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SA CANCER PLAN

Background paper

July 2023



Government
of South Australia

SA Health

Contents

Contents	2
Acronyms	4
Patient story, YourSAy public consultation	6
Executive summary	7
1 Introduction.....	8
1.1 Context	8
1.2 Project overview	8
1.3 Intended outcomes.....	9
1.4 Project stages.....	9
1.5 Data collection approaches.....	9
2 Other cancer plans and frameworks	11
2.1 Australian Cancer Plan	11
2.2 Cancer control plans – other jurisdictions	12
2.3 SA Aboriginal Cancer Plan.....	13
2.4 Service delivery pathways and frameworks.....	13
2.5 Key findings and implications.....	15
3 Cancer in SA	17
3.1 SA cancer incidence and death rates	17
3.2 Regional differences	19
3.3 Cancer projections	22
3.4 Screening	23
3.5 Treatment episodes	23
3.6 Priority population groups	25
3.7 Key findings and implications.....	28
4 Cancer prevention and early detection	30
4.1 Cancer risk factors	30
4.2 Cancer prevention.....	30
4.3 Cancer screening and early detection	34
4.4 Key findings and implications.....	37
5 Consultation findings.....	38
5.1 What is working well.....	38
5.2 What is on the horizon	39
5.3 What are the opportunities for improvement.....	39
5.4 Specific population needs	43
5.5 Examples of patient experience	43

5.6	Key findings and implications	44
6	Current activities and future suggestions	46
6.1	Consumer experience	46
6.2	Prevention and early detection.....	48
6.3	Health systems for optimal care	48
6.4	Strong and dynamic foundations.....	52
6.5	Workforce	55
6.6	Key findings and implications	57
	Appendix A: Background paper scope, key questions and data sources	58
	Appendix B: SA cancer incidence counts	61
	Appendix C: SA cancer diagnoses and excess deaths by location (pictorial)	63
	Appendix D: National cancer screening programs and SA participation	65
	Appendix E: Public hospital cancer inpatient episodes, including by stay type	71
	Appendix F: Risk factors for cancer	74
	Appendix G: Consultation key themes by participation type.....	75

Acronyms

ACP	Australian Cancer Plan
ASR	Age Standardised Rate
AIHW	Australian Institute for Health and Welfare
BCCC	Bragg Comprehensive Cancer Centre
CaFHS	Child and Family Health Service
CALD	Culturally and Linguistically Diverse
CALHN	Central Adelaide Local Health Network
CAR-T	Chimeric Antigen Receptor T-cell
CEIH	Commission on Excellence and Innovation in Health
CNP	Clean Needle Program
CPC	Clinical Prioritisation Criteria
CSCF	Clinical Services Capability Framework
CT	Computerised Tomography
DASSA	Drug and Alcohol Services South Australia
ECP	Extra Corporeal Photopheresis
FTE	Full Time Equivalent
GP	General Practitioner
GvHD	Graft versus Host Disease
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HPC	Health Performance Council
HPV	Human papillomavirus
I2Q	Incentive to Quit
LGBTIQA+	Lesbian, Gay, Bisexual, Transgender, Intersex, Queer and Asexual
LHN	Local Health Network
MDM	Multi-Disciplinary Meeting
MDT	Multi-Disciplinary Team
MSAC	Medical Services Advisory Committee
NACCHO	National Aboriginal Community Controlled Health Organisation
NALHN	Northern Adelaide Local Health Network

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NDIS	National Disability Insurance Scheme
NGO	Non-Government Organisations
NHL	Non-Hodgkin Lymphoma
NHMRC	National Health and Medical Research Council
NSW	New South Wales
NT	Northern Territory
OCP	Optimal Care Pathways
PATS	Patient Assistance Transport Scheme
PBAC	Pharmaceutical Benefits Advisory Committee
PET	Positron Emission Tomography
PHN	Primary Health Network
PHPA	Public Health Partner Authority
PREMs	Patient Reported Experience Measures
PRMs	Patient Reported Measures
PROMs	Patient Reported Outcomes Measures
RCCC	Regional Coordinating Clinical Trial Centre
RN	Registered Nurse
ROSA	Roadmap for Optimising Screening in Australia
RSS	Rural Support Service
SA	South Australia
SA3	Statistical Area Level 3
SACR	South Australian Cancer Registry
SAHMRI	SA Health and Medical Research Institute
SAiGenCI	South Australian Immunogenomics Cancer Institute
SALHN	Southern Adelaide Local Health Network
SCCN	State-wide Cancer Clinical Network
SCOOP	Southern Co-operative Program for the Prevention of Colorectal Cancer
TGA	Therapeutic Goods Administration
UPS	Unknown Primary Site
UV	Ultraviolet
WHO	World Health Organisation
YNLHN	Yorke and Northern Local Health Network

Patient story, YourSAy public consultation

At the age of 33 I was diagnosed with Stage 3 bowel cancer, a diagnosis that literally never crossed my mind. Bowel cancer will affect 15,000 people per year in Australia, including ~1000 people under the age of 50. Due to my age, gender and pre-conceived ideas about bowel cancer patients, my diagnosis was not a simple process and required multiple GP/hospital visits where I presented with severe abdominal pain, uncontrollable vomiting and weight-loss. I was asked by one particular ED Dr "are you sure it's not just period pain?", "You COULD stay for tests, but it's going to be a very long and boring day and you'd be much more comfortable at home" and told "let me tell you why it's not gut related". I was sent home multiple times with no answers and labelled by the same ED Dr. as "depressed" and "has googled". I very quickly realised I had to become my own strongest advocate and fought for follow up tests, which included a CT, a laparoscopy and finally a colonoscopy that didn't come with an 8-10 week waitlist.

Finally, after weeks in and out of hospital my worst fears were realised. The colonoscopy and subsequent right hemicolectomy confirmed a tumour that was almost blocking my large intestine and had metastasized to the surrounding lymph nodes. I recovered from surgery, celebrated Christmas with my family, and then returned to start 3 months of chemotherapy. I later found out a simple blood test, taken after my diagnosis, would have given me my diagnosis without the need for all the trauma I faced within a hospital system that labelled me from the very beginning.

My story had a relatively positive outcome and I am now in surveillance-mode, however there are countless stories of more and more young people being diagnosed with late stage colorectal cancer who were not so lucky. The system needs improved, non-invasive interventions and diagnostic tools, such as blood-tests upon first admission, so that people like myself don't get "lost in the system" where preconceived ideas and long wait lists block patient care.

YourSAy story, September 2022

Executive summary

SA Health is undertaking a project to develop a new five year cancer plan for South Australia ('the SA Cancer Plan'). The project commenced in early 2022 and is due for completion at the end of 2023.

Implementation of a new SA Cancer Plan is a 2022 State Government election commitment. The *SA Health and Wellbeing Strategy 2020-2025* also identified the need for a new SA Cancer Plan. The last state-wide cancer plan was the *SA Cancer Control Plan 2011-2015*.

The SA Cancer Plan aims to:

- > Reduce the incidence of cancer in the South Australian population
- > Improve the cancer experience for those diagnosed with cancer and their families/carers
- > Increase long term survivorship after diagnosis.

The SA Cancer Plan Background Paper explores the current state of cancer prevention and care in SA as well as opportunities to change and improve in the context of factors that may impact cancer care in the future. It outlines findings and implications from documentation review, data analysis and extensive stakeholder engagement, and will inform development of the SA Cancer Plan. More than 450 individuals and organisations participated in consultations around what is currently working well, key issues and opportunities, and suggestions for the future.

Specific consultation with Aboriginal communities was recently undertaken to inform both the SA Aboriginal Cancer Plan refresh and the Australian Cancer Plan, so was not undertaken again for this project. However, actions specific to Aboriginal and Torres Strait Islander people included in the SA Aboriginal Cancer Plan refresh and the Australian Cancer Plan will be used to inform content of the SA Cancer Plan.

Key findings and implications for development of the SA Cancer Plan are presented in this Background Paper at the end of each of the following sections:

- > Other cancer plans and frameworks
- > SA cancer incidence and death rates
- > Screening programs and participation
- > Cancer prevention and early detection programs
- > Consultation findings regarding what is working well, what is on the horizon, opportunities for improvement and needs of specific populations
- > Current activities in SA and future suggestions related to consumer experience, prevention and early detection, health systems for optimal care, strong and dynamic foundations (data, research and clinical trials), and workforce.

1 Introduction

SA Health is undertaking a project to develop a new cancer plan for South Australia ('the SA Cancer Plan' or 'the Plan'). The project commenced in early 2022 and is due for completion at the end of 2023.

This document, the SA Cancer Plan Background Paper (the 'Background Paper'), explores the current state of cancer prevention and care in SA as well as opportunities to change and improve in the context of factors that may impact cancer care in the future. It outlines findings and implications from documentation review, data analysis and stakeholder engagement which will inform development of the SA Cancer Plan.

1.1 Context

Implementation of a new SA Cancer Plan is a 2022 State Government election commitment. The *SA Health and Wellbeing Strategy 2020-2025* also identified the need for a new SA Cancer Plan. The last state-wide cancer plan was the *SA Cancer Control Plan 2011-2015*.

Concurrent work is underway on other projects which will inform the new SA Cancer Plan:

- > Development of the Australian Cancer Plan 2023-2033, being led by Cancer Australia (submitted to the Federal Minister for Health and Aged Care in April 2023)
- > Refresh of the South Australian Aboriginal Cancer Control Plan 2016-2021, being led by the SA Chronic Disease Consortium (due for finalisation early 2023).

Other national and SA Government commitments which are being considered in development of the Plan include:

- > Federal Government commitment to establish the Australian Bragg Centre for Proton Therapy and Research in SA, which is planned to be treating patients around 2024-2025
- > Federal Government Budget commitment to support establishment of a Cancer Genomics Laboratory in partnership with SA Pathology
- > Federal Government election commitment to establish the new Bragg Comprehensive Cancer Centre in SA
- > State Government election commitment to establish a new Modbury Hospital Cancer Centre which will include 12 chemotherapy treatment spaces, surgery, and facilities for outpatient appointments
- > State Government election commitment to fund more cancer beds, childhood cancer doctors and specialty cancer nurses at the Women's and Children's Hospital
- > State Government election commitment to expand Mount Barker Hospital, including upgrades to chemotherapy equipment and consideration of increasing chemotherapy services to medium complexity.

1.2 Project overview

The SA Cancer Plan will be a five year plan which provides clear guidance to SA Health and its partners regarding an agreed vision, priorities, future directions and approach to cancer care across all domains of the cancer spectrum including prevention, diagnosis, treatment, survivorship and palliative care.

The completed SA Cancer Plan will be implemented and used to inform high level future decisions on service planning and resource allocations, including where SA Health funded cancer services will be delivered.

1.3 Intended outcomes

The SA Cancer Plan aims to:

- > Reduce the incidence of cancer in the South Australian population
- > Improve the cancer experience for those diagnosed with cancer and their families/carers
- > Increase long term survivorship after diagnosis.

1.4 Project stages

The project is being undertaken over five stages as per the Project Plan agreed by the Project Board. This Background Paper presents the key deliverable from Stage 2 of the project. Key findings from the Stage 2 will be used to inform work undertaken in Stage 3 to develop the draft Cancer Plan.

Project stage	STAGE 1 Project initiation	STAGE 2 Current state analysis	STAGE 3 Future state and draft Plan	STAGE 4 Final Cancer Plan	STAGE 5 Transition to implementation
Aim	Agree project scope and approach	Understand population need, environment, what is working well, gaps, duplications, opportunities	Identify future options and prioritise strategies, directions and actions	Seek feedback on draft Plan and prepare final Plan	Develop and progress plan for implementation
Key activities	- Project Brief - Establish Project Board and Terms of Reference - Preliminary meetings with stakeholders - Develop Project Plan, agreed stakeholder list, engagement plan and communication plan	- Literature review (incl. grey literature) - Data requests and analysis - YourSAy engagement - Broad stakeholder workshops - Targeted meetings - Prepare report based on key findings from current state analysis	- YourSAy engagement - Workgroups (e.g. around cancer care domains) - Targeted meetings - Identify options, priorities and actions - Prepare draft Cancer Plan	- YourSAy call for feedback on draft Plan - Targeted request for feedback - Update Plan based on feedback - Seek endorsement and approval of final Plan - Launch SA Cancer Plan	- Form implementation workgroup - Develop draft Implementation / Action Plan including monitoring and evaluation approach - Develop final Implementation Plan, governance and reporting structures and processes
Key deliverables	- Project plan - Stakeholder engagement plan - Communication plan	SA Cancer Plan Background Paper	Draft SA Cancer Plan for consultation	- Final SA Cancer Plan - Launch of SA Cancer Plan	- Implementation / Action Plan including responsibilities and timeframes - Project closure report

1.5 Data collection approaches

Data to inform the current state analysis has been drawn from a variety of sources including quantitative data, literature scan and qualitative data obtained from stakeholder consultation. Further detail on the scope of the project, key questions and data sources used to inform key findings in the Background Paper are provided in **Appendix A: Background paper scope, key questions and data sources**.

