach

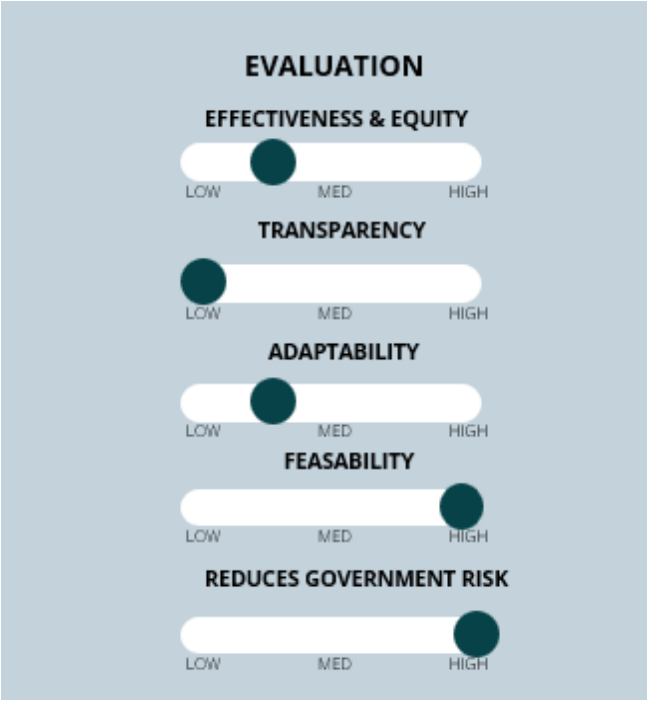
This option continues the current funding approach, where all funding for the BSA Program is distributed through the NHRA-PHC. Under this mechanism, funding is bundled into the broad public health pool, with annual growth determined by demographic factors such as population and demand. State and Territory health departments continue to have full discretion over how much funding is allocated from the PHC to BSA, as well as how much State and Territory government funding contributes to the delivery of BSA. See Figure 5.4.

Figure 5.4 Funding flows under Current State



Enablers for implementation

- No additional major changes required, as this approach is already in use.



Strengths

- Highly **feasible,** as it maintains the existing approach.
- Minimises financial **risk** exposure for the Commonwealth Government by providing States and Territories with flexibility in how funding is allocated.

Weaknesses

- **Transparency** is low due to the absence of detailed reporting mechanisms for BSA funding.
- Limited **adaptability**, with no levers for the Commonwealth to influence funding based on national priorities.

- **Effectiveness** is constrained by the misalignment of indexation with actual cost drivers, limiting the ability to meet national objectives, despite benefits associated with providing States and Territories with flexibility in funding allocation to meet local needs.

5.3.4 Option evaluation | Current state with NPAs

Ongoing funding is allocated through the NHRA-PHC and discretionary funding is allocated through NPAs.

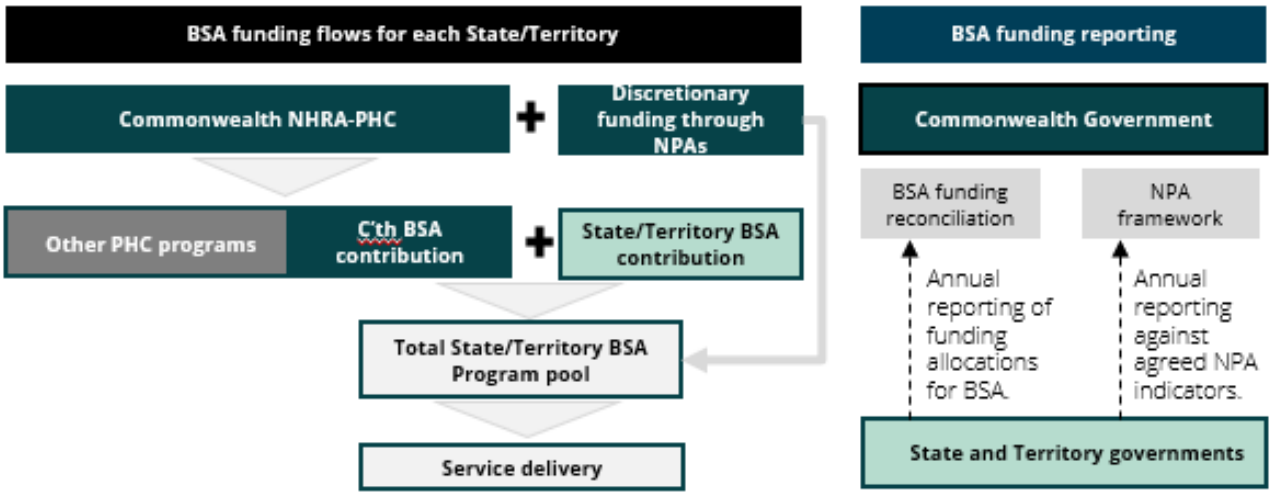
About the funding approach

In this option, core BSA funding continues through the NHRA-PHC, while discretionary funding is allocated via NPAs to support national program objectives (Figure 5.5).

To support funding allocations, a structured framework is developed to support the allocation of discretionary funding, detailing the specific purposes through which stakeholders can be approached to enter an NPA and the channels through which these funding conversations can be initiated. Based on consultation findings, there is scope for the Commonwealth Government to define a funding role which supports non-permanent investments that are crucial to maintaining service access and consistency across jurisdictions.

In addition, this approach includes internal annual reporting from States and Territories to Commonwealth BSA management on the allocation of funding to support the BSA Program. This reporting occurs outside of the funding arrangement to increase the transparency in funding allocations across jurisdictions.

Figure 5.5 Funding flows under Current State with NPAs



Enablers for implementation

- **NPA Framework**: Develop a clear framework detailing the scope and processes for NPAs in the BSA Program. This should outline financial responsibilities and risk management strategies between Commonwealth and State and Territories, ensuring accountability and alignment with national goals.
- **Internal Reporting**: Establish a reporting framework to track how States and Territories allocate BSA funding, improving transparency and allowing for better monitoring of program outcomes.

Strengths

- Improves **effectiveness**, equity and adaptability through targeted use of NPAs.
- Improves **transparency** through internal reporting of funding allocations.
- Highly **feasible**, requiring minimal changes such as establishing new reporting frameworks.

Weaknesses

- Improvements in **effectiveness** are still constrained by the misalignment of indexation with actual cost drivers.
- **Transparency** improvements are limited, as internal reporting may lack enforcement mechanisms.
- Slightly increases the financial **risk** of Commonwealths Governments through greater use of NPAs, due to risks that NPAs pose in expanding the ongoing cost base of the Program.

5.3.5 Option evaluation | NHRA-Block funding with NPAs

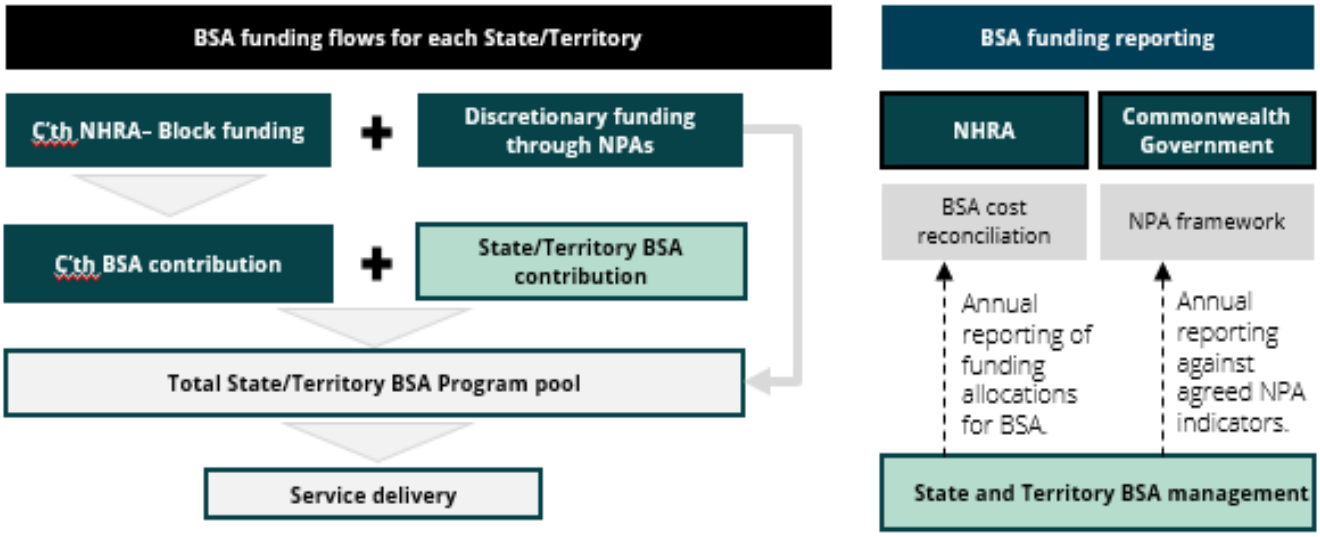
Ongoing funding is allocated through NHRA-Block funding and discretionary funding is allocated through NPAs.