Quantitative data: Existing quantitative data sets have been used to build a picture of the current cancer burden of disease in SA and comparison with both national and international incidence and trends. Data sets include the Australian Cancer Atlas, AIHW incidence and mortality statistics, South Australian Cancer Registry and South Australian Clinical Cancer Registry, and SA population projections.

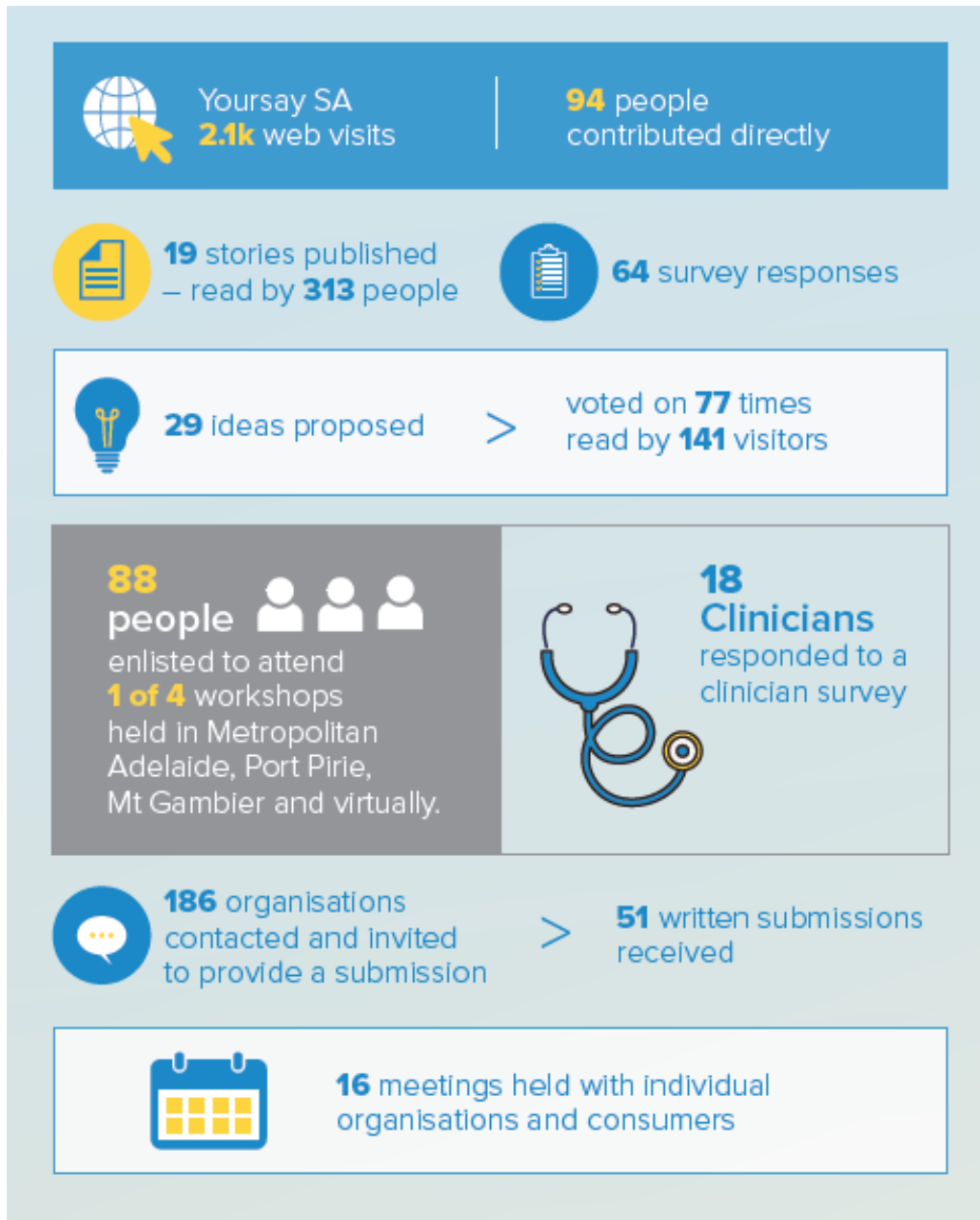
Literature scan: A literature scan and documentation review were undertaken to provide information on the international, national, state and local context for development of the SA Cancer Plan, current and emerging trends in service delivery and models of care, and to support analysis of quantitative data. Literature included:

- > **Cancer plans:** draft Australian Cancer Plan, other jurisdiction cancer frameworks and plans, previous SA Health cancer plans (published and unpublished), and refresh of the SA Aboriginal Cancer Control Plan 2016-2021

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- > **Cancer care and service delivery approaches:** SA Clinical Service Capability Framework (cancer modules), Optimal Care Pathways, new and emerging approaches to cancer prevention, screening, diagnosis, treatment and service delivery.

Stakeholder consultation: Extensive clinician, consumer and SA community consultation occurred in late 2022 using a range of approaches aimed at seeking a cross-section of responses. Input was sought via YourSAY engagement, clinician survey, state-wide workshops, targeted meetings and forums including in regional areas. More than 450 individuals and organisations participated in consultations around what is currently working well, key issues and opportunities, and suggestions for the future.



Note that specific consultation with Aboriginal communities was recently undertaken to inform both the SA Aboriginal Cancer Plan refresh and the Australian Cancer Plan, so was not undertaken specific to this project. Actions for the SA Cancer Plan specific to Aboriginal and Torres Strait Islander peoples will be drawn from these plans.

2 Other cancer plans and frameworks

A literature scan and documentation review were undertaken to provide information on the international, national, state and local context for development of the SA Cancer Plan.

This section presents key findings and implications for the SA Cancer Plan from national, other jurisdiction and previous SA cancer plans, and key service delivery contexts including the SA Clinical Service Capability Framework (cancer modules) and Optimal Care Pathways.

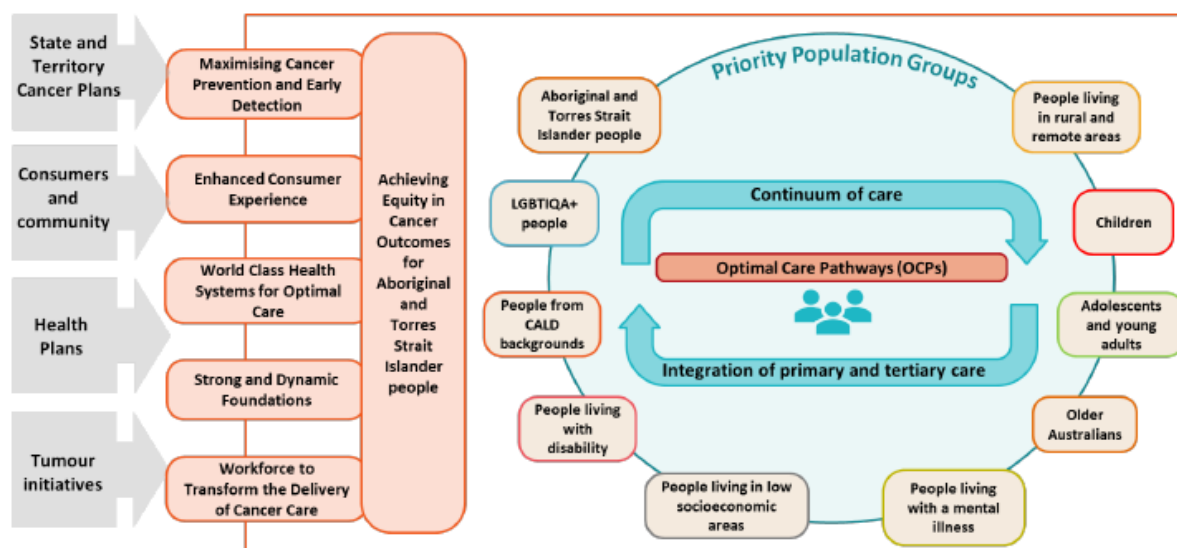
2.1 Australian Cancer Plan

Development of the Australian Cancer Plan (ACP) to provide an overarching national approach to cancer control is being led by Cancer Australia. The ACP will be a ten year plan which aims to accelerate world class cancer outcomes and improve the experiences of all Australians affected by cancer, including priority population groups whose health outcomes are poorer. The final ACP is due for submission to the Minister for Health and Aged Care in April 2023.

The draft ACP, released in November 2022 for public consultation, identifies six strategic objectives for national focus and effort, underpinned by national standards of best practice care outlined in [Optimal Care Pathways](#) and the [Optimal Care Pathway for Aboriginal and Torres Strait Islander people with cancer](#).¹ The six proposed national strategic objectives are:

- > Maximising cancer prevention and early detection
- > Enhanced consumer experience
- > World class health systems for optimal care
- > Strong and dynamic foundations
- > Workforce to transform the delivery of cancer care
- > Achieving equity in cancer outcomes for Aboriginal and Torres Strait Islander people.

Figure 1: (Consultation draft) Australian Cancer Plan conceptual framework



Development of the ACP has been based on extensive consultation and review of evidence including other cancer control plans (international, state/territory, tumour specific, plans specific to Aboriginal

¹ Cancer Australia, 2022. *Australian Cancer Plan – Consultation draft*, Cancer Australia, Surry Hills, NSW.

and Torres Strait Islander people), and systematic reviews including a review of cancer patient navigation in Australia. The ACP aims to complement and facilitate the Aboriginal and Torres Strait Islander Cancer Plan being developed by the National Aboriginal Community Controlled Health Organisation (NACCHO).

Although the ACP is focussed on national priorities, the draft ACP notes that “achieving the ambitions of the ACP over the next decade requires sector-wide collaboration and partnerships between governments, the private sector, non-government organisations, Aboriginal and Torres Strait Islander communities and leaders, researchers, clinicians, health services, professional colleges, regulators and consumers” (p31, draft ACP).

2.2 Cancer control plans – other jurisdictions

An evidence-check rapid review of published cancer control plan key elements was undertaken by the Sax Institute in 2020 for Cancer Institute NSW to inform development of the NSW Cancer Plan 2022-2027². Eight cancer control plans from Australia (Victoria, Western Australia, Queensland), New Zealand, Canada and the United Kingdom provided information to inform the review.

Major challenges and trends that informed priorities identified in the plans included rising cancer incidence and longer survival; the subsequent growing demand for cancer services; rising costs and complexities of cancer treatments, and impact on workforce, financial and health system pressures.

The review found that the following elements were common to cancer control plans, although how priority areas and actions were organised within the plans varied:

- > **Prevention** – Most plans sought to reduce exposure to lifestyle cancer risk factors, prevent cancers related to infection, and recognise the need for targeted prevention initiatives for populations with higher cancer risk. Although tobacco control initiatives were commonly included, not all plans specified strategies to achieve reduction of other modifiable risk factors (e.g. diet, alcohol consumption, physical activity).
- > **Screening and early detection** – All plans aimed to improve cancer screening and early diagnosis, particularly for under-screened groups. Strategies for detecting cancers early included improving access to diagnostic services, enhancing health literacy and awareness of cancer signs and symptoms, and using new technologies and models for testing.
- > **Treatment** – Priorities for cancer treatment with the aim of improving patient experience, access to services and new developments, improving outcomes, and enhancing quality and consistency of care through best practice standards, monitoring and reporting were common to cancer control plans.
- > **Survivorship and palliative care** – Almost all plans aimed to expand access to supportive and palliative care, with some recognising the need for strengthened workforce capacity in these areas.
- > **Interface between primary and specialist services** – Supporting and enhancing the coordination and integration of cancer care services was a defined goal of most plans, including improvement of referral processes and flow of information between providers.
- > **Priority populations** – Many plans aimed to reduce disparities in cancer outcomes for priority groups including Aboriginal and Torres Strait Islander peoples, although approaches varied.
- > **Cancer research** – Key priorities included increasing access to clinical trials, enhancing research translation, developing research workforce capacity and infrastructure, and encouraging

² Ramsey I, Kennedy K, Forsythe D, Peters MDJ, Sharplin G, Corsini N, Eckert M. Cancer control plans: an Evidence Check rapid review brokered by the Sax Institute (www.saxinstitute.org.au) for the Cancer Institute NSW 2020.

researchers to collaborate across sectors, internationally, and between metropolitan and regional services.

- > **Workforce** – Common workforce objectives in the plans included enhancing opportunities for education and professional development and upskilling and growing the Aboriginal workforce.
- > **Implementation, evaluation and monitoring** – All plans addressed plan implementation, evaluation and/or monitoring, although approaches were varied and described with differing levels of detail.

A dedicated budget for implementation and evaluation was noted as important in several plans, along with specific implementation plans or actionable steps that can be evaluated to determine progress toward population cancer outcomes.

The *NSW Cancer Plan 2022-2027* and subsequent *NSW Cancer Plan Implementation Plan 2022-2023* identified actions and activities to support four priority areas: cancer prevention, screening and early detection, cancer research, and optimal cancer treatment, care and support. Three system enablers were also identified in the plan: staff engagement and support, innovation and digital advances to inform service delivery, and sustainable governance, monitoring, evaluation and reporting.

2.3 SA Aboriginal Cancer Plan

A revised *SA Aboriginal Cancer Plan 2022-2027* is being developed based on a refresh of the existing *SA Aboriginal Cancer Control Plan 2016-2021*, and is due for finalisation in early 2023. This work is being led by the SA Health and Medical Research Institute (SAHMRI) SA Aboriginal Chronic Disease Consortium and funded by SA Health.

The draft *SA Aboriginal Cancer Plan 2022-2027* identifies seven priority areas for cancer prevention and control, with 24 actions to support delivery. The seven priority areas include:

- > Awareness and prevention
- > Screening and early detection
- > Diagnosis and staging
- > Treatment
- > Care coordination
- > Supportive care
- > Services, outcomes, data and research.

It also identifies high level actions under eight enablers: governance, sustainable funding, strong cancer workforce, transport and accommodation support, information and communications technology solutions, community engagement, integrated and coordinated services, and monitoring and evaluation.

In addition to cancer specific priorities and actions, the plan describes key features of culturally appropriate service delivery and person-centred care for Aboriginal people, and includes an outline of the Aboriginal Cancer Healing Model to complement medical treatment of cancer.

2.4 Service delivery pathways and frameworks

Optimal care pathways

The [Optimal Care Pathways](#) (OCPs) provide a framework for delivery of consistent, safe, high-quality, and evidence-based care for people with cancer. The OCPs have Australia-wide acceptance and government support, and are being implemented nationally. They are endorsed by Cancer Australia,

the former National Cancer Expert Reference Group (a committee that reported to the former Australian Health Ministers Advisory Committee and through this committee, to the former Council of Australian Governments Health Council) and all states and territories.

There are currently 25 tumour/cancer specific OCPs plus an *Optimal care pathway for Aboriginal and Torres Strait Islander people with cancer* and an *Optimal care pathway for adolescents and young adults with cancer*.

The OCPs cover every step from prevention and early detection through to recovery, living with a chronic disease, or end-of-life-care, and aim to improve patient outcomes through promoting quality cancer care and ensuring that all people diagnosed with cancer receive the best care, irrespective of where they live or receive cancer treatment.

Clinical Services Capability Framework

The [SA Health Clinical Services Capability Framework \(CSCF\) 2016](#) sets out the minimum service requirements, workforce requirements and support services for public health services across South Australia to provide safe and supported clinical service delivery.

The CSCF is a service planning tool which comprises 30 service modules based on clinical specialties. The modules outline a standard set of capability criteria and support services needed to achieve high quality health services, and describe up to six levels of services. CSCF modules are not intended to replace existing guidelines, policy directives, frameworks or industrial instruments.

There are five CSCF modules relating directly to cancer services, plus a Cancer Services preamble, a Palliative Care module and a Surgical Oncology sub-section to the Surgical Services module:

- > **Cancer Services Preamble** defines the scope of the cancer services modules
- > **Cancer Services - Children's** module recognises the complexity and severity of treating systemic cancer in children and the subsequent demand for sufficient resource to deliver effective therapy and supportive care, and outlines three levels of complexity for paediatric cancer services
- > **Cancer Services – Haematological Malignancy** module addresses service provision relevant to those with haematological malignancies and bone marrow failure, and outlines four levels of complexity for haematological malignancy services
- > **Cancer Services – Medical Oncology** module addresses service provision relevant to those with cancer undergoing systemic therapy, biological therapy, hormonal therapy or immunotherapy, and outlines four levels of complexity for medical oncology services
- > **Cancer Services – Radiation Oncology** module addresses service provision relevant to those with cancer requiring radiotherapy. Safety measures, and equipment and infrastructural requirements are detailed within the module. The CSCF outlines two levels of complexity for radiation oncology services.
- > **Cancer Services – Radiation Oncology – Children** module recognises the delivery of radiotherapy for children requiring specialised equipment, facilities and support from numerous clinical specialities and services, and outlines two levels of complexity for radiation oncology services for children
- > **Palliative Care** module addresses service provision for those who are expected to die in the near future due to a progressive, life-limiting illness, and support for the person's family and/or caregivers, and recognises four levels of service complexity
- > **Surgical Services** module recognises five levels of complexity for surgical services, and includes a Surgical Oncology subspecialty.

2.5 Key findings and implications

Key findings – other cancer plans	Implications for SA Cancer Plan
Plan development and inclusions	
Review of other cancer control plans and implementation plans indicates the following areas are generally included: prevention, screening and early detection, treatment, survivorship and palliative care, interface between primary and specialist services, priority populations, cancer research, workforce, and implementation, evaluation and monitoring. To be relevant and effective, cancer plans must be tailored to the local context, consider the most prevalent cancer types and at-risk populations, reflect the needs and priorities of key stakeholder groups including patients, have detailed and actionable outcomes, be appropriately resourced, and have a clear plan for implementation and evaluation.²	Align SA Cancer Plan priority areas and actions to key findings from consultations, consider needs and priorities of key stakeholder groups including at-risk populations, have detailed and actionable steps and outcomes, and a clear plan for implementation and evaluation. Give early consideration to identification of a dedicated budget for implementation and evaluation.
Cancer Australia is leading development of the Australian Cancer Plan (ACP). Although the ACP will focus on national priorities, the draft ACP notes that “achieving the ambitions of the ACP over the next decade requires sector-wide collaboration and partnerships between governments, the private sector, non-government organisations, Aboriginal and Torres Strait Islander communities and leaders, researchers, clinicians, health services, professional colleges, regulators and consumers”.	Where supported by consultation findings, align SA Cancer Plan priority areas to national priorities. Identify draft actions under each of the ACP strategic objectives that may require collaborative approaches between governments and/or progression at jurisdictional level, and include these in the draft SA Cancer Plan. Once the ACP is finalised, identify any actions requiring collaborative approaches or partnerships between governments for implementation and consider for inclusion in the final SA Cancer Plan.
A revised <i>SA Aboriginal Cancer Plan 2022-2027</i> is being developed by the SA Chronic Disease Consortium and identifies seven priority areas for cancer prevention and control for Aboriginal and Torres Strait Islander people in SA, with 24 actions to support delivery.	Work with the SA Chronic Disease Consortium and Aboriginal health to identify actions under each of the <i>SA Aboriginal Cancer Plan 2022-2027</i> priority areas for inclusion in the SA Cancer Plan.
Optimal Care Pathways (OCPs) for the delivery of consistent, safe, high-quality, and evidence-based care for people with cancer have been endorsed at a national level for several specific tumour/cancer types, plus for Aboriginal and Torres Strait Islander people with cancer and for adolescents and young adults with cancer.	Confirm extent to which OCPs are embedded in service delivery models in SA and consider how to improve and monitor outcomes as required as part of the SA Cancer Plan. Consider consultation findings for inclusion of SA Health support for national review, development and uptake of OCPs in the SA Cancer Plan.
The SA Health Clinical Services Capability Framework comprises five cancer-specific modules	Consider reference to relevant CSCF modules in SA Cancer Plan to guide cancer service planning.

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Key findings – other cancer plans	Implications for SA Cancer Plan
which set out minimum service and workforce requirements and support services for public health services across South Australia to provide safe and supported clinical service delivery.	

3 Cancer in SA

Cancer is a major cause of illness in Australia. It is responsible for 18% of the burden of ill health and almost 9% of health system expenditure attributable to specific diseases. Almost half (42%) of the cancer burden in Australia is attributable to personal and behavioural risk factors (for example, smoking and overweight).³

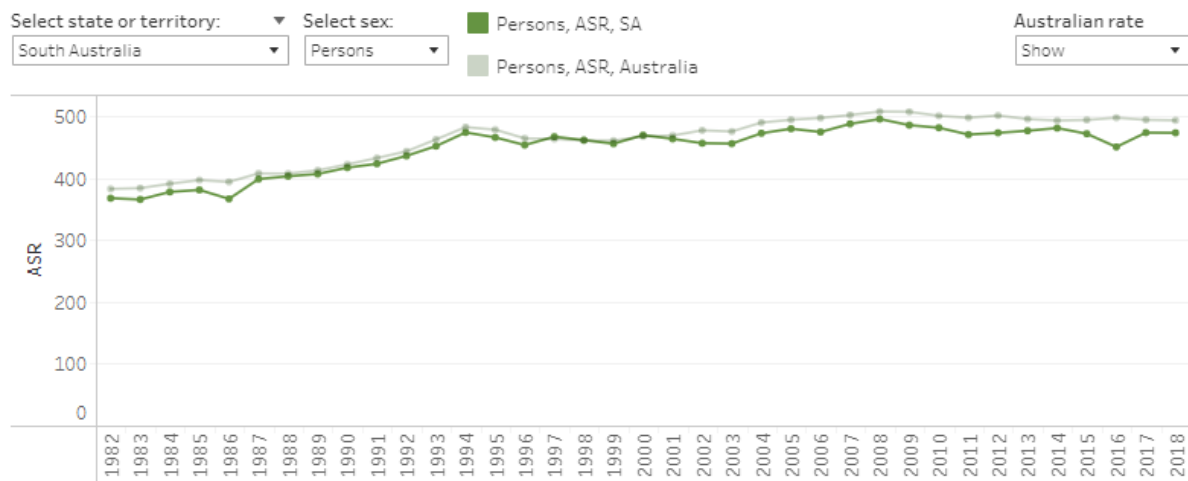
The number of people alive in Australia who are either currently living with or have lived with cancer is expected to grow over time as both cancer incidence, cancer survival, overall population, and proportion of the population who are older continue to increase. Cancer survival varies from cancer to cancer but overall cancer survival has improved, with 70% of all people diagnosed with cancer (excluding basal cell carcinoma and squamous cell carcinoma) surviving at least five years after diagnosis; up from 51% about 30 years ago.³

This section presents key findings around cancer incidence and outcomes specific to SA.

3.1 SA cancer incidence and death rates

Whilst the incidence of cancer in SA is lower than Australia overall (age standardised rate (ASR) of 473.7 persons per 100,000 in SA, compared with 493.9 persons per 100,000 in Australia) (Figure 2), cancer continues to have a significant impact on South Australians and is a leading cause of illness and premature death. The lifetime risk of cancer diagnosis remains at 1 in 3 men and 1 in 4 females.⁴

Figure 2: Trends in the incidence of all cancers combined in South Australia (persons, 1982 to 2018)



Notes

1. Incidence data for 2018 excludes DCO cases for NSW and estimated late-registration records. See the 'About this page' icon for more information.
2. Other Territories (Christmas Island, Cocos (Keeling) Islands, Jervis Bay Territory and Norfolk Island) are included in the total 'Australia' group but are not reported individually.
3. Annual incidence counts and rates for the ACT and NT are determined based on a 5-year rolling average of the count or rate in a year and the previous four years.

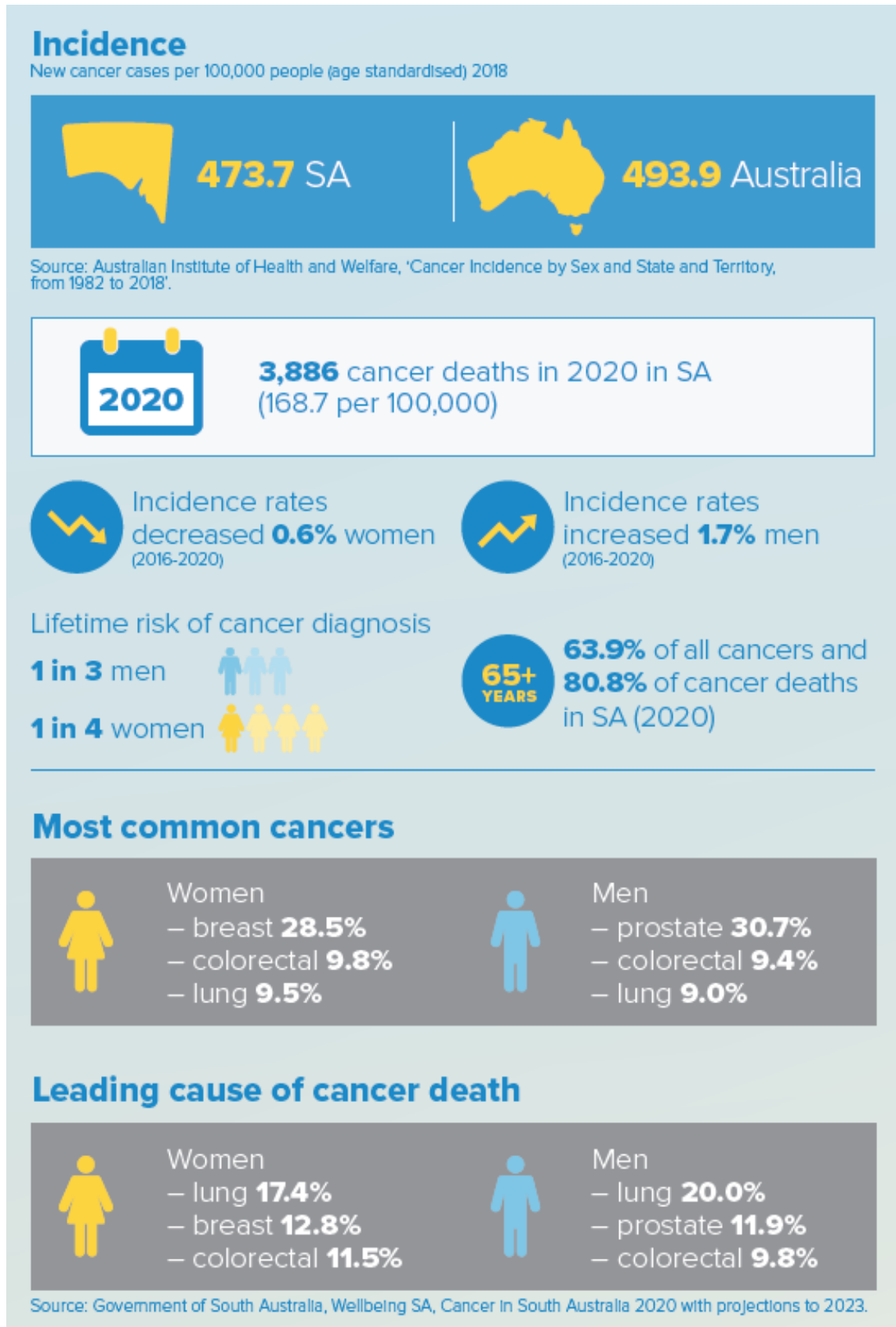
Source: AIHW (2022). Cancer data in Australia: Cancer by state and territory data visualisation