About the funding approach

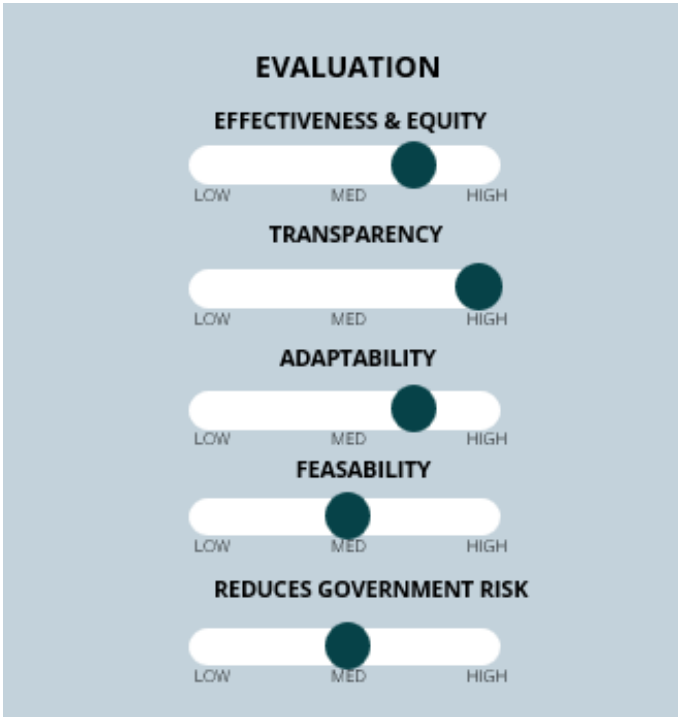
In this option, ongoing funding for the BSA Program is allocated through NHRA block funding. Initial and ongoing block funding amounts for each State and Territory would be determined by the NHRA and other bodies, including the IHPA, which would establish a base funding level using historical cost data and service demand forecasts. Initial funding levels would be negotiated between the Commonwealth and States and Territories based on these estimates. An annual cost reporting process would be undertaken by State and Territory governments to inform this process.

Further, discretionary funding is allocated through NPAs, as per the Current State with NPA option.

Figure 5.6 Funding flows under NHRA-Block funding with NPAs



Enablers for implementation



- **NPA Framework**: Develop a clear framework detailing the scope and processes for NPAs in the BSA Program. This should outline financial responsibilities and risk management strategies between Commonwealth and State and Territories, ensuring accountability and alignment with national goals.
- **Funding Transition Analysis**: Conduct thorough analysis to quantify the amount of funding to be shifted from NHRA-PHC to block funding. This should focus on minimising disruptions to BSA funding and ensuring other public health programs are not negatively affected during the transition.
- **Financial Reporting Standardisation:** Develop standardised financial reporting mechanisms to support the block funding cost reconciliation process.

Strengths

- Improves **effectiveness** by aligning funding indexation with cost drivers of the BSA Program.

- Increases **transparency** due to reporting for the block funding cost reconciliation process.
- Improves **adaptability** through targeted NPAs and dedicated program funding which can be annually adjusted.

Weaknesses

- Moderate **feasibility**, requiring a complex transition process, with potential resistance from stakeholders due to an increased admin burden and reduced funding flexibility for States and Territories.
- Financial **risk** to the Commonwealth increases, as NPAs may expand the Program's ongoing cost base and moving funding out of PHC may impact funding of other PHC programs.

5.3.6 Option evaluation | NHRA-Block for Screening Only

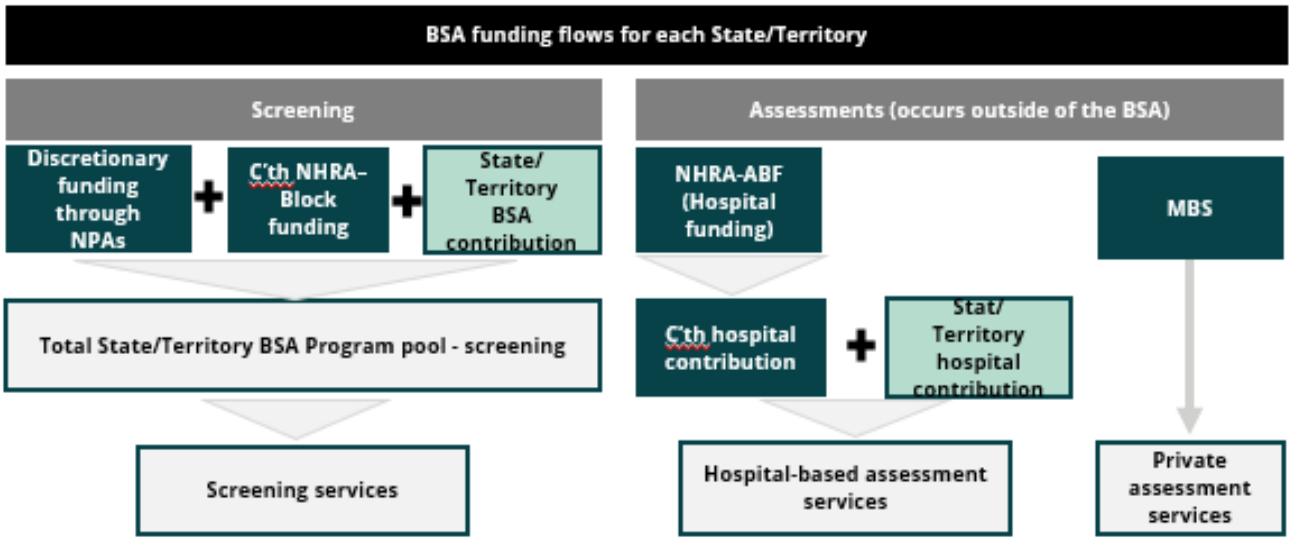
The scope of the BSA Program is narrowed to screening only and is primarily funded through NHRA-Block. Assessment is funded through 'usual care'.

About the funding approach

In this option, the scope of the BSA program is narrowed to screening only, and thus Government funding for the BSA Program is allocated to cover the per annum **costs of screening only**, through block funding within the NHRA. Assessment services would then occur through usual care pathways (i.e., through public hospitals for public assessments or MBS items for private assessments). This structure is outlined in Figure 5.7 and aligns with the Bowel Cancer Screening Program approach where diagnostic assessment is part of 'usual care' pathways.

Further, discretionary funding is allocated through NPAs, as per the Current State with NPA option.

Figure 5.7 Funding flows under Option 3



Enablers for implementation

- **NPA Framework**: Develop a clear framework detailing the scope and processes for NPAs in the BSA Program. This should outline financial responsibilities and risk management strategies between Commonwealth and State and Territories, ensuring accountability and alignment with national goals.
- **Pathway development**: Develop pathways between screening and assessment services to ensure smooth transitions. This includes establishing clear referral systems and engaging private sector providers by ensuring sufficient infrastructure and service capacity to deliver assessments.

Strengths

- Increases the **adaptability** of the Program by aligning Commonwealth Government funding with activity measures and allowing private market entry.

Weaknesses

- Overall, it is likely to reduce **equity** of access to the Program, particularly if there are long wait times for access to a public diagnostic assessment. This is current issue with the National Bowel Cancer Screening Program.
- The complexity of the model will decrease the **transparency** in the costs of the Program.
- The approach has low **feasibility**, due to the significant work required to develop supporting infrastructure. There is also likely to be limited buy-in from State and Territory stakeholders.
- State and Territory stakeholders raised that point that if there is a shift to 'usual care' for diagnostic assessments, they would expect an increase in the NHRA-ABF cap to account for the additional activity delivered.

5.3.7 Option evaluation | Summary of findings and next steps

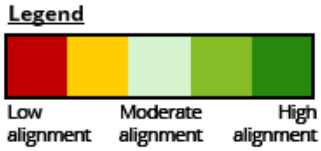
To better support the Program to meet its objectives, there is a trade-off between effectiveness of the funding approach and increased complexity and risk.

Overview of option evaluation

The analysis of alternative funding mechanism options for the allocation of government BSA funding highlights the inherent trade-offs between improving the current approach and introducing complexity or risk to stakeholders.

Feedback from States and Territories suggests that Option 2 (current state + NPAs) and Option 3 (NHRA Block funding + NPAs) are the most viable alternative options to current funding. These options address the transparency, equity, and adaptability issues present in the current approach. Both establish frameworks for using NPAs to target specific program objectives, with Option 2 relying on internal, non-enforceable reporting mechanisms and Option 3 introducing a formal cost reconciliation process to better align indexation with cost drivers.

Option 3 presents greater adaptability but carries higher implementation complexity and risk. It requires additional administrative resources, particularly during transition, and potentially introduces financial risks to the Commonwealth through NPAs and the reallocation of PHC funds. This could limit flexibility for States and Territories.



	1. Current State	2. Current state + NPAs	3. NHRA Block + NPAs	4. NHRA Block for Screening Only
Effectiveness & equity				
Transparency				
Adaptability				
Feasibility				
Financial risk to Govt.				
Notes	Provides a flexible funding mechanism that supports States and Territories to address local needs while minimising Commonwealth financial risk. However, it lacks transparency and has limited mechanisms to ensure funding is aligned with key cost drivers.	Improves the transparency of the current system through internal reporting and enhances funding effectiveness via targeted NPAs. Despite these improvements, it still lacks robust mechanisms to align funding with actual cost drivers.	Strengthens adaptability and effectiveness by linking funding to cost drivers and employing targeted NPAs. Enhances transparency but faces feasibility challenges due to increased administrative requirements, stakeholder resistance, and heightened financial risks.	Encourages adaptability and private sector involvement, but raises concerns about equity, increased demand on public hospital services, and potential out-of-pocket expenses. Viewed as low feasibility given the extensive system changes required.

5.3.8 Next steps

The next steps involve the Commonwealth and State and Territory governments clarifying their funding roles and responsibilities with stakeholders, conducting broader consultations, and performing financial analysis of impacts associated with alternative funding options.