The most common type of cancer in SA is prostate cancer for males and breast cancer for females. In both males and females, cancer of the colon and rectum is the second most common cancer type, and cancer of the trachea, bronchus and lung the third most common cancer type. However, lung cancer is the leading cause of death from cancer in both males and females. Further detail regarding

³ Australian Institute of Health and Welfare (2021). Cancer in Australia 2021, Cat. no. CAN144, DOI 10.25816/ye05-nm50. Accessed May 2023 at <https://www.aihw.gov.au/reports/cancer/cancer-in-australia-2021/summary>

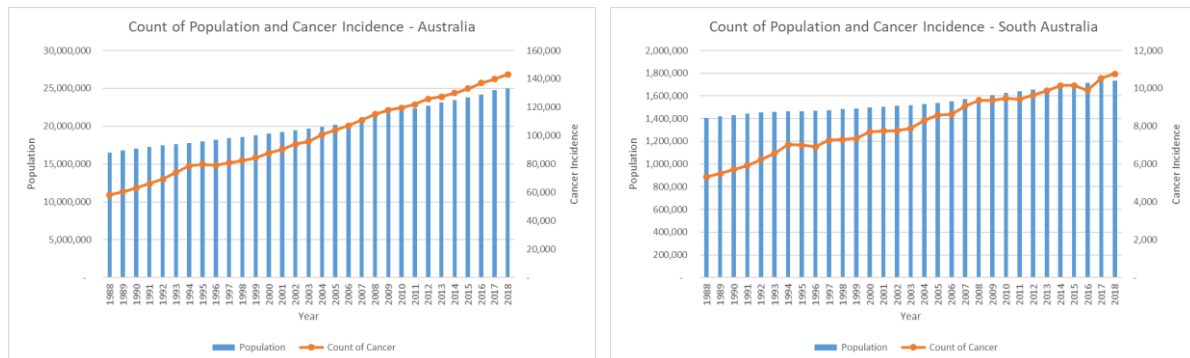
⁴ Wellbeing SA (2022). Cancer in South Australia, 2020, with projections to 2023

the most common cancer diagnoses in SA and the proportion of cancer diagnoses by cancer type in males versus females is provided in **Appendix B: SA cancer incidence counts**.



Both nationally and in SA, the incidence of cancer in the population has grown more rapidly than the population itself (Figure 3). Overall population growth, as well as the increasingly large proportion of older persons within the population, has influenced the incidence of cancer diagnoses.

Figure 3: Count of population and cancer incidence, Australia and South Australia, 1988-2018



Sources: AIHW - Cancer incidence counts and age-standardised rates, by sex and state and territory, 1982 to 2018; ABS - Population and components of change (no.), states and territories, year ended 30 June, 1971 onwards

Overall age standardised comparison of cancer deaths for the most common cancers (lung, colorectal, breast and prostate) compared to other states and territories in Australia revealed that SA cancer deaths rates for these cancers are in line with Australia overall, but highest in the nation for breast cancer deaths (Table 1). It is worth noting that while 30% of all cancers diagnosed in Australia are classified as rare or less common cancers (incidence less than 12 cases per 100,000 people), these are responsible for 42% of all cancer deaths³.

Table 1: Selected cancer deaths per 100,000 population 2016 – 2020

Cancer deaths (age-standardised rate per 100,000 people)	Lung cancer	Colorectal cancer	Breast cancer (female)	Prostate cancer (male)
Metropolitan Adelaide	27.9	16.7	19.6	23.0
Country South Australia	28.6	19.4	21.2	26.8
South Australia overall	28.1	17.5	20.1	24.2
New South Wales	27.8	17.5	19.2	23.4
Victoria	26.5	17.2	19.6	24.3
Queensland	30.7	18.7	19.3	28.3
Western Australia	26.5	14.3	18.0	20.9
Tasmania	32.8	19.8	19.4	25.6
ACT	21.7	20.0	19.4	25.6
NT	43.4	20.0	18.5	26.6
AUSTRALIA	28.1	17.4	19.3	24.5
South Australia rank (out of 8) <i>lower is better</i>	5	3	8	3

Deaths data are collected centrally from registries of births, marriages and deaths, and from the National Coroner Information System; causes of deaths are coded by Australian Bureau of Statistics. Data for LHN regions based on analysis of data at Australian Bureau of Statistics 'SA3' level and aggregated to Local Health Network.

Source: Based on data from Australian Institute of Health and Welfare (2022) *Mortality Over Regions and Time (MORT) books: Statistical Area Level 3 (SA3), 2016–2020*, AIHW, Australian Government.

3.2 Regional differences

There is variation in cancer incidence and death rates based on geographic location in SA, with some areas having higher incidence rates for particular cancers, and some having higher excess death rates when compared to the Australian average. **Appendix C: SA cancer diagnoses and excess deaths by location (pictorial)** presents a pictorial analysis of cancer diagnosis and excess death

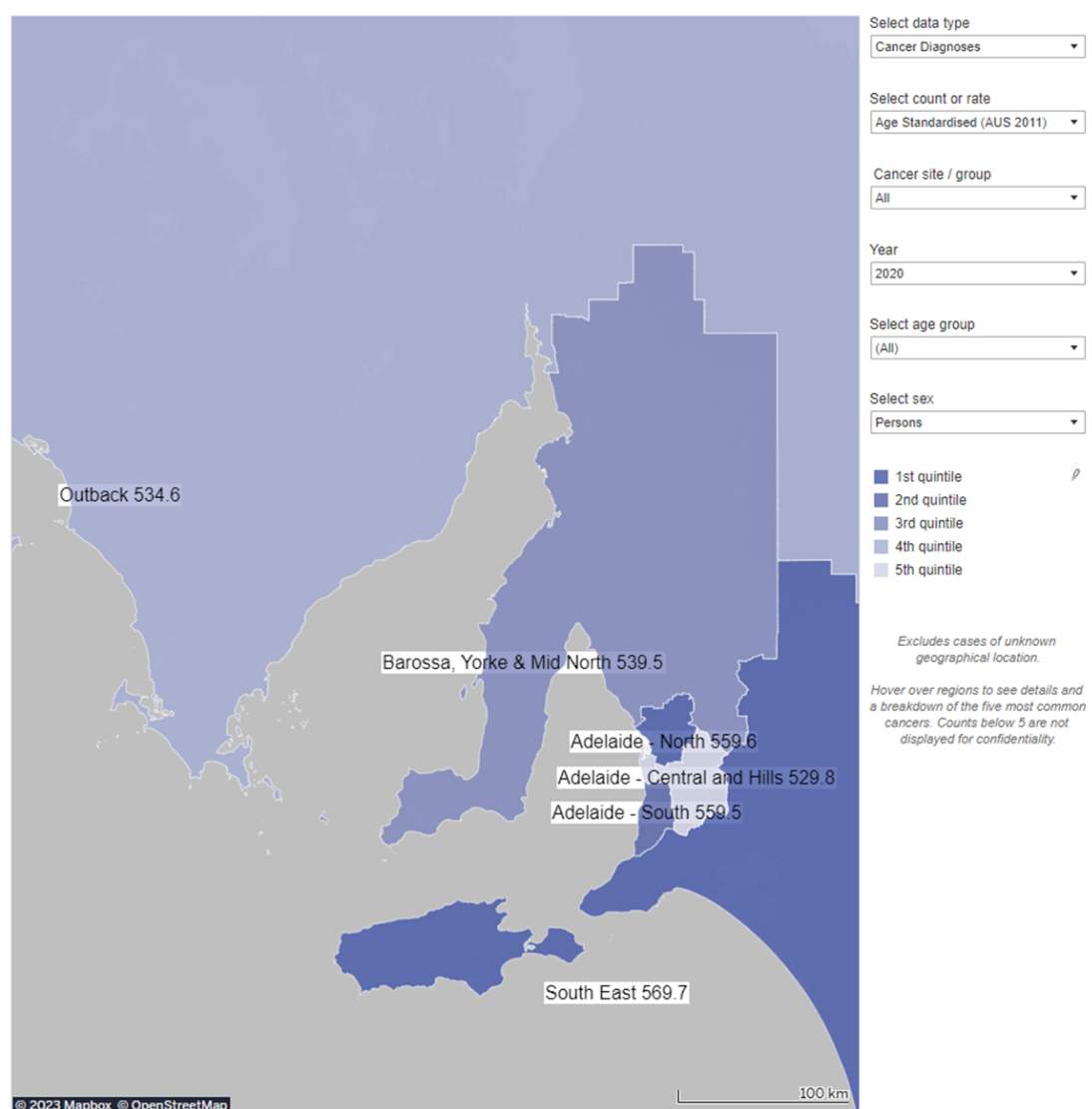
rates by geographic location in SA, and shows that whilst some areas of regional and remote SA have cancer diagnosis rates that are lower than the Australian average, excess death rates are higher in many regional areas.

Cancer incidence rates

Data from the South Australian Cancer Registry demonstrates that south-east SA has the highest age-standardised incidence rate in SA for all cancers combined, followed by northern and southern Adelaide (Figure 4). Data from the Australian Cancer Atlas⁵ also indicates that compared to the Australian average, slight increases in overall cancer incidence rates are observed in Statistical Areas Level 3 (SA3) of Port Adelaide-West, Marion, parts of Onkaparinga, and Playford, and also in the towns of Coober Pedy, Port Augusta, Port Pirie and Whyalla.

Figure 4: Age-standardised incidence rate, all cancers, by geographic region (2020)

All Cancer Diagnoses by Statistical Area Level 4 Geographic Region, South Australian Cancer Registry, 2020



Source: Wellbeing SA (2023). South Australian Cancer Registry. [South Australian Cancer Registry • Wellbeing SA](https://www.sacancer.org.au/)

⁵ Australian Cancer Atlas (<https://atlas.cancer.org.au>). Cancer Council Queensland, Queensland University of Technology, Cooperative Research Centre for Spatial Information. Version 09-2018. Accessed 12/10/2022 and 24/1/2023 Data provided from Australian Institute of Health and Welfare in September 2020, extract 2001 – 2016, Common cancers 2012 and 2016, less common cancers 2007 – 2016

Analysis of particular cancer types by location in the Australian Cancer Atlas⁵ reveals areas of SA where the likelihood of being diagnosed with specific cancer types is well above the Australian average (Table 2).

Table 2: SA locations with specific cancer incidence rates that are well above the Australian average, 2007-2016

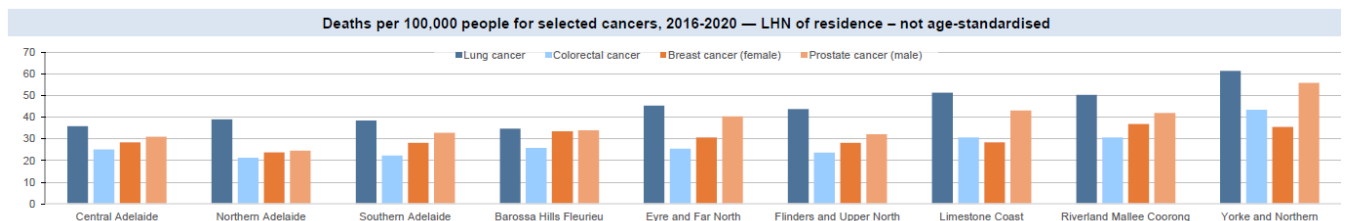
Cancer type	Locations with higher incidence rates
Bowel	Regional areas of South Australia
Cervical	Whyalla, Port Augusta, northern and southern Adelaide
Head and Neck	Regional areas of South Australia
Kidney	Whyalla, Naracoorte, Port Pirie
Leukaemia	Yorke Peninsula
Liver	North-west Adelaide, Ceduna, APY Lands, Coober Pedy
Lung	Northern and southern parts of Adelaide, Coober Pedy, Port Lincoln, Port Augusta, Whyalla, Port Pirie, Millicent Berri and parts of the Yorke Peninsula
Oesophageal	Whyalla, Ceduna, Moonta, Elizabeth East
Prostate	Naracoorte and parts of southern and north-western Adelaide
Stomach	North Haven
Uterine	Mt Gambier, Murray Bridge, Whyalla, the Yorke Peninsula and northern parts of Adelaide

Source: Australian Cancer Atlas, accessed November 2022

Cancer death rates

Death rates for most common cancers indicates a greater death rate from common cancers for persons in country South Australia compared to metropolitan Adelaide and Australia overall (Table 1). The Health Performance Council (HPC) reported that for crude (non-age standardised) death rates the Yorke and Northern Local Health Network (YNLHN) area, covering the Yorke Peninsula and the mid-north region of SA, ranked the worst or second worst for mortality rate for lung, colorectal cancer, breast and prostate cancer (Figure 5).

Figure 5: Selected cancer deaths per 100,000 population by region, 2016 - 2020



Source: Government of South Australia, Health Performance Council, Monitoring the performance of the South Australian health system 2018 -19 to 2021-22, P 40

Data from the Australian Cancer Atlas⁵ also indicates that compared to the Australian average, excess death rates for all cancers combined are noted in many of South Australia's regional areas including:

- > Areas of the Outback – North and East
- > The Eyre Peninsula and South-West, including Ceduna, Port Lincoln and Whyalla

- > Mid North
- > The Murray and Mallee including Murray Bridge
- > Limestone Coast
- > Playford
- > Port Adelaide – West
- > Port Adelaide - East
- > Parts of Onkaparinga

Analysis of particular cancer types by location in the Australian Cancer Atlas⁵ reveals areas of SA where excess deaths due to specific cancer types is well above the Australian average (Table 3).

Table 3: SA locations with specific cancer excess death rates that are well above the Australian average, 2007-2016

Cancer type	Locations with higher death rates
Breast	Whyalla, Kimba – Cleve – Franklin Harbour
Classic myeloproliferative neoplasms (MPN)	Whyalla
Head and neck	APY Lands, Port Pirie, Port Augusta, Coober Pedy, Roxby Downs, Outback, West Coast (SA), the Riverland, north-western Adelaide, Millicent, Wattle Range
Kidney	Port Pirie, Port Lincoln, Woodville-Cheltenham
Liver	Clare, Port Lincoln, Victor Harbor, West Coast (SA), Eyre Peninsula, Murray Bridge, Goolwa-Port Elliot, Naracoorte, Peterborough – Mount Remarkable, Kimba – Cleve – Franklin Harbor, Roxby Downs, Le Hunte – Elliston, Gilbert Valley, Goyder, Berri, Jamestown, Flinders Ranges, Port Pirie
Lung	Salisbury North, Port Lincoln, Davoren Park, Paralowie
Melanoma	Millicent, Smithfield – Elizabeth North
Non-Hodgkin Lymphoma (NHL)	North Haven, Largs Bay - Semaphore
Oesophageal	Port Lincoln, Whyalla, Ceduna
Ovarian	Whyalla, Murray Bridge
Pancreatic	Port Pirie, Port Lincoln, Elizabeth, Salisbury North, Murray Bridge, Port Augusta, Loxton, North Haven, Davoren Park
Prostate	Port Augusta, Port Lincoln
Stomach	Port Pirie, Mount Gambier

3.3 Cancer projections

The South Australian Cancer Registry projects numbers of cancer cases and deaths, with recent data projecting from 2020 to 2023⁶. It is expected that cancer incidence rates in males will plateau and slightly increase for females over this time. Mortality rates are expected to decrease slightly for both males and females to 2023.

⁶ Government of South Australia, Wellbeing SA, Cancer in South Australia 2020 with projections to 2023

Common cancers that are expected to increase include:

- > Female breast cancers
- > Male prostate cancers
- > Female lung cancers

Decreases in common cancer incidence rates are expected in colorectal cancers for both males and females.

3.4 Screening

There are three national cancer screening programs in Australia for bowel cancer, cervical cancer and breast cancer. South Australia has reasonably high participation rates in screening programs when compared to Australian rates, with some rural and regional areas having higher participation rates than parts of metropolitan Adelaide for bowel and breast screening. This trend is reversed for cervical screening. There is opportunity to understand what is working well in regions with higher participation rates and target areas with lower participation rates. Detail regarding national cancer screening programs and SA participation rates are provided in **Appendix D: National cancer screening programs and SA participation**.

In 2019/20 there was a noted reduction in screening participation rates in bowel and breast screening. This was observed across Australia and is considered to be due to Covid-19 impacts.

3.5 Treatment episodes

Cancer treatment occurs across both outpatient and inpatient episodes in the public system and it is not uncommon for patients to receive treatment concurrently or in part through a mixture of public and private treatment.

Outpatient treatment

Analysis of available data reveals the bulk of public cancer outpatient treatment episodes in SA occur for medical oncology consultations followed by chemotherapy treatment (Table 4). Of all the public outpatient episodes excluding those related to Covid in 2021/22, 9.6% were for cancer.

Table 4: SA Public Cancer Outpatient Episodes, 2021/22

Outpatient Episodes	Total
10.11 - Chemotherapy treatment	49,313
10.12 - Radiation therapy – treatment	38,457
10.20 - Radiation therapy – simulation and planning	3,769
20.10 - Haematology	38,497
20.39 - Gynaecological oncology	5,946
20.42 - Medical oncology – consultation	54,567
20.43 - Radiation therapy – consultation	21,388
40.52 - Oncology	32,357
Grand Total	244,294

Source: Non-Admitted Patient Sourced from Enterprise Data and Information 2021/22

Notes: the quality of outpatient episodes of care has improved significantly in 2021/22. Data prior to this time is not as complete. Chemotherapy for children and young people under 18 years is undertaken as admitted activity. Not all Haematology is cancer related.

The majority (82.5%) of chemotherapy treatment episodes occurred in metropolitan Local Health Networks (LHNs) (Table 5).

Table 5: SA Public Outpatient Chemotherapy treatment episodes, 2021/22

10.11 - Chemotherapy treatment		
Metro LHNs	40,687	82.5%
Country LHNs	8,626	17.5%
Total	49,313	

Source: Non-Admitted Patient Sourced from Enterprise Data and Information 2021/22

For people who live in metropolitan LHNs (71% of the total SA population)⁷, almost 100% of chemotherapy treatment episodes are provided in metropolitan locations (Table 6). For persons living in country SA, only 46.6% of chemotherapy treatment episodes occurred in country locations in 2021/22.

Table 6: SA Public Outpatient Chemotherapy self sufficiency by metro/country location of residence, 2021/22

SA 10.11 Chemotherapy Treatment Metro/Country Self-Sufficiency	Service Events			Service Events %		
	Metropolitan Residence	Country Residence	Unknown	Metropolitan Residence	Country Residence	Unknown
Metropolitan LHN	30,588	9,756	343	99.9%	53.4%	81.5%
Country LHN	26	8,522	78	0.1%	46.6%	18.5%
Total	30,614	18,278	421	100.0%	100.0%	100.0%

Source: Non-Admitted Patient Sourced from Enterprise Data and Information 2021/22

There are also differences in the proportion of chemotherapy treatment episodes provided close to home between individual LHNs (Table 7). The proportion of people who received chemotherapy treatment close to home was higher for persons living in Central Adelaide, Southern Adelaide, Flinders & Upper North and Limestone Coast, than for persons living in northern Adelaide or other regional areas in 2021/22.

Table 7: SA Public Outpatient Chemotherapy self sufficiency by LHN, 2021/22

SA 10.11 Chemotherapy Treatment Self-Sufficiency	Central Adelaide Catchment	Northern Adelaide Catchment	Southern Adelaide Catchment	Barossa Hills Fleurieu Catchment	Eyre & Far North Catchment	Flinders & Upper North Catchment	Limestone Coast Catchment	Riverland Mallee Coorong Catchment	Yorke & Northern Catchment
CALHN	91.4%	39.4%	18.4%	34.5%	33.3%	7.0%	6.9%	39.2%	31.6%
NALHN	1.1%	59.9%	0.3%	25.3%	0.0%	0.2%	0.9%	8.4%	19.5%
SALHN	7.4%	0.7%	81.3%	21.2%	1.6%	1.5%	6.6%	17.1%	1.3%
Barossa Hills Fleurieu	0.0%	0.0%	0.0%	18.9%	0.0%	0.0%	0.0%	0.4%	1.1%
Eyre & Far North	0.0%	0.0%	0.0%	0.0%	47.5%	0.0%	0.0%	0.0%	0.0%
Flinders & Upper North	0.0%	0.0%	0.0%	0.0%	17.6%	87.5%	0.0%	0.0%	1.5%
Limestone Coast	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	85.6%	0.0%	0.0%
Riverland Mallee Coorong	0.0%	0.0%	0.0%	0.1%	0.0%	0.0%	0.0%	35.0%	0.1%
Yorke & Northern	0.0%	0.0%	0.0%	0.0%	0.0%	3.8%	0.0%	0.0%	44.9%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Non-Admitted Patient Sourced from Enterprise Data and Information 2021/22

Inpatient treatment

In 2021/22 there were 35,467 public inpatient episodes for a principal diagnosis of cancer. This made up 7.6% of all SA public admitted activity, with 61.9% of inpatient cancer episodes being overnight stays. The proportion of overnight episodes compared to same-day episodes has remained relatively stable over the years (Table 8).

⁷ Australian Bureau of Statistics. Census data 2021 (indicative data).

Table 8: SA Public Inpatient Episodes for Primary Diagnosis of Cancer, by year and stay type

	2017/18		2018/19		2019/20		2020/21		2021/22	
Same day	12,339	36.4%	13,797	37.6%	13,117	36.6%	12,522	35.2%	13,519	38.1%
Overnight	21,604	63.6%	22,939	62.4%	22,681	63.4%	23,078	64.8%	21,948	61.9%
Grand Total	33,943		36,736		35,798		35,600		35,467	

Data source: Health Information Portal Cancer Diagnosis per QIP HUB Cancer KPI Definition, Principal Diagnosis only, from Enterprise Data and Information 18 October 2022.

The majority (39.9%) of cancer inpatient episodes in 2021/22 were for people aged 65 – 79 years, followed by 50 – 64 years (25.5%) and 80+ years (19.1%) (Table 9).

Table 9: SA Public Inpatient Episodes for Primary Diagnosis of Cancer, by age group and stay type 2021/22

	00-04 (Infants)	05-11 (Primary school)	12-17 (Secondary school)	18-24 (Tertiary education/I about force entrants)	25-34 (Younger workers)	35-49 (Established workers)	50-64 (Mature workers)	65-79 (Active retirees)	80+ (Older population)	Total	% of Total
Same day	249	225	141	133	443	1,150	3,159	5,526	2,493	13,519	38.1%
Overnight	199	244	205	127	460	1,917	5,882	8,616	4,298	21,948	61.9%
Total	448	469	346	260	903	3,067	9,041	14,142	6,791	35,467	

Data source: Health Information Portal Cancer Diagnosis per QIP HUB Cancer KPI Definition, Principle Diagnosis only, from Enterprise Data and Information 18 October 2022.

Treatment of secondary cancers, basal cell carcinoma, squamous cell carcinoma, lung cancer, colorectal cancer and cancers of the urinary system were the cause for a large portion of the inpatient episodes. There is observed growth in inpatient treatment for some cancer types such as prostate cancer, and noted decrease in others including cervical cancer (likely due to increased HPV vaccination rates). Secondary cancers, lung cancers and colorectal cancers were the most common reason for *overnight* inpatient episodes in 2021/22. Further analysis of inpatient episodes by primary cancer diagnosis, including breakdown by overnight versus same-day stays, is provided in **Appendix E: Public hospital cancer inpatient episodes, including by stay type**.