Clearly defining funding roles

The first step in improving the allocation of funding is to define and clarify the funding roles and responsibilities of Commonwealth and State and Territory governments. Establishing a clear framework should precede any major funding changes, ensuring a solid foundation for decision-making.

As discussed, stakeholders have highlighted uncertainty regarding the Commonwealth's funding role, especially in ensuring consistency across jurisdictions. Inconsistency in service delivery stems from variations in service delivery costs, differing investment levels from State and Territory governments, and unforeseen pressures. State and Territory stakeholders believed that a reliance solely on State and Territory funding risks disadvantaging high-cost regions like the Northern Territory. The Commonwealth should seek to understand if it has a clear role in supporting national consistency (from a funding perspective) and the scope of this role. This may include financial, non-permanent investments, or non-financial supports.

There is also ambiguity around which assessment activities BSA should fund, particularly as cancer care technology advances (i.e., markers). To address this, the Commonwealth should review and clarify the scope of activities covered by BSA funding and consider the appropriateness of current funding allocations as the BSA program begins to replace activity usually undertaken in post-assessment phases.

Broader consultations on options

This report presents a high-level, exploratory assessment of potential alternative funding models for the BSA Program. The Commonwealth and State and Territory governments should discuss these options to refine them and consider the pros and cons of each. Specifically, this discussion should consider:

- **Defining operational detail of options**: define the detailed roles, responsibilities and operational requirements of each funding option to enable an appropriate assessment of each.
- **Implementation feasibility:** Assessing implementation requirements, such as administrative capabilities, infrastructure needs, and the capacity of jurisdictions to manage changes without disrupting existing services.
- **Regulatory and financial alignment**: Ensuring funding options are consistent with broader healthcare funding policies, such as NHRA and MBS guidelines, and exploring the role of compensation mechanisms for any cost-shifting that may occur.
- **Risk analysis and mitigation:** Identifying potential financial and operational risks.

Undertaking detailed financial analysis of the impact of transitioning to alternative options

- A comprehensive financial analysis is crucial to understanding the implications of transitioning to an alternative funding option. This analysis should consider:

- **Model funding allocations:** Estimate the magnitude of funding allocations for each jurisdiction and identify potential impacts to funding amount and continuity across jurisdictions. Further, estimate the additional cost and cost savings to government associated with alternative funding indexation over time.
- **Model impacts to the broader health system:** Identify the impact of transitioning funding to an alternative mechanism on the funding available for other PHC programs or other NHRA funding.
- **Cost of transitioning and implementing:** Estimate the additional costs associated with transitioning to and implementing an alternative funding approach. This may include, estimating the additional burden of reporting.
- **Implementation support:** Estimate the total funding required to support implementation, including compensating jurisdictions for costs associated with transitioning and implementation, and compensation to mitigate against risks to funding continuity over time.

6. Conclusion

The project assesses the current and future costs of the BSA Program, examines private sector screening costs, and explores alternative Commonwealth funding options.

The context

- BSA is a national breast cancer screening initiative established in 1991, targeting women aged 50-74 for free biennial screenings.
- The Commonwealth, in partnership with States and Territories, is conducting a comprehensive review to modernise funding, assess evidence impartially, and enhance quality and safety within the accreditation system.
- The findings for this report support the funding review. Specifically, this report:
    1. Identifies the cost of delivering the BSA program across jurisdictions
    2. Estimates is the cost of screening in the private sector
    3. Models the cost of delivering alternative future state scenarios of the BSA program
    4. Provides analysis to support Government decisions on funding of the BSA program in the future.

Key findings

Key findings of the review include:

1. **Current BSA Program Costs:** From FY 2021-23, Commonwealth, State, and Territory governments allocated $269.6 million annually to the BSA Program, translating to $236.0 per screen.
2. **Private Sector Cost Comparison:** Comparing evidence from Medicare data and the results of this report show that the BSA program tends to deliver initial diagnostic procedures for breast cancer at a lower cost than the private sector
3. **Projected Costs for Future State Scenarios:** Three future BSA scenarios model the shift toward risk-based screening. Initial adjustments, such as adopting tomosynthesis, would add approximately $9.4 million annually over the next decade. Implementing risk-based screening could cost $76.3 million per year.
4. **Funding Model Alternatives:** Three funding approaches for the BSA Program were assessed. Options that utilise the flexibility of the NHRA (through the PHC or Block Funding) and NPAs tend to address many of the short-comings of the current funding approach. However, they differ in terms of their complexity and risk to Governments.

Where to next?

To progress the findings from the review further, the Commonwealth and state and territory governments can consider:

- Develop structured processes to track BSA program service delivery costs over-time, enhancing program transparency and supporting the BSA program to identify key cost drivers that impact program accessibility. This data could also support broader cost-effectiveness evaluations of the BSA program, as per the requirements of the Population Based Screening Framework.

- Conduct primary data collection to gain a comprehensive understanding of private sector screening dynamics, enabling the Commonwealth Government to assess how BSA program reforms could impact how people screen in the future.
- Conduct a cost-effectiveness analysis on future state scenarios to evaluate and compare potential benefits and costs, providing a clearer view of the value each option may deliver, including a consideration of safety across different pathways.
    - Undertake a comprehensive design and refinement process for each of the preliminary BSA funding options. This should include specifying how each model would be implemented (covering governance, operational guidelines, and stakeholder roles), assessing potential risks and unintended consequences, and performing detailed cost analyses. The goal is to develop well-defined, evidence-based funding options to inform final decision making.

7. Appendix A

Current state costing methodology

A.1 Survey design

This appendix presents an overview of the BSA Cost Survey design process and the data fields it collected.

The BSA Cost Survey was designed in consultation with State, Territory and Commonwealth BSA representatives and collected data on service activity, service delivery costs and management costs of program delivery.

BSA Cost Survey

The current state inputs for the BSA Program Cost Model were collected via the BSA Cost Survey. This survey was developed after consultations with representatives from the Commonwealth BSA management team and each State and Territory's BreastScreen Program in which the cost and governance structures of the Program was mapped.

The BSA Cost Survey was built in Microsoft Excel and distributed to each of the State and Territories and the Commonwealth to be completed. It remained in the field for 6 months.

The survey asked each State and Territory for data on the number and type of service venues, the number of screenings and assessments delivered, in total and by priority population, as well as the overhead service delivery, staffing and state management costs for the 2021-22 and 2022-23 financial years. Further, it asked the Commonwealth BSA management team for national overhead costs. These data items were collected across five areas (refer to Tables A.1 to A.5).

Table A.1: Contextual data collected of service venues

Category	Data items
Details about facilities (by facility)	• Name • Fixed or mobile • Screening or assessment • Location • LHD
Service delivery model (by facility)	• Details on private contracts (if relevant) • Number of days per week that screening is delivered • Number of days per week that assessment is delivered • Total days per week that facility operates • Number of weeks per year that facility operates • Total number of weekend days that facility operates
Rental and moving costs (by facility)	• Property rent paid • Total cost of moving venues
Usual staffing per day on which screening occurs (by facility)	• Receptionist/ administration support (for screening) • Radiographer (for screening)

Usual staffing per day on which assessment occurs (by facility)	• Receptionist / administration support (for assessment) • Radiographer (for assessment) • Sonographer • Radiologist • Surgeon • Other medical staff • Other counselling staff
Technology used at facility (by assessment facility)	• Tomosynthesis • AI • Ultrasound • MRI • Contrast-Enhanced Mammography

Table A.2: Service delivery expense data collected

Category	Data items
Labour costs for LHD (by facility)	• Receptionist / administration support (for assessment) • Radiographer (for assessment) • Sonographer • Radiologist • Surgeon • Other medical staff • Other counselling staff
Expenditure on service delivery overheads	• Direct occupancy costs • Motor vehicle costs • Staff travel costs • Client travel costs • Training materials & professional development • Equipment & IT costs • Client consumables • Health promotion costs (local) • Support staff • Storage costs • Executive/leadership • Centralised screen reading costs • Other administrative costs • Construction or refurbishment costs
Information on supporting clients to travel to assessment (when costs are not incurred by the BSA)	• Number of screen appointments that were provided travel supports • Number of assessment appointments that were provided travel supports
In-kind supports	• Services that receive in-kind facility supports. • Services that receive in-kind motor vehicle supports • Services that receive in-kind administrative support. • Service sites that receive other in-kind supports
Private/ out-sourced service expenses	• Reading services • Other

Table A.3: Project management / administrative data collected

Category	Data items
State management - direct costs (by year)	• Executive leadership • Health promotion (central) • Screen reading costs • Admin support • Storage and postage costs • Direct occupancy costs • Equipment & IT costs
State management - in-kind supports (by year)	• In-kind facility supports (and description) • In-kind administrative support (and description) • Other in-kind supports (and description)
Total costs and funding (by year)	• Total funding (2022-23) • Total expenses (2022-23)

Table A.4: Service activity data collected

Category	Data items
Number of people screening by cohort (by facility).	• All screens • Aboriginal and Torres Strait Islander screens • Screens for people from culturally and linguistically diverse • Screens for people with disability • All other screens
Number of people attending assessments by cohort (by facility)	• All assessments • Aboriginal and Torres Strait Islander assessments • Assessments for people from CALD backgrounds • Assessments for people with disability • All other assessments
Number of people recalled for assessments by cohort (by facility)	• All assessments • Aboriginal and Torres Strait Islander assessments • Assessments for people from CALD backgrounds • Assessments for people with disability • All other assessments

Table A.5: Priority cohort cost data collected

Category	Data items
Dedicated service costs for specific cohorts.	• Training materials and professional development • Service delivery health promotion costs • Support staff (e.g., interpreters, Aboriginal support workers) • Construction or refurbishment costs • Management health promotion costs
Group appointments	• Proportion of priority cohorts that are screened through a group booking. • On average, how many people attend a group booking, per appointment (i.e. 6 people per appointment)? • On average, how long do group bookings last for, per appointment (i.e. 30
Double bookings	• Proportion of priority cohorts that are screened through double bookings.

Travel costs	• Aboriginal and Torres Strait Islanders • People from CALD backgrounds • People with disability

A.2 Survey Cost categories

This appendix presents the approach to mapping data fields to higher level categories for analysis.

A.2 Cost category definitions

Some of the original data fields across both overhead and management costs were mapped into higher level categories to support data analysis.

Overhead cost categories

To simplify analysis, some overhead cost data items were collapsed into cost categories (Table A.6). These categories include data items that are closely linked or correspond to relatively small costs. They include both direct costs and in-kind costs.

Management cost categories

For State/Territory and Commonwealth management costs, the data items were mapped to the following categories:

- Communications
- Health promotion
- Data collection and reporting
- Quality and safety systems
- Program/ service operations

Unlike overhead costs, the management data items did not directly align with the categories, so the costs were split across the categories using a mapping determined by BSA managers.

Table A.6 Collapsed cost category data items and definitions

Cost category	Data items	Category definition
Labour costs (cost and FTE)		
Receptionist / administration support	• Direct receptionist / administration support • In-kind receptionist / administration support	The cost of receptionists and other admin staff who help deliver the Program.
Radiographers	• Radiographer	The cost of radiographers who perform mammograms across screenings and assessments.
Radiologist	• Radiologist	The cost of radiologists who perform and read scans across screenings and assessments.

Support staff	• Sonographer • Surgeon • Other medical staff • Other counselling staff • Support staff	The cost of all other staff who support the delivery of the Program, including medical staff, counselling staff, interpreters and Aboriginal support workers.
Overheads (cost)		
Occupancy costs	• Direct occupancy costs • In-kind occupancy costs	The cost of occupying the Program facility, including rent, utilities and maintenance.
Motor vehicle costs & staff travel time	• Direct motor vehicle costs • In-kind motor vehicle costs • Staff travel costs	The upfront and ongoing costs of the motor vehicles used to deliver the Program, including fuel, registration and maintenance, as well as staff travel costs like accommodation and allowances.
Client travel	• Client travel costs	The costs of client travel, including travel subsidies or transport.
Training and PD	• Training materials & professional development	The costs of courses, conferences and other educational resources.
Equipment and IT	• Equipment and IT costs	*The costs of screening/ assessment technology, including mammogram, ultrasound and tomosynthesis machines, as well as other hardware such as laptop and tablets.*
Client consumables and pathology	• Client consumables • Pathology costs	The cost of single-use items, such as gloves, syringes, and breast markers, that are necessary for delivering screenings and assessments, as well the costs of pathology testing.
Health promotions (local)	• Health promotion costs (local)	The costs of promoting the Program, including through advertisements or community events.
Other overhead costs	• Executive/leadership • Centralised screen reading costs • Other administrative costs • Construction or refurbishment costs	All other overhead costs associated with delivering the Program.

A.3 Labour and overhead cost category mapping and analysis

This appendix presents the approach to separating the cost categories into screening and assessment costs.

The overhead cost categories were split between screening and assessment

Mapping cost categories

To analyse the costs and cost drivers of screening and assessment separately, it is first necessary to separate them. This was completed in two steps:

1. Determine whether each cost category is dedicated to screening, assessment or both.
2. Determine the driver of the cost category. The driver may be either FTE (i.e., increased staffing is associated with higher costs) or demand (i.e., increasing screens/ assessments is associated with higher costs). These drivers can then be used to separate those cost categories that are associated with both screening and assessment.
   For example, radiographers are associated with both screening and assessment and the costs are driven by FTE. If 80% of radiographer FTE is dedicated to screening and 20% is dedicated to assessment, then the total radiographer costs can be split accordingly.

This process was confirmed and validated through discussions with BSA State & Territory managers. The determination of screening vs assessment and cost driver for each cost category is presented in Table A.7.

Calculation of cost per screen and cost per assessment

The result of this process was screening and assessment costs by cost category, facility and jurisdiction. By combining these costs with information on the number of screenings and assessments performed, the cost per screening and cost per assessment was calculated. This enabled a comparison of costs across different jurisdictions and facilities (refer to section 2.1). Additionally, data on facility type, location, and client characteristics were used to analyse the key factors driving these costs (refer to section 2.2).

Table A.7: Cost category mapping assumptions

Cost category	(1) Screening vs assessment	(2) Allocation approach
Labour costs		
Receptionist / administration support	Screening and assessment	Allocated by FTE across both screening and assessment facilities as per Cost Survey data.
Radiographers	Screening and assessment	Allocated by FTE across both screening and assessment facilities as per Cost Survey data.
Radiologist	Screening and assessment	Allocated by FTE across both screening and assessment facilities as per Cost Survey data.
Other support staff	Majority assessment	Assessment support staff are identified through data-informed assumptions. Allocated by FTE across facilities.
Overheads (cost)		
Occupancy costs	Screening and assessment	Allocated by number of facilities and days of operation.

Motor vehicle costs & staff travel time	Majority screening (mobile vans).	Majority allocated to mobile facilities based on data-informed assumptions; remaining costs allocated by number of facilities and operating days
Client travel	Screening and assessment	Allocated based on contextual data from BSA State & Territory managers via the Cost Survey.
Training and PD	Screening and assessment	Allocated by FTE.
Equipment & IT	Screening and assessment	Allocated by FTE.
Client consumables and pathology	Majority assessment	Assessment consumables identified via data-informed assumptions; other costs allocated by service activity.
Health promotions (local)	Screening	Allocated based on service activity.
Other overhead costs	Screening and assessment	Allocated by FTE.

A.4 Limitations of the analysis

This sections presents the limitations to the costing analysis.

A.4 Limitations for the costing analysis

The current state costing analysis is limited by incomplete data, time dynamics and jurisdictional variation

The current state costing analysis has limitations concerning the completeness and representativeness of the data. Key limitations are detailed further below.

Incomplete data

- Not all jurisdictions provided complete data for all categories in the BSA Cost Survey. Some provided only high-level data, not broken down into the requested level of detail. To conduct comprehensive analysis of all jurisdictions and cost drivers, data gaps were filled using assumptions, informed through consultations with BSA state & territory managers, or assumptions informed by data from other jurisdictions.
- Additionally, there was limited screening data provided in a way which disaggregated to the cohort level (i.e., First Nations, culturally and linguistically diverse and people with disability). Consequently, analysis of these cohorts was only able to be undertaken based upon data from certain jurisdictions and may not represent the full Australian context.
- Cost data was not provided by screening and assessment service delivery, so this was disaggregated according to other contextual information and data (such as FTE) to gain an approximate understanding of how costs are allocated between screening and assessment. This approach was validated with BSA state & territory managers.

Time dynamics

- Data was collected from both the 22/23 and 23/24 financial years to reflect the BSA Program's two-yearly screening cycle. Despite this, the data collected from this period may not be completely representative of normal operating procedures. For example, if a jurisdiction made a large once-off purchase, like a new mobile van or the opening of a new clinic, the costs recorded may have been artificially inflated and not represent typical yearly expenses. Further, COVID-19 related activity was still occurring during these periods, which may bias costs and activity to some extent.

- Further, several state and territory BSA managers have reported significant cost increases in the most recent financial year, which may limit the analysis's relevance for current program cost insights.

Jurisdictional variation

- Certain cost categories, such as technology costs, vary widely across jurisdictions, providers, and contracts. Consequently, determining a single representative value can be challenging and may not accurately reflect all cases. The same applies to technology duration of life.
- Commonwealth program administration costs were only available at the national level. Consequently, to apportion these costs to the jurisdictional level, program administration costs were disaggregated based upon the number of screens delivered across jurisdictions. Because of this, Commonwealth administration costs at the per screen level are equal across jurisdictions, though this may not reflect reality depending on how Commonwealth funds are distributed.

8. Appendix B

Approach to estimating the private cost of screening

B.0 Overview

This appendix provides the approach to measuring the cost of a potential screening pathway in the private sector, as presented in section 3 (Figure 3.1) of this report.