3.6 Priority population groups

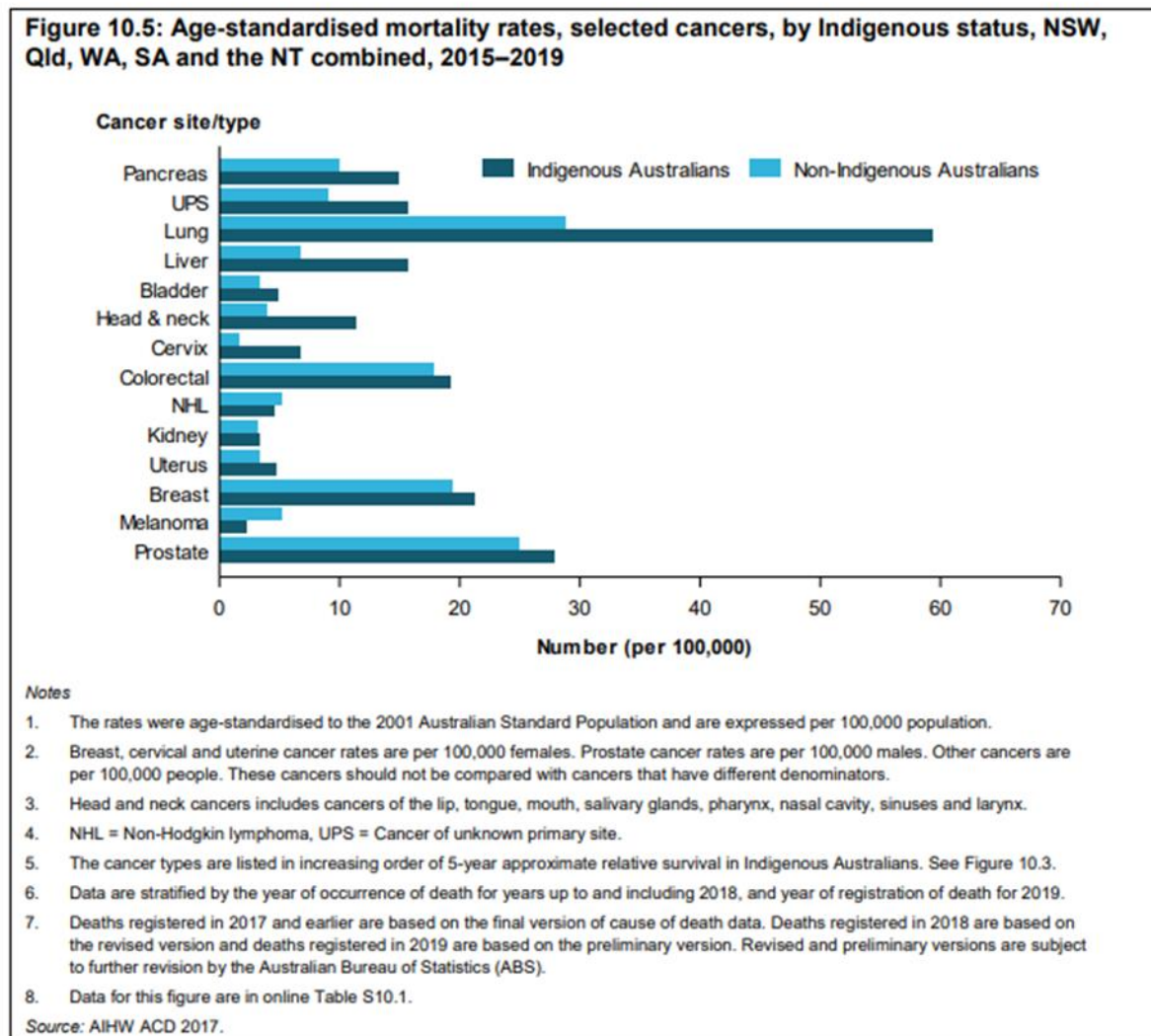
Cancer incidence and survival outcomes are not evenly spread across the population^{8,9}. Specific population groups with worse incidence and/or survival outcomes are identified in the draft Australian Cancer Plan and also in AIHW data sets.

Aboriginal and Torres Strait Islander people: Cancer is the leading cause of death for Aboriginal and Torres Strait Islander people, and the gap in cancer mortality between Aboriginal and Torres Strait Islander and non-Indigenous Australians is widening. On average, Indigenous Australians were 14% more likely to be diagnosed with cancer and 20% less likely to survive at least five years after diagnosis compared with non-Indigenous Australians. Survival for Indigenous Australians is lower in regional and remote areas than in other areas.

⁸ Australian Institute of Health and Welfare (2021). Cancer in Australia 2021, Cat. no. CAN144, DOI 10.25816/ye05-nm50. Accessed May 2023 at <https://www.aihw.gov.au/reports/cancer/cancer-in-australia-2021/summary>

⁹ Cancer Australia (2022). *Australian Cancer Plan (Consultation Draft)*, Cancer Australia, Surry Hills, NSW.

Figure 6: Cancer mortality rates by Indigenous state, 2015-2019



Source: AIHW (2021). Cancer in Australia

People from Culturally and Linguistically Diverse (CALD) backgrounds: People from CALD diverse backgrounds may experience greater adversity in accessing culturally responsive care, information and clinical trials due to communication barriers, poorer health literacy and cultural misunderstandings.

Table 10: South Australian Culturally and Linguistically Diverse Status Cancer Incidence 2020

2020 SACR data	incidence							All cancers Count	All cancers crude rate per 100,000
	Melanoma Count	Colon* Count	Colorectal Count	Female breast Count	Lung Count	Prostate Count			
CALD status									
Country of Birth - English main language	382	501	681	728	572	896	6189		436.3
Country of Birth - Non english speaking	92	209	292	363	310	666	3006		1063.7
Country of Birth - unknown	390	82	142	286	131	336	1801		2237.0
*colon is a subset of colorectal									

Source: SA Cancer Registry 2020

Table 11: South Australian Culturally and Linguistically Diverse Status Mortality 2020

2020 SACR data	mortality							All cancers	All cancers
CALD status	Melanoma	Colon*	Colorectal	Female breast	Lung	Prostate	All cancers	Count	crude rate per 100,000
	Count	Count	Count	Count	Count	Count	Count		
Country of Birth - English main language	51	202	297	153	494	172	2659		187.5
Country of Birth - Non english speaking	15	62	91	51	227	67	1071		379.0
Country of Birth - unknown	0	0	0	1	4	2	13		16.1
*colon is a subset of colorectal									

Source: SA Cancer Registry 2020

People living in low socioeconomic areas: People living in the lowest socioeconomic areas are more likely to be diagnosed with cancer, more likely to die from cancer, and have a lower 5-year observed survival rate compared to those living in the highest socioeconomic areas. Compared with people living in the least socioeconomically disadvantaged areas, cancer incidence rates for people living in the most disadvantaged areas were 5% higher, but survival rates were almost 20% lower, and cancer mortality rates were over 40% higher.

People living in the lowest socioeconomic areas are more likely to delay cancer symptom presentation and have lower overall engagement with healthcare services for reasons including costs, limited access, and lower health literacy.

People living in rural and remote areas: Cancer incidence rates were slightly higher in regional areas, while survival declined with increasing remoteness, at least partially reflecting poorer survival for Indigenous Australians in more remote areas. In 2021, people living in remote areas of Australia were 1.3 times more likely to die from cancer and had a lower survival rate compared to those living in major cities.

Lesbian, Gay, Bisexual, Transgender, Intersex, Queer and Asexual (LGBTIQ+) people: Certain cancers disproportionately affect LGBTIQ+ people including breast, ovarian and anal cancers. Additionally, LGBTIQ+ people face unique challenges including difficulties in accessing health services and cancer screening programs due to fear of discrimination, and health professionals having inadequate knowledge and skills around specific needs and preferences of LGBTIQ+ people (e.g. transmasculine persons accessing cervical cancer screening programs). In addition, LGBTIQ+ people may have lower levels of family support and poorer mental health.

People living with disability: People living with disability often experience more barriers and have poorer access to preventative care and cancer screening services. In addition, cancer survivors are more likely to experience disability and poorer wellbeing outcomes than those without cancer.

People living with a mental illness: People living with mental illness may have greater exposure to known risk factors such as smoking, poor nutrition, and higher sedentary behaviour, and may be less likely to have access to screening and risk modifying information and tools to reduce cancer risk. In addition, they may experience reduced access to quality health care due to financial barriers, factors such as stigma, discrimination and diagnostic overshadowing when interacting with the healthcare system, and a disconnect between health settings and health professionals caring for physical and mental health needs.

Older Australians: Cancer is more common in older Australians. However, complex health needs may present significant barriers to older people receiving cancer care and prevention and cancer screening services.

Adolescents and young adults: In Australia between 2010 – 2014, the five-year survival after a cancer diagnosis for adolescents was 89%, and cancer survivors have a 1.9 times greater risk of developing a second cancer.

Children: In Australia between 2008 – 2017, the five-year survival after a cancer diagnosis for children was 87%. Survivors of childhood cancer are at high risk of adverse long-term health conditions due to their cancer and associated treatment. These include second cancers and a range of serious, chronic health conditions that carry significant morbidity and mortality.

Veterans: Veterans who served in Vietnam experienced a higher than expected mortality and cancer incidence compared those who did not serve in Vietnam, particularly for lung, pancreatic and head and neck cancers.¹⁰ Veterans of the Korean War were found to experience a significantly greater overall cancer risk than the Australian community.¹¹

Generations of servicemen involved in British Nuclear Tests in 1950's and 1960's and communities living in the vicinity of testing locations at Maralinga and Emu Field: Incidence rates in Australians who participated in the British nuclear tests were found to have a 23% higher incidence rate of cancer and an 18% higher death rate for all cancers.¹² Information on incidence of cancer in communities, including people who are Aboriginal or Torres Strait Islander, who lived or live in these regions or subsequent generations is not available; however, this was raised as a concern during engagement, with some communities expressing observed higher cancer incidence rates.

3.7 Key findings and implications

Key findings – cancer statistics	Implications for SA Cancer Plan
Cancer prevention and early detection	
South Australian participation rates in the three national cancer screening programs (breast, colorectal and cervical cancers) are higher than Australian averages, with some rural and regional areas having higher participation rates than parts of metropolitan Adelaide.	Consider building on the strengths of high screening program participation rates in SA, and continuing work to improve the screening rates in regions where screening participation rates are lower. Consider opportunities to scale up prevention and promotion initiatives in rural and remote locations of South Australia where incidence rates of particular cancers that can be prevented are higher than the Australian average.
Health systems for optimal care	
Although the incidence of cancer in SA is lower than Australia overall, cancer continues to have a significant impact on South Australians and is a leading cause of illness and premature death. As cancer survival rates improve and the proportion of the population who are older continues to increase, the proportion of people living with and beyond cancer is also increasing.	Consider how future health services can best address the trends and expected changes in cancer in the population including increased survivorship, an aging population, and trends in incidence for particular cancer types in South Australia into the future.

¹⁰ Australian Government, Department of Veterans' Affairs, Australian Institute of Health and Welfare, Australian National Service Vietnam Veterans: Mortality and Cancer Incidence 2005', Canberra, Department of Veterans' Affairs 2005

¹¹ Australian Institute of Health and Welfare (AIHW) 2003. Cancer incidence study 2003: Australian veterans of the Korean War. AIHW Cat. No. PHE 48 Canberra: AIHW

¹² Department of Veterans' Affairs, Australian participants in British nuclear tests in Australia, Vol 2: Mortality and cancer incidence, May 2006, Canberra, 2006

Key findings – cancer statistics	Implications for SA Cancer Plan
The leading causes of cancer deaths in SA are currently lung, breast and colorectal cancer in women, and lung, prostate and colorectal cancer in men. Whilst the incidence of lung, breast and prostate cancers is projected to continue increasing, the incidence rate for colorectal cancers is projected to decline.	Consider how to address the projected increase in incidence of female breast cancers, prostate cancers, and lung cancer in females.
Currently, medical oncology consultations and chemotherapy treatments comprise a large part of outpatient episodes of care. There are differences in the proportion of chemotherapy treatment episodes provided close to home between individual LHNs and between metropolitan and regional locations. Over half of all chemotherapy treatment episodes for country patients currently require these patients to travel to metropolitan LHNs.	Consider how changes in technology and treatment approaches may impact how and where cancer diagnostic and treatment services are, or could be, provided or delivered, particularly for people living in country SA.
Equity in cancer outcomes	
There is variation in cancer incidence and death rates based on geographic location in SA, with some areas having higher incidence rates for specific cancers and some having higher excess death rates, particularly in regional locations.	Consider focus on prevention and other efforts to understand and address increased cancer incidence and/or excess death rates in regions and locations where rates are higher than the Australian average.
There are specific population groups with higher cancer incidence rates and/or lower survival rates due to a variety of factors including health literacy, access to prevention programs or cancer care, co-morbidities or other complex presentations or needs.	Consider focus on prevention, screening and other efforts to understand and address inequities in cancer incidence and outcomes for priority populations.

4 Cancer prevention and early detection

This section presents key activities and opportunities in relation to cancer prevention and early detection in SA.

4.1 Cancer risk factors

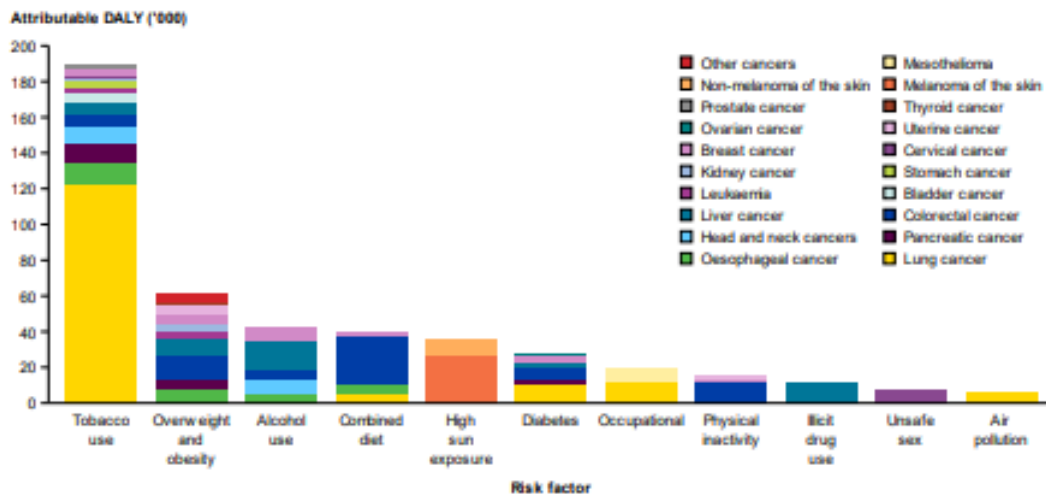
Understanding what causes cancer is essential in developing practices and policies to successfully prevent, detect and treat the disease. For many cancers, the causes are not fully understood. However, some factors that place individuals at a greater risk for cancer are well recognised.

Risk factors for cancer include the following:

- > **Behavioural:** tobacco use, alcohol use, illicit drug use, diet, physical inactivity, unsafe sex
- > **Environmental:** air pollution, high sun exposure, occupational risks
- > **Biomedical:** overweight and obesity, diabetes.¹³

It is estimated that 42% of the cancer burden of disease in Australia is attributable to the joint effect of preventable risk factors, with tobacco use being responsible for one-fifth of the cancer burden in Australia in 2018 (Figure 7).¹³ Further detail on known risk factors for cancer is provided in **Appendix F: Risk factors for cancer**.

Figure 7: Australian cancer burden (disability adjusted life years) attributable to specific risk factors, 2018



Notes

1. Dietary risk factors are presented as the joint effect 'Combined diet'.
2. In this figure, 'Other cancers' comprises non-Hodgkin lymphoma, myeloma and gallbladder cancer. 'Head and neck cancers' comprises lip and oral cavity cancer, laryngeal cancer, nasopharyngeal cancer and other oral cavity and pharynx cancers.
3. Data for this figure are in online Table S2.1.

Source: AIHW burden of disease database.

Source: AIHW (2021). Cancer in Australia 2021.

4.2 Cancer prevention

Primary cancer prevention is action taken to lower the risk of getting cancer. Various government agencies are leading evidence-informed initiatives focussed on cancer prevention in SA. Examples of these are provided below.

¹³ Australian Institute of Health and Welfare 2021. Cancer in Australia 2021. Cancer series no. 133. Cat. no. CAN 144. Canberra: AIHW

Nutrition

Wellbeing SA funds a range of initiatives relevant to cancer prevention, including inter-sectoral partnerships and collaborations via Public Health Partner Authority (PHPA) Agreements. Wellbeing SA cancer prevention initiatives addressing cancer risk factors related to nutrition include:

- > Development of a healthy food systems strategic directive to ensure the consistent promotion of evidence-based messages about health and wellbeing, in response to market research and broader research syntheses
- > **SA Prisons Project** (PHPA with Department of Correctional Services) – all SA Prison menus modified to include healthier options, healthier cooking methods and standard vegetarian option
- > **Food Security** (PHPA with Department of Human Services) – project includes development and trial of a food education model
- > **Better Health Coaching Service** – free and confidential telephone-based coaching service which supports people to make healthy lifestyle changes including healthy eating, physical activity, achieving and maintaining a healthy weight.

Physical activity

Wellbeing SA cancer prevention initiatives addressing cancer risk factors related to physical activity include:

- > **10,000 steps Program/ Billion steps challenge** – General public awareness initiative to encourage physical activity, comprising an online step record platform and annual community steps challenge.
- > **A Walk Can Work Wonders** - media campaign aimed at shifting people with sedentary lifestyle to commence physical activity with a focus on young mothers, older males, and millennials.
- > **Strength for Life** - tailored physical activity classes for older people, focussing on culturally diverse communities.
- > **Healthy Parks, Healthy People** - Collaboration across the health and environment sectors and more broadly, to implement innovative approaches to improving population health and wellbeing through contact with nature (PHPA with Department for Environment and Water), including through the promotion of the benefits of being physically active in nature

Ultraviolet (UV) exposure

Skin cancer is the most preventable cancer, with skin cancer prevention programs having been shown to be effective and cost-effective¹⁴. UV exposure during the first 18 years of a person's life is the most critical risk factor for skin cancer¹⁵.

Primary prevention of skin cancer is likely to have the greatest impact on reducing the incidence and mortality from skin cancer in the South Australian community. Population-based screening is not recommended for melanoma or other skin cancers due to insufficient evidence that it reduces mortality, however preventive behaviours and early detection has an important role to play¹⁶. The

¹⁴ Shih STF, Carter R, Heward S, Sinclair C. Skin cancer has a large impact on our public hospitals but prevention programs continue to demonstrate strong economic credentials. Aust N Z J Public Health. 2017 Aug;41(4):371-376. doi: 10.1111/1753-6405.12679. Epub 2017 Jun 29. PMID: 28664663

¹⁵ Kimlin MG, Guo Y. Assessing the impacts of lifetime sun exposure on skin damage and skin aging using a non-invasive method. Sci Total Environ. 2012 May 15;425:35-41. doi: 10.1016/j.scitotenv.2012.02.080. Epub 2012 Mar 28. PMID: 22459885

¹⁶ https://wiki.cancer.org.au/policy/Position_statement_-_Screening_and_early_detection_of_skin_cancer

Slip! Slop! Slap! Campaign was launched in 1980-81 and in the forty years since its launch, notable successes have been achieved, with melanoma rates declining in younger age groups.¹⁷

Wellbeing SA is developing a *Skin Cancer Prevention Framework* that outlines strategies for coordinated response to be implemented over the next five years. The Framework is part of a multi-strategy approach to skin cancer prevention and early detection which includes awareness campaigns, a dermoscopy training project and collaboration with Cancer Council SA.

The *Skin Cancer Prevention Framework* aims to reduce the incidence and impact of skin cancer in the South Australian population by prioritising actions that:

- > encourage behaviours which minimise skin cancer risk
- > support collaboration with state and local government agencies and non-government organisations
- > increase the number of general practitioners (GPs) who are trained to use a dermatoscope correctly to identify and examine suspicious lesions and increase early detection rates, reducing the need for tertiary care
- > reduce the impact on the wellbeing of individuals undergoing more aggressive treatment or less positive prognosis for individuals.

The *Skin Cancer Prevention Framework* will include an action plan detailing partnerships and opportunities, strategies currently being implemented, and those to be implemented in the medium and longer term. Current initiatives which deliver against the framework and action plan include the *Same Goes For You* skin cancer prevention (UV awareness) campaign, and dermoscopy training for GPs (secondary prevention).

Tobacco and e-cigarettes

The *South Australian Tobacco Control Strategy 2023-2027* guides state tobacco control efforts to reduce the impact of tobacco smoking on the health and wellbeing of South Australians. In SA, the sale, supply, promotion and use of tobacco and e-cigarettes is regulated by the [Tobacco and E-Cigarette Products Act 1997](#). The provision of policy advice and co-ordination of amendments to the legislation is provided by Drug and Alcohol Services South Australia (DASSA).

DASSA is also responsible for tobacco-related cancer prevention initiatives which include:

- > **Quit Smoking campaign** – exposes the population to messages about the negative effects of tobacco use and the benefits of quitting designed to resonate with smokers at different points along the pathway.
- > **Quit Your Way in May** – run in 2021 and 2022, this campaign encourages South Australians to have a go at quitting smoking in the month of May, and provides intensive support and tools to those who register. In 2022, the event had 1,323 registrants, and of those who completed a post-event survey, 86% had made a quit smoking attempt and 66% had remained quit in the days immediately following the event.
- > **Quitline** – provides a confidential telephone advice and information service for people who want to quit smoking.
- > **Incentive-to-quit (I2Q) pilot** – co-designed with health professionals and community in the Aboriginal health, mental health and chronic disease service sites of NALHN, this 18 month pilot provides financial and resource incentives to encourage and support smokers to quit, and provides

¹⁷ Walker H, Maitland C, Tabbakh T, Preston P, Wakefield M, Sinclair C. Forty years of Slip! Slop! Slap! A call to action on skin cancer prevention for Australia. *Public Health Res Pract*. 32(1):e31452117.

training and resources for health professionals on how to deliver brief advice to encourage and support smoker quit attempts.

- > **Vaping response** – DASSA's Tobacco Control Unit is currently working with other parts of SA Health and government officials to develop an enhanced enforcement framework for illegal e-cigarette sales and advertising, enhance media campaigns to increase awareness of vaping risk and potential harms, and develop school based responses.¹⁸

DASSA has identified that the following opportunities exist for other evidence-based strategies, if funding resources became available.

- > A best practice state-wide quit support program involving provision of free nicotine replacement therapy to high prevalence groups with smoking cessation counselling through Quitline
- > Scale up the I2Q program pending outcomes of the pilot evaluation
- > Aboriginal-specific social marketing smoking cessation campaign (current Closing the Gap campaign funding has expired) focused on pregnant women and young families
- > Campaign supporting quitting among people with a mental illness
- > Comprehensive cost-benefit analysis of the recently announced New Zealand Government model of raising the legal smoking age by one year every year, effectively banning the sale of tobacco to people born after a certain date.

Alcohol

Given that alcohol consumption is associated with specific types of cancer, DASSA is considering approaches to reduce alcohol-related cancers, including the adoption of the Western Australian 'Alcohol. Think Again' public education campaign. This campaign has been developed by the WA Mental Health Commission in partnership with Cancer Council WA to educate the community that the more alcohol used over a lifetime, the greater the risk of developing cancer, empowering people to make informed decisions about their alcohol use. It has also been adapted for use in the Australian Capital Territory, demonstrating substantial increases in awareness about the link between alcohol use and specific types of cancer.

Hepatitis

Hepatitis B, and if untreated, hepatitis C, can cause liver disease and other serious illnesses, including liver cancer. Chronic hepatitis B is a life-long illness and is responsible for at least half of all hepatocellular carcinoma worldwide.

Examples of programs to reduce risk of hepatitis include:

- > **Clean Needle Program (CNP)** – provided by DASSA, the CNP aims to prevent transmission of blood-borne viruses such as human immunodeficiency virus (HIV), hepatitis B, hepatitis C and other injecting related harms among people who inject drugs; and therefore, reduce transmission and risk to the wider community. DASSA coordinates the supply of equipment to 86 state-wide

¹⁸ Although there is limited evidence currently available on a direct causal link between vaping and cancer, findings from combined studies indicate that people exposed to e-cigarettes are around three times as likely to take up smoking of combustible cigarettes (which have a known carcinogenic effect) than people who are not exposed to e-cigarettes (Source: Banks E, Yazidjoglou A, Brown S, Nguyen M, Martin M, Beckwith K, Daluwatta A, Campbell S, Joshy G. Electronic cigarettes and health outcomes: systematic review of global evidence. *Report for the Australian Department of Health*. National Centre for Epidemiology and Population Health, Canberra: April 2022)

community CNP sites and provide direct CNP services within the three metropolitan DASSA clinics.

- > **Hepatitis B Vaccination** – free hepatitis B vaccinations are available at all DASSA metropolitan clinics for all clients.
- > **National Hepatitis C Virus (HCV) Point-of-Care Testing Program** – this program will be available for all individuals accessing DASSA services, and aims to increase testing and treatment uptake (e.g. direct acting anti-virals), essential to achieve the World Health Organisation (WHO) goal to eliminate hepatitis C infection as a major global public health threat by 2030.

Human papillomavirus (HPV)

HPV is a common sexually transmitted infection which is responsible for:

- > 99.7% of cervical cancers¹⁹
- > 90% of anal cancers
- > 78% of vaginal cancers
- > 25% of vulvar cancers
- > 50% of penile cancers
- > 60% of oropharyngeal cancers.²⁰

The National HPV Vaccination Program has provided free HPV vaccines in schools to all students aged 12–13 years since 2007. Young people up to the age of 19 can also access the vaccine free of charge through general practices and community immunisation services.

Even though we have high HPV vaccination and cervical screening rates, and successful treatment services, we still have more work to do. Around 942 women and people with a cervix were diagnosed with cervical cancer in Australia in 2022.²¹

4.3 Cancer screening and early detection

When identified early, cancer is more likely to respond to treatment and can result in a greater probability of survival with less morbidity, as well as less expensive treatment.