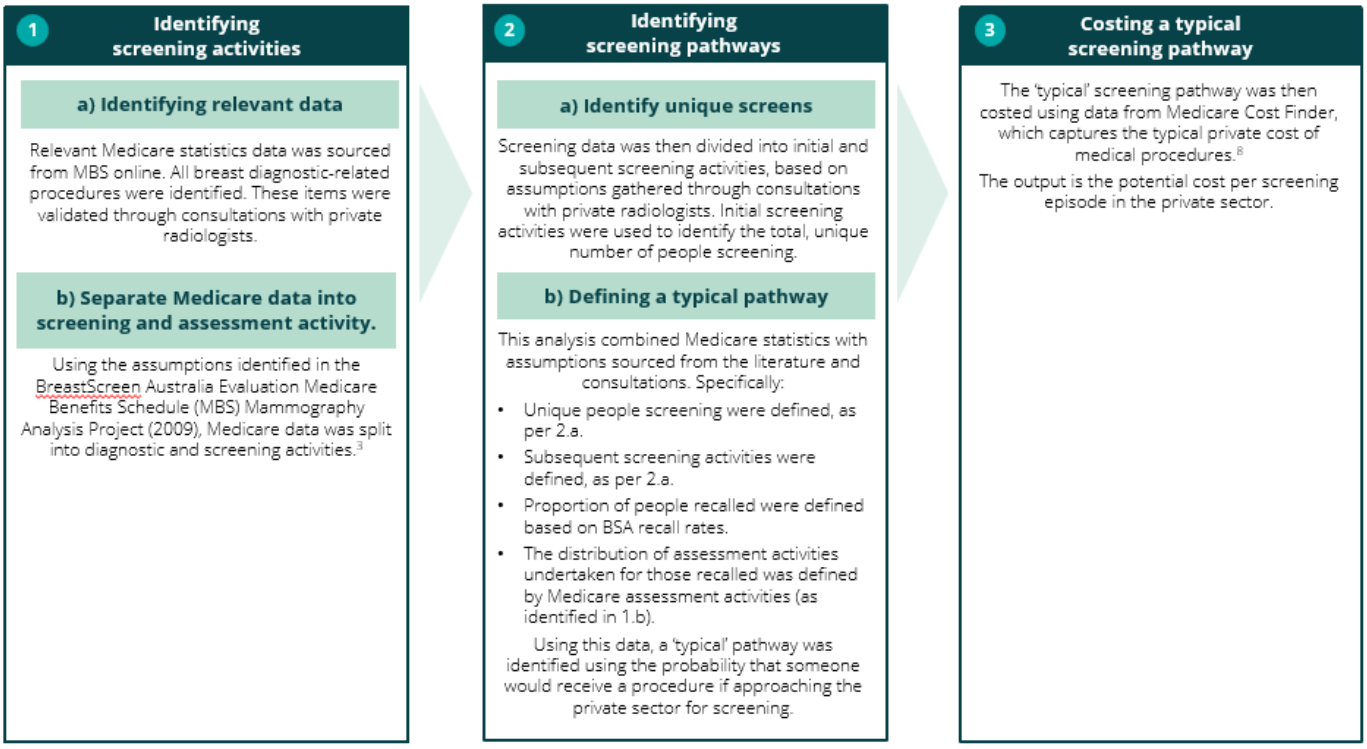
Overview of the approach

To support the assessment of the costs of screening in the private sector, this report attempted to define a 'typical' pathway for screening in the private sector for a person of 'average' risk of breast cancer. The purpose of this analysis is to understand if the BSA program delivers screening at a lower cost than the private sector, once taking into account the different pathways and overhead structures of the two systems.

Due to data limitations, this analysis should be treated as 'potential', based on the 'typical' private screening pathway identified in this analysis. The private pathway identified in this report is unable to be verified by actual data.

The approach to estimating the private cost of screening for breast cancer uses a combination of Medicare statistics, literature and consultations to identify the characteristics and costs of a 'typical' screening pathway for breast cancer in the private sector. The high-level approach used to guide the analysis is provided in Figure B.1.

Figure B.1: Approach to estimating the costs of screening for breast cancer in the private sector



B.1 Identifying screening activities

This section presents the approach to measuring screening activities in the BSA program.

B.1.1 Medicare data used in the analysis

To estimate the cost of private breast screening, the prices and quantities of 11 MBS services were considered.

Breast screening services

To inform this analysis, the price of 11 MBS services were considered, as detailed in Table B.1. This list was validated through consultation.

Table B.1: Services included in private breast screening and assessment services, ages 35 to 74

		Demand[3]		Costs
Item	MBS code	2022-23	2021-22	Total cost
Mammography, two mammograms of both breasts (bilaterally)	59300	16,070	10,260	$210
Tomosynthesis mammography, two mammograms of both breasts (bilaterally)	59302	330,531	342,581	$309
Ultrasound of both breasts, referred	55076	470,517	488,193	$217
Ultrasound of both breasts, non-referred	55079	803	748	$45
Ultrasound of one breast, with surgery	55071	23,945	23,655	$279
Ultrasound of both breasts, with surgery	55066	4,958	4,762	$329
MRI scan of both breasts	63464	4,329	5,405	$808
Fine needle aspiration, palpable lesion, each additional lesion	31506	2,618	2,634	$4,400
Breast biopsy using vacuum-assisted biopsy device	31530	4,031	4,382	$2,400
Breast biopsy using mechanical biopsy device	31548	40,210	42,881	$243
Insertion of marker clip(s) following a breast biopsy	31537	n/a	n/a	$216

Source: Deloitte Access Economics analysis (2024); Statistics (Services Australia); Medical Cost Finder (Department of Health and Aged Care); and Medical Benefits Scheme (Department of Health and Aged Care)

Note: Because quantity by age is only available publicly in 10-year increments, quantities include all services consumed by individuals aged 35 to 74, rather than 40 to 74 which would be the ideal cohort.

Mammography and tomosynthesis services by age

Table B.2 shows how Medicare mammogram and tomosynthesis services are distributed across age groups. The majority of mammogram and tomosynthesis services are undertaken for women aged 45 and over, aligning with the BSA eligible population cohort.

Table B.2: Age range of mammography and tomosynthesis services and screening counts, 2021-22 and 2022-23 average

Age range	Service counts	Distribution of services across age groups	Estimated screening counts
35-44	109,099	16.0%	32,364
45-54	205,764	30.1%	61,039
55-64	190,424	27.9%	56,489
65-74	177,471	26.0%	52,646

Source: Deloitte Access Economics analysis (2024); Statistics (Services Australia)

B.1.2 Medicare data into screening and assessment activity

A series of assumptions were utilised to estimate the number of unique screening episodes and assessment activity in Medicare data.

Table B.3: Approach to attributing services to screening and assessment activity

<table>
<tr><th>Category</th><th>MBS Item</th><th>Approach</th></tr>
<tr><td rowspan="2">Mammogram / tomosynthesis</td><td>Mammography, two mammograms of both breasts (bilaterally)</td><td rowspan="2">It is assumed that one mammogram or tomosynthesis service is provided per screening episode.[9] Mammograms and tomosynthesis were attributed to screening as follows:
1. Mammogram only: According to the study “BreastScreen Australia Evaluation Medicare Benefits Schedule (MBS) Mammography Analysis Project”, 23.3% of bilateral mammogram and tomosynthesis services are for women receiving non-diagnostic screening.
2. Mammogram and tomosynthesis: A study from the United States suggested that 74.3% of women with dense breasts eligible for screening received both a mammogram and an ultrasound, while 35.9% of women without dense breasts eligible for screening received both a mammogram and an ultrasound.[10] Further, Australian evidence suggests that approximately 50% of women fall into the high breast density categories of BI-RADS C and D.[11] Accounting for these factors, the number of women who fall into the screening cohort could be approximately 1.2 times the number of women receiving only mammograms or tomosynthesis, or 28.6% of mammogram and tomosynthesis services. This is less than the upper bound for this group which the BSA Evaluation suggests would be 31.6%.
3. Screening captured through diagnostics: Finally, 45.1% of women received assessment services (not necessarily following screening), and evidence from BSA suggests that 4.5% of women who screen go on to receive assessment services. Assuming this rate is consistent across the private sector screening population, this suggests an additional 2.5% of services provided which went on to assessment were part of screening.
Importantly, consultation with the sector suggested that MBS statistics will only account for 94% to 95% of screening services – the remaining 5% to 6% pay entirely out of pocket and are accounted for in this analysis.</td></tr>
<tr><td>Tomosynthesis mammography, two mammograms of both breasts (bilaterally)</td></tr>
<tr><td rowspan="4">Ultrasound</td><td>Ultrasound of both breasts, referred</td><td rowspan="2">28.6% of mammogram and tomosynthesis services are assumed to receive one ultrasound during screening. Remaining ultrasound services are apportioned according to the remaining diagnostic mammogram and tomosynthesis services. 2.5% of all mammograms are presumed to fall within this cohort while also being a part of screening, with 1.7 of bilateral ultrasounds attributed to each woman in this group.</td></tr>
<tr><td>Ultrasound of both breasts, non-referred</td></tr>
<tr><td>Ultrasound of one breast, with surgery</td><td rowspan="2">It is assumed that ultrasounds with surgery only occur during assessments. It is estimated that there are 0.10 of these services per woman receiving assessment services.</td></tr>
<tr><td>Ultrasound of both breasts, with surgery</td></tr>
</table>

	Mammary ductogram, one breast	It is assumed that MRIs only occur during assessments. Accordingly, it is estimated that there are 0.02 per woman receiving assessment services.
Biopsy	Fine needle aspiration, palpable lesion, each additional lesion	It is assumed that biopsies only occur during assessments and that all biopsies are preceded by an ultrasound with surgery. It is estimated that there are 0.18 of these services per woman receiving assessment services.
	Breast biopsy using mechanical biopsy device	
	Breast biopsy using advanced breast biopsy instrument (abbi)	
	Insertion of marker clip(s) following a breast biopsy	

Source: Deloitte Access Economics analysis (2024); Statistics (Services Australia)

B.2 Identifying screening pathways

This section presents the approach to identifying screening pathways in the private sector.

A typical screening pathway was defined using Medicare data and assumptions informed by consultations and the literature.

Unique screening episodes

It was assumed that one mammogram or tomosynthesis service is provided per screening episode. Individuals who received single-breast mammogram or tomosynthesis services were assumed to not be screening.1 the number of services delivered for screening purposes are provided in Table B.4.

Recall rates are assumed to be 4.5%, aligning with most recent BSA figures. Based upon the assumption that a mammogram or tomosynthesis service represents one unique screening episode, this can be applied to infer the number of each assessment service delivered to those who receive assessment. These service pathways are detailed in Table B.5.

Table B.4: Annual screening, including those who go on to assessment (2021-22 to 2022-23)

Category	Number of activities	Proportion of people that receive service	Notes
Bilateral mammogram / tomosynthesis	214,851	100.0%	It is assumed that only one of these services is given per person screening.
Bilateral ultrasounds, non-surgical	111,250	51.8%	It is assumed that, of those who receive a bilateral ultrasound, only one service is provided per screening episode prior to assessment.

Source: Deloitte Access Economics analysis (2024); Statistics (Services Australia)

Table B.5: Annual assessment, excluding activities undertaken during screening, (2021-22 to 2022-23)

Category	Number of activities	Proportion of people in assessment that receive procedure	Proportion of screening episodes that receive procedure*	Notes
Bilateral mammogram / tomosynthesis	0	0.0%	0.0%	It is assumed that only one of these services is given per person screening, occurring during the screening phase.
Bilateral ultrasounds, non-surgical	11,736	116.5%	5.5%	Figures suggest that ultrasounds are the most common assessment services, with each woman receiving more than one, on average.

MRI	178	1.8%	0.1%	It is implicitly assumed that a person receiving assessment only receives this service once.
Ultrasounds, with surgery	1,051	10.4%	0.5%	It is implicitly assumed that a person receiving assessment only receives this service once.
Biopsy	1,774	10.4%	0.5%	It is assumed that the number of people receiving biopsies is equal to the number of people receiving ultrasounds, with surgery.

Source: Deloitte Access Economics analysis (2024); Statistics (Services Australia)
Notes: *This equates to the proportion of assessments that receive a procedure multiplied by the likelihood that a screening episode would receive a recall (4.5%), based upon mammogram and tomosynthesis service counts.

B.3 Costing a typical screening pathway

This section presents the approach to costing a 'typical' screening pathway in the private sector.

A number of assumptions and calculations were employed to estimate the total cost and cost per screening episode of private breast screening

Service costs

Cost per service was estimated as the weighted average cost based upon 2021-22 or 2022-23 quantities as well as 2022-23 prices. Costs were estimated for bilateral mammogram or tomosynthesis, bilateral tomosynthesis, MRIs and biopsies.8 Estimated costs are detailed in Table B.6.

Biopsy service costs

The cost of undertaking a biopsy was the sum of:

1. The weighted average cost of biopsy services (31506, 31530, 31548). In the case of 31506, this includes $2,000 of expected hospital costs.
2. The weighted average cost of ultrasounds with surgery (55071, 55066), proportionally attributed based upon the relative number of biopsy services. It is assumed that all biopsy services must be linked to one ultrasound with surgery service on a many-to-one basis.
3. One biopsy marker clip (31537).

This MBS item for biopsy markers is new and thus does not have the same level of data available as other MBS items. The cost was based upon the fee listed under the Medicare benefits schedule, and the Medicare payment was estimated based on the ratio of Medicare payment to total cost for the other breast screening and assessment items.

Estimating total cost per screen

Total cost per screen was estimated by:

4. Estimating total cost by multiplying the number of services attributed to breast screening by their respective service costs.

5. Estimating total public cost by multiplying the number of services attributed to breast screening by their respective Medicare rebate. Notably, this excluded the services attributable to the portion of women who received screening services outside the MBS system.
6. Dividing total cost and total public cost by the number of screening episodes.

Table B.6: Screening pathway (average cost, 2021-22 to 2022-23)

a) Category	b) Probability of receiving service	c) Total service cost per procedure	d) Weighted service cost per screening episode (b*c)
Bilateral mammogram / tomosynthesis	100.0%	$305.3	$305.3
Bilateral ultrasounds	61.1%	$216.7	$124.1
MRI	0.1%	$808.0	$7.5
Biopsy*	0.8%	$903.2	$0.7
Total			$437.5

Source: Deloitte Access Economics analysis (2024).
Notes: *Probability of receiving service is based upon total biopsy services provided for the purpose of this calculation. As detailed in Table B.5, the per person probability is closer to 0.5%.

B.4 Limitations of the analysis

This sections presents the limitations of the private screening cost analysis.

There are a number of limitations to consider when interpreting this analysis, particularly with respect to the unique count of screens, screening pathways and the consultation approach.

This analysis has limitations due to the availability of data on private sector screening for breast cancer. Key limitations are detailed further below.

Unique count of screens

- Due to data limitations, it was not possible to assess the number of mammogram and tomosynthesis services per screening episode, so a conservative screening pathway estimate was made of one per episode. If this is not true, it is anticipated that the cost per screen will increase as screening episodes will decrease and services per screening episode will increase.

- Additionally, the number of screens occurring outside the MBS system was based upon an estimated range provided during consultation and would be better measured through more robust approaches.
- Future analysis should consider primary data collection approaches or access to detailed MBS data to ascertain the soundness of this assumption.

Screening pathways

- As data was only available on the number of each type of breast screening and assessment service provided, it was not possible to determine the number of services per episode without additional assumptions as detailed throughout this appendix. In particular, the analysis was based upon an Australian study from 2009 prior to tomosynthesis service provision, and it also assumed that Australian women screen in the private sector in a similar way to women in the United States with respect to receiving mammogram/tomosynthesis and ultrasound services.
- It also assumed that only one ultrasound is delivered to these women at the screening phase. All remaining ultrasound, MRI and biopsy services were assumed to be distributed evenly across remaining mammogram and tomosynthesis services, and this is how the profile of assessment services was determined.
- Further research should be undertaken to explore the different pathways women take when they screen in the private sector.

Consultation

- While consultation was undertaken with experts delivering private breast screening services, it did not reflect a comprehensive stakeholder engagement approach. Consequently, the views captured through validation processes may not be reflective of all clinics delivering private breast screening services and, consequently, this analysis may not accurately represent the services and costs of private screening in the private sector.
- To improve the accuracy of estimating the costs of private screening, a more systematic primary data collection should be undertaken to address data gaps.

9. Appendix C

Future state costing methodology

C.1 Growth assumptions|Forecasting BSA populations

This section provides an overview of the assumptions that drive population cost growth in the future state analysis.

Future state analysis uses ABS data to project population and price growth over the period 2024-33.

The future state analysis provides estimates of the nominal cost of the BSA program over different program settings. Three specific assumptions underpin the growth in model outputs over time.

1) Activity forecasts

Population growth assumptions interact with eligibility and participation assumptions to determine the demand for BSA activities in the future state. Published ABS forecasts of the female population by age and state were used to inform the growth in populations over time.[12] The current participation rate, recall rate and diagnosis rate were assumed to remain constant at their current levels, as reported in the 2023 BSA Monitoring Report , except for where they are adjusted in future state scenarios.

2) Cost forecasts

Future state analysis assumes that BSA program costs grow at a rate aligned to broader health CPI growth experienced over the period 2013-23. This is sourced from ABS data, and equates to 3.8% per annum.[13]

3) Efficiency improvements

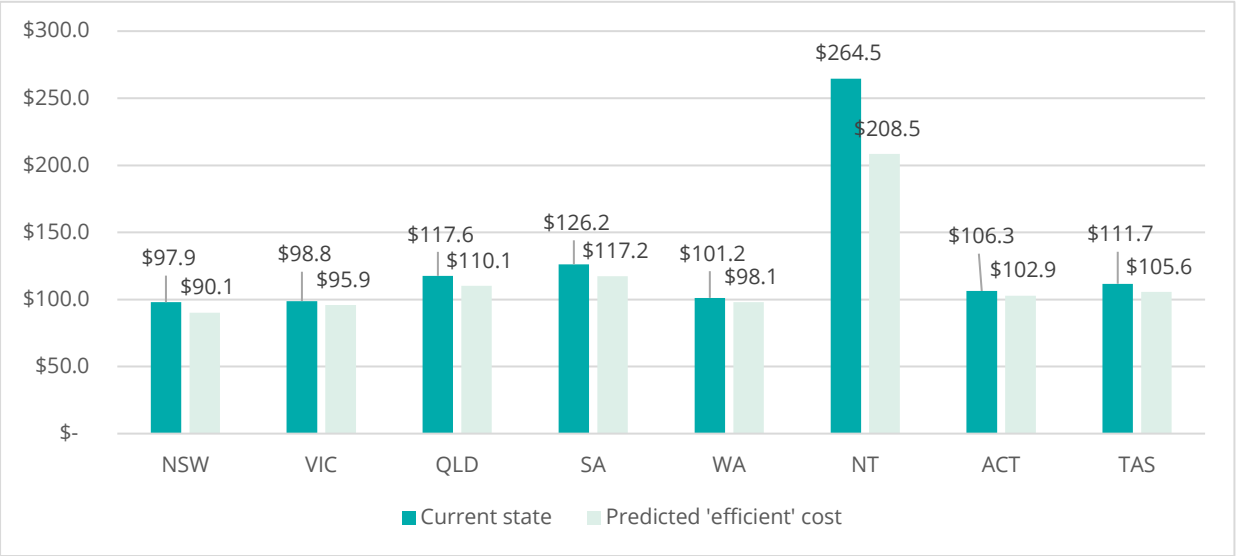
The future state analysis assumes that, as demand for the program grows, the real cost of delivering screening services will decline due to the ability to share fixed costs across a larger cohort of screeners. In the analysis, a 1% increase in demand for BSA screening services leads to a 0.07% decline in the cost per screen of all clients.

This analysis is determined through a fixed effects regression analysis, which looks at the relationship between change in cost per screen and change in screens being undertaken across screening facilities, controlling for factors such as state, facility type and days in operation, among other factors that vary costs. The analysis shows that there was a statistically significant negative relationship between the change in costs per screen and the change in screens over the period 2021-22 to 2022-23. Specifically, a 1% increase in scans was associated with a 0.07% decline in the cost per screen across facilities.

Further, the analysis uses dummy variables to control for jurisdictional-specific factors between jurisdictions that drive differences across states & territories. The statistical relationship between jurisdictional dummy variables and the cost per screen allows for an estimation of an ‘efficient’ cost per screen. Specifically, these are the costs per screen that are implied, if demand is assumed to reach an ‘optimal’ level. Chart C.1. below shows the comparison between the current and ‘efficient’ cost per screen, as estimated through this analysis.

Combining these analysis, the future state analysis assumes that, as demand increases by 1%, real costs per screen across jurisdictions will decline by -0.07%, until the cost per screen reaches the 'efficient' cost level for each jurisdiction

Chart C.1: Current and predicted 'efficient' cost per screen across jurisdictions



Source: Deloitte Access Economics analysis (2024)

C.2 Activity-based assumptions

This section presents an overview of the activity-based assumptions that directly impact the number of screens and assessments performed across the future state analysis.

C.2.1 Activity-based assumptions | Screening

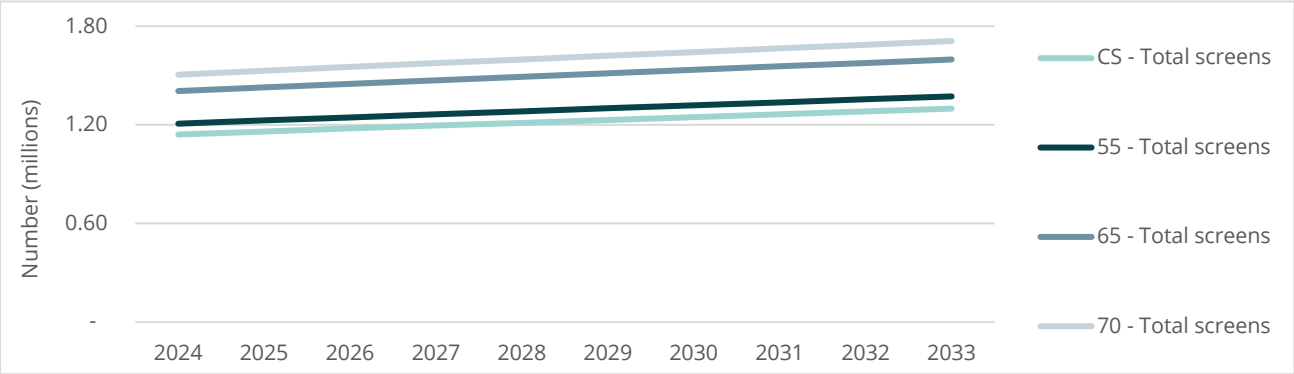
Total demand for screening is driven by assumptions on the participation rates in, and eligibility for the BSA program.

Activity-based assumptions

In the BSA future state analysis, demand for the BSA program is adjusted by three variables:

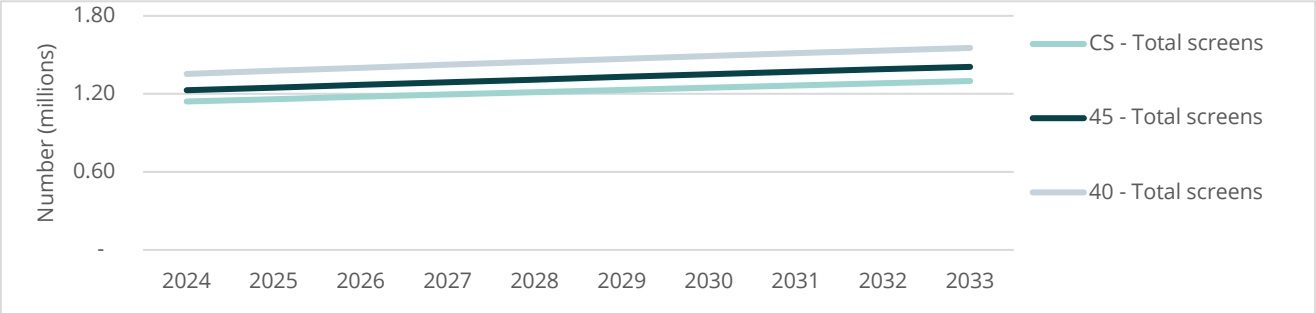
- **Participation rate:** Increasing the participation rate from ~52% to 55%, 65%, and 70% raises the number of screens performed without altering the eligible population age range (see Chart C.2). Higher participation slightly reduces the cost per screen due to operational efficiencies (Appendix C.1).
- **Target population starting age:** Lowering the starting age from 50 to 45 or 40 increases screen volumes by expanding the eligible population (Chart C.3). For individuals under 50, participation is estimated at 38%. This adjustment affects costs through two mechanisms: 1) a decline in real cost per screen as demand-driven efficiencies are realised (Appendix C.1), and 2) a marginal increase in cost per screen due to government investment in promoting participation for the newly eligible cohort, estimated at approximately $7 per-person.
- **Risk assessment:** Introducing risk assessments modifies demand by decreasing screens for low-risk women while increasing them for moderate- and high-risk women (Chart C.4), ultimately increasing the total number of screens performed.

Chart C.2: The total screens in the current state – adjusting participation rate



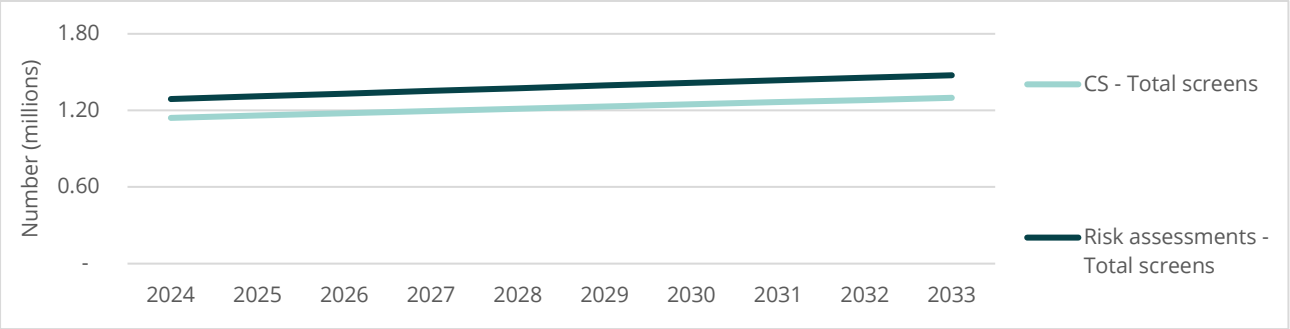
Source: Deloitte Access Economics analysis (2024)

Chart C.3: The eligible population and total screens in the current state – adjusting target population starting age



Source: Deloitte Access Economics analysis (2024)

Chart C.4: The eligible population and total screens in the current state – adjusting risk-based screening



Source: Deloitte Access Economics analysis (2024)

C.2.2 Activity-based assumptions | Assessments

Total demand for assessments is driven by assumptions on the recall rates of different technology.

Assessments

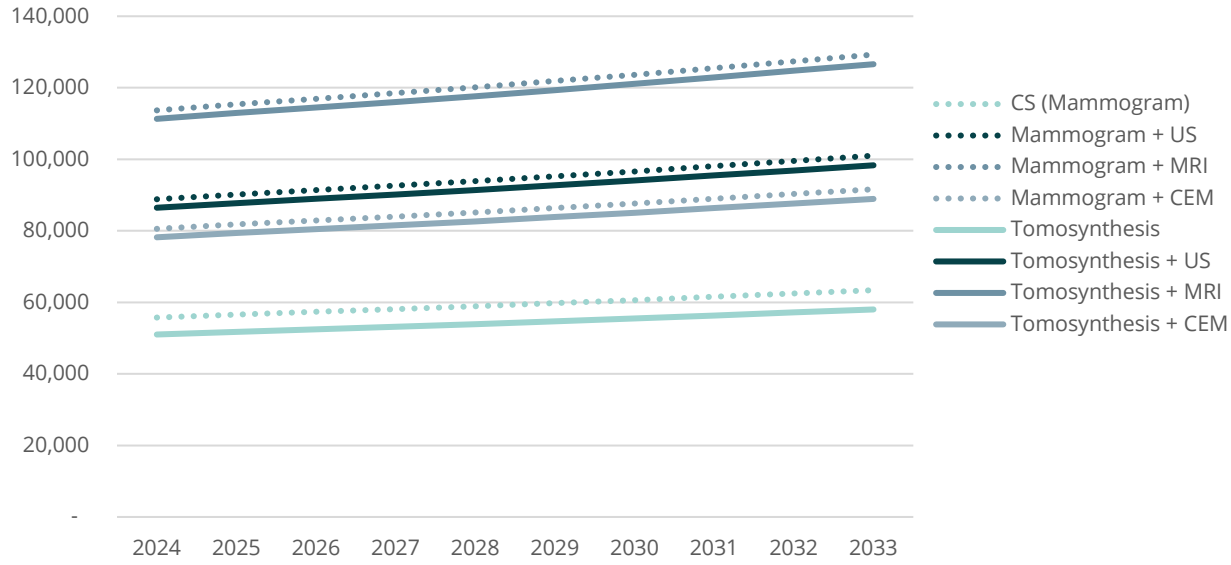
Assessments are determined by the recall rate of different technologies. Recall rates differ by technology for a range of reasons, including, higher sensitivity and lower specificity.

Risk ratios of screening technology used in the future state are presented in Table C.1, and the impact of assessments is presented in Chart C.5.

Table C.1: Key input assumptions for calculating number of assessments from alternative screening technologies[17]

	Mammogram	Tomosynthesis	Ultrasound	MRI	CEM
Recall rate	1.00	1.00 (dense) 0.83 (non-dense) This assumption is adjusted in sensitivity testing (see Appendix C.5)	1.97 (dense) 1.42 (non-dense)	2.71 (dense) 3.01 (non-dense)	1.66 (dense) 1.85 (non-dense)

Chart C.5 Number of assessments by screening technology, 2024-33



Source: Deloitte Access Economics analysis (2024)

C.3 Cost-based assumptions

This section presents an overview of the cost-based assumptions that impact the cost of BSA program operations in the future state analysis.

C.3.1 Cost-based assumptions | Screening technologies

Additional screening technology was costed using a bottom-up approach

Screening technology

Screening technology costs were estimated using a bottom-up approach to capture resources required beyond standard 2D mammography. Key cost components include:

- **Scanning time:** The additional staff and time required to undertake a screen with a technology.
- **Screen reading time:** The additional staff time required to read screen images.
- **Consumables:** Any additional client consumables required for screening (such as contrast agents).

- **Technology costs:** Additional up-front or ongoing costs associated with the deployment of new technology.
- **Staff training:** Additional staff training required to undertake screening.
- **Data storage costs:** Additional costs of storing screen images for seven years.

The costs per screen of each technology used in the analysis is presented in Table C.2.

Table C.2: Costs per screen of technology

	Mammogram (from survey data)	Tomosynthesis	Supplementary screening1		
			Ultrasound	MRI[2]	CEM[2]
Radiographer & radiology costs	$36.3	$42.2	$71.5	$102.4	$89.3
Overhead costs	$70.0	$73.8	$25.1	$112.7	$52.6
Data storage costs	$0[3]	$3.70	$0.21	$3.70	$0.21
Total costs (per screen)	**$106.3**	**$119.7**	**$96.8**	**$218.8**	**$142.1**

Source: Deloitte Access Economics analysis (2024)
Notes: 1) These costs have reduced overheads because they occur with an initial screen, allowing for cost-sharing to occur. 2) MRI & CEM costs per screen are based on supplementary biennial screening for BI-RADS C & D women. Changes to utilisation assumptions of MRIs & CEMs significantly impacts costs per screen. 3) Data storage costs are already included in the estimated overhead costs for Mammograms

C.3.2 Preliminary screening/ eligibility

In future state scenarios 2 and 3, preliminary checks are introduced to support screening.

Health checks and risk assessments

In future state scenarios 2 and 3, the following preliminary checks are introduced to support screening:

- **Health check:** A health assessment for all women starting at age 40. This will aim to test breast density and support women to prepare for screening.
- **Risk assessment:** A more comprehensive risk assessment for all women starting at age 40. The assessment may involve a mammogram and, if necessary, a genetic test.

The participation rate in these activities is assumed to be equal to the assumed participation in screening for these cohorts.

The cost for risk assessments were determined by the Daffodil Centre.[1] The cost for health checks were based on these same cost estimates, but with adjustments to reflect the different resources required for each activity.

Table C.3: Key input assumptions for costing of health checks and risk assessments

	Health check	Risk assessment
Target population starting age	40 years	40 years

Participation rate	38%	38%
Cost per assessment	$9.7	$23.8

C.4 Limitations for the future state costing analysis

This sections presents the limitations of the future state costing analysis.

There are a number of limitations to consider when interpreting this analysis, ranging from the scope of the model through to the specific inputs utilised.

Key limitations and considerations of the analysis include:

Model scope

- The BSA Program Cost Model is designed to estimate the total costs to the health system over the period 2024 to 2033 associated with potential reforms. It is not a cost-effectiveness model and does not assess the benefits that may result from these reforms, including increased diagnoses, reduced treatment cost or lives saved.

Exclusion of workforce factors

- Workforce considerations, such as potential shortages or capacity constraints, are not accounted for in the BSA Program Cost Model. Therefore, when considering the introduction of a new technology that requires additional specialised staff, for example MRI, it is assumed that these additional staff are available in sufficient numbers and appropriate locations. Any additional costs that may arise from actually recruiting these staff members is not considered. Further, any flow-on impacts of using additional staff are not fully considered in the model due to the difficulties in measuring these impacts.

Limitations with the current state costing analysis to predict future costs

- The costing analysis presented in Chapter 2 underpins the projections for future costs. However, several factors limit its applicability to forecasting. Notably, it does not capture the up-front costs involved in introducing new screening pathways, nor does it reflect potential growth in key cost components over time, given that it is based on a single point-in-time assessment.

Reliance on literature-based assumptions

- Many model assumptions are based on existing literature, using Australian sources where available, and international sources otherwise. While these assumptions were tested with BSA staff and subject matter expects, the actual cost implications may vary when applied to the specific context of the BSA program.

Interrelation of sub-scenarios

- While the model considers the impacts of various changes in assumptions such as participation, technology, eligibility and more, it does not consider the role that changes in supply considerations (e.g., improved technology) have upon demand (e.g., improved participation) and vice-versa. This was outside the scope of the model, with each sub-scenario set exogenously from each other.

Scenario implementation

- Scenarios are designed in the model to be in immediate effect rather to include a lead-in time for simplicity. Consequently, if any scenario or set of sub-scenarios are chosen to be rolled-out by BSA, it is likely that costs would increase progressively rather than all at once. Further, upfront costs are accounted for across the ten-year time period rather than rising and falling based on when the cost is incurred.

C.5 Sensitivity analysis

This sections presents the sensitivity analysis of the future state costing analysis.

This section presents the sensitivity analysis for the future state costing analysis. The results show the marginal change in average annual cost over the first 10 years of implementation due to the change in a parameter.

Table C.4: Sensitivity analysis results

Item	Change in annual cost due to a change in the parameter
Target population screening commencement age	
50 years (baseline)	$0
45 years	+$34.7 million
40 years	+$84.1 million
Participation rate for women aged 50-74 years	
52% (baseline)	$0
55%	+$19.9 million
60%	+$49.8 million
65%	+$79.6 million
70%	+$109.3 million
Initial screening procedure	
2D Mammogram (baseline)	$0
Tomosynthesis (assuming tomosynthesis reduces assessment recalls)	+$9.4 million
Tomosynthesis (assuming tomosynthesis does not reduce assessment recalls)	+$19.3 million
Supplementary screening BI-RADS C only	
No supplementary screening (baseline)	$0
Ultrasound	+$109.9 million
MRI	+$227.1 million
Supplementary screening BI-RADS D only	
No supplementary screening (baseline)	$0
Ultrasound	+$29.5 million
MRI	+$63.8 million
Supplementary screening BI-RADS C and D	
No supplementary screening (baseline)	$0
Ultrasound	+$133.8 million
MRI	+$280.9 million
Risk-based screening	
No risk-based screening (baseline)	$0
Three risk categories (Low, medium, high)	+$63.3 million

	Four risk categories (Low, medium, high, highest), with supplementary MRI for highest risk category.	+$96.6 million
	Initial risk assessment	
	No risk assessment (baseline)	$0
	Health check commencing at age 45 years	+$1.6 million
	Health check commencing at age 40 years	+$1.8 million
	Risk assessment commencing at age 45 years	+$2.9 million
	Risk assessment commencing at age 40 years	+$3.3 million
	Initial screening procedure	
	2D Mammogram (baseline)	$0
	Tomosynthesis	+$9.4 million
	Data storage costs for Tomosynthesis	
	Data storage costs included (baseline)	$0
	No data storage costs	-$5.6 million

10. Appendix D

D.1 Consultation

Consultations were undertaken with 24 stakeholders throughout the development of the BSA Program Cost Model and funding mechanism options.

Table D.1: Stakeholder groups consulted and the purpose for consultation

Stakeholder group	Purpose
All State and Territory BSA managers (8)	• To understand the context of each jurisdiction as well as its funding model and unique cost drivers, which informed the design of the BSA Cost Survey. • To validate the data collected by the Survey and the assumptions drawn from it.
Commonwealth BSA management team (1)	• To understand the cost structure of the Commonwealth BSA management team, which also informed the design of the data collection BSA Cost Survey. • To understand the current Commonwealth funding mechanism and potential alternatives.
A large, private radiology organisation (1)	• To inform and validate assumptions around screening in the private sector, including uptake rate and pathways.
The Daffodil Centre (1)	• To inform and validate assumptions around population breast cancer risk.
Radiologists across BSA programs and private clinics (3)	• To inform and validate assumptions around clinical best practice and technologies used.
State and Territory health intergovernmental teams (8)	• To understand the current Commonwealth funding mechanism and test potential alternatives.
Commonwealth NHRA team (1)	• To understand the current Commonwealth funding mechanism and potential alternatives.
Commonwealth Treasury (1)	• To understand the current Commonwealth funding mechanism and potential alternatives.

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