Early diagnosis consists of three components:

- > being aware of the symptoms of different forms of cancer and of the importance of seeking medical advice when abnormal findings are observed
- > access to clinical evaluation and diagnostic services
- > timely referral to treatment services.

Early diagnosis of symptomatic cancers is relevant in all settings and the majority of cancers. Cancer programs should be designed to reduce delays in, and barriers to, diagnosis, treatment and supportive care.

Screening aims to identify individuals with findings suggestive of a specific cancer or pre-cancer before they have developed symptoms. When abnormalities are identified during screening, further tests to establish a definitive diagnosis should follow, as should referral for treatment if cancer is proven to be present.

¹⁹ Okunade KS (2020). Human papillomavirus and cervical cancer. *J Obstet Gynaecol*, 40(5): 602-608

²⁰ Cancer Council. Cancer information: HPV. Accessed May 2023 at <https://www.cancer.org.au/what-is-hpv>

²¹ <https://www.canceraustralia.gov.au/cancer-types/cervical-cancer/statistics>

Screening programs are effective for some but not all cancer types and in general are far more complex and resource-intensive than early diagnosis as they require special equipment and dedicated personnel. Even when screening programs are established, early diagnosis programs are still necessary to identify those cancer cases occurring in people who do not meet the age or risk factor criteria for screening.

There is potential to increase participation in cancer screening in SA above current levels, leading to even better outcomes for individuals and the health system.

Targeted screening programs

Wellbeing SA has initiated several targeted local engagement initiatives aimed at increasing screening participation rates of specific populations in national cancer screening programs and melanoma awareness and early detection programs. These include engagement of an Aboriginal Men's screening Officer, Aboriginal Well Women's Screening Officer and Multicultural Screening Officer, communication campaigns to raise awareness of screening programs, and grants offered to community groups and clinicians to undertake innovative programs aimed at maximising participation rates in priority populations.

Wellbeing SA initiatives to increase participation in cancer screening and early detection programs include:

- > Targeted local engagement, education and development of educational resources supported by dedicated staffing including 1 FTE Aboriginal Men's Screening Officer, 2 FTE Aboriginal Well Women's Screening Officers, and 0.6 FTE Multicultural Screening Officer
- > Training for healthcare providers and GPs, including training on self-collection for cervical screening, and dermoscopy to maximise early detection of melanomas and support correct management if high risk moles in the primary care setting
- > Tailored initiatives co-designed with priority populations including people with intellectual disability.

Whilst Wellbeing SA prioritises cancer screening resources to priority populations, if additional resources were available, the reach and dose of campaigns, grant activities, training and co-designed tailored projects could be expanded. This would lead to a greater ability to engage more people in cancer screening, particularly from the following priority populations: Aboriginal and Torres Strait Islander communities, multicultural groups, LGBTQIA+ communities, people living with a disability (physical or intellectual), people who are in insecure housing/homeless, people in correctional services.

Bowel and cervical cancer screening

Further potential systems improvements noted by Wellbeing SA which could, with appropriate funding, support increases in **bowel and cervical cancer screening and early detection** include:

- > Timely access to follow-up testing following positive colonoscopy and colposcopy results according to benchmarks set out in the clinical guidelines.
- > Continued advocacy with the National Bowel Cancer Screening Program to lower the age of eligibility for bowel screening
- > Embedding cancer screening (cervical and bowel) as routine care within all SA Health Aboriginal Health Services, health services provided to correctional facilities.
- > Embedding cervical screening, including self-collection within existing antenatal and postnatal services (for example midwifery, CaFHS home visits)

- > Systems to ensure all clinics are set up to offer self-collection- to ensure SA aligns with [the National Cervical Screening Policy](#) that *'everyone due for cervical screening will be given the choice between self-collection and clinician collection.'*
- > Routine recording of Indigenous status in each client contact, across all SA Health and all general practice settings.
- > Development of targeted communication tools for engagement with LGBTQI+ communities and those living with an intellectual disability.

Southern Co-operative Program for the Prevention of Colorectal Cancer (SCOOP)

SCOOP was established in 1999 to improve surveillance rates for colorectal cancer prevention by providing active surveillance and recommendations on when colonoscopies should be performed for people deemed to be a higher risk of colorectal cancer, in line with Australian National Health and Medical Research Council (NHMRC) guidelines. Hospitals involved in implementation of SCOOP are largely based in Southern Adelaide and include both public and private hospitals.

In public hospitals, a nurse coordinator reviews medical reports and notes for all patients undergoing colonoscopy and makes a written recommendation about follow-up based on NHMRC guidelines. The recommendation is forwarded to the responsible specialist physician (a gastroenterologist or colorectal surgeon), and after it is accepted, the patient is entered into the recall database, and they and their general practitioner are informed by letter of the histology result and the planned surveillance interval. If there is any conflict between the recommendations of the nurse and the specialist, the recommendation of the specialist is adopted.

In private non-academic hospitals, patients are enrolled in SCOOP by their gastroenterologist, and recommendations regarding an appropriate surveillance interval are entered into the same recall database as that used by the public hospitals.

SCOOP has shown that continuous monitoring of and education about colonoscopy surveillance intervals for patients at elevated risk of colorectal cancer promotes adherence to recall guidelines (97% adherence with nurse-led model) and efficient use of limited endoscopy resources.²² In addition, the program has been shown to increase the ratio of precursor lesions to cancers, thus providing the opportunity to remove precursor lesions prior to disease progression.²³

SCOOP has been identified as suitable to scale up state-wide by the SA Cancer Clinical Network.

Breast cancer screening

To maximise the benefit of a population-based cancer screening model, BreastScreen SA aim is to screen 70% of the eligible population (asymptomatic women aged 50 to 74), noting that South Australia's population continues to grow, age and diversify. Strategic use of mobile screening units, establishment of fixed screening locations, tailored screening pathways and culturally appropriate engagement are being further explored to increase participation especially in underscreening populations, and to provide timely screening accessibility.

Specific initiatives being implemented over the next five years by BreastScreen SA include:

²² Symonds EL, Simpson K, Coats M, Chaplin A, Saxty K, Sandford J, Young GP, Cock C, Fraser R and Bampton PA (2018). A nurse-led model at public academic hospitals maintains high adherence to colorectal cancer surveillance guidelines. *Med J Aust* 2018, 208 (11): 492-496. doi: 10.5694/mja17.00823

²³ Jass JR. Classification of colorectal cancer based on correlation of clinical, morphological and molecular features. *Histopathology* 2007; 50: 113-130.

- > **Increase digital engagement** – new, efficient and bespoke digital mechanisms for clients and staff including intuitive online bookings and appointment preparation, secure electronic messaging with GPs, and improved automation and capacity within the program's client management system.
- > **Mobile Screening Units for hard to reach clients** – Working directly with Local Health Networks, community groups and interested parties, BreastScreen SA can draw on population data to determine which areas of the SA community need further support to access screening 'closer to home'
- > **Partnering in research and innovation** – BreastScreen SA will lead and contribute to national research projects including Cancer Council's Roadmap for Optimising Screening in Australia (ROSA) project, and will continue to derive innovations and insights leveraged off the benefits of machine learning and artificial intelligence systems.

4.4 Key findings and implications

Key findings – cancer prevention and early detection	Implications for SA Cancer Plan
Cancer prevention and early detection	
Population based approaches to support cancer prevention, including healthy eating and physical activity, require multi-strategy, sustained investment to counteract the prevailing influence of westernised culture which favours inactivity and an energy dense/nutrient poor food supply.	Continue focus on strengthening systems for cancer prevention through a collaborative approach to addressing the social and cultural determinants of health.
To achieve an equitable impact and reduce current inequity, targeted investment in priority groups is needed to support health enhancing behaviours	Consider targeted investment in health prevention, promotion and early detection activities for priority populations to address inequities.
Whilst modelling suggests that Australia is on track to be the first country in the world to reach cervical cancer elimination, we must address inequities in access to vaccination, screening, and treatment so that this goal becomes a reality for all women and people with a cervix in Australia.	
Strong and dynamic foundations	
Population based data collection and collaborative partnership approaches are essential to inform and review cancer prevention and early detection activities and outcomes	Consider expansion of partnerships for an intersectoral approach, and explore opportunities to secure adequate and sustained resourcing to deliver successful cancer prevention outcomes.
Equity in cancer outcomes	
Tailored interventions with priority populations are resource intensive but critical to engaging under screened populations including Aboriginal and Torres Strait Islander and Culturally and Linguistically Diverse groups.	Consider opportunities and approaches for engagement of vulnerable and under-screened groups, noting the need for adequate and sustained resourcing to deliver successful outcomes.

5 Consultation findings

This section presents key consultation findings and implications for the SA Cancer Plan from written submissions (n=51), YourSAY survey (n=64) and clinician survey (n=18) responses to the following questions:

1. What is working well in how cancer prevention, research or care are provided in South Australia?
2. What future initiatives or changes are you aware of which may impact how cancer care is planned for or provided in SA?
3. What are the opportunities for improvement in how we plan for or provide cancer prevention, research or care in South Australia?

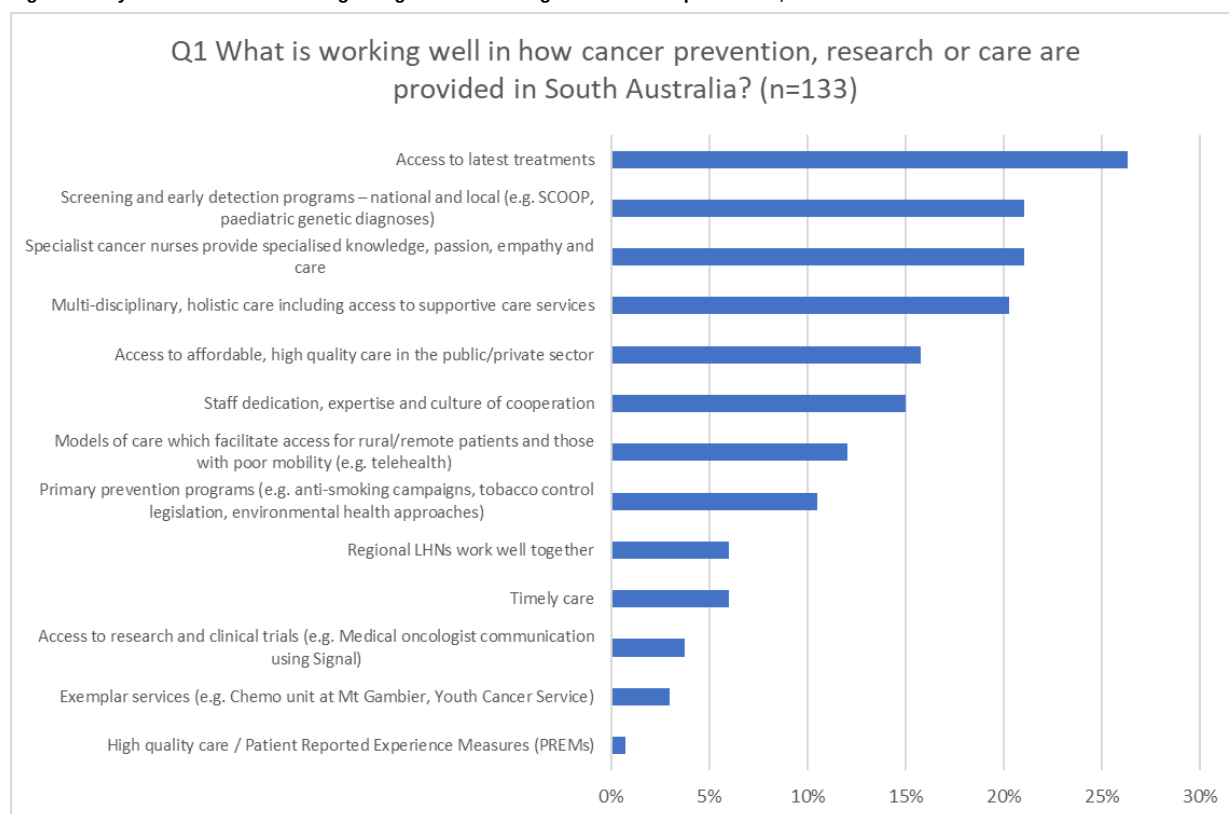
In addition, responses to YourSAY ideas (n=29) are included in analysis of opportunities for improvement.

For further detail on key themes split by participation method (written submissions, YourSAY, clinician survey) please refer to **Appendix G: Consultation key themes by participation type**.

5.1 What is working well

When responding to the question 'What is working well in how cancer prevention, research and/or care are currently provided in SA?', the most common responses given by over 20% of respondents related to the ability to access screening programs, latest treatments, and high quality, holistic cancer services and care provided by multi-disciplinary teams and specialist cancer nurses (Figure 8). A staff culture of dedication, expertise and culture of cooperation was also noted as important in providing quality care.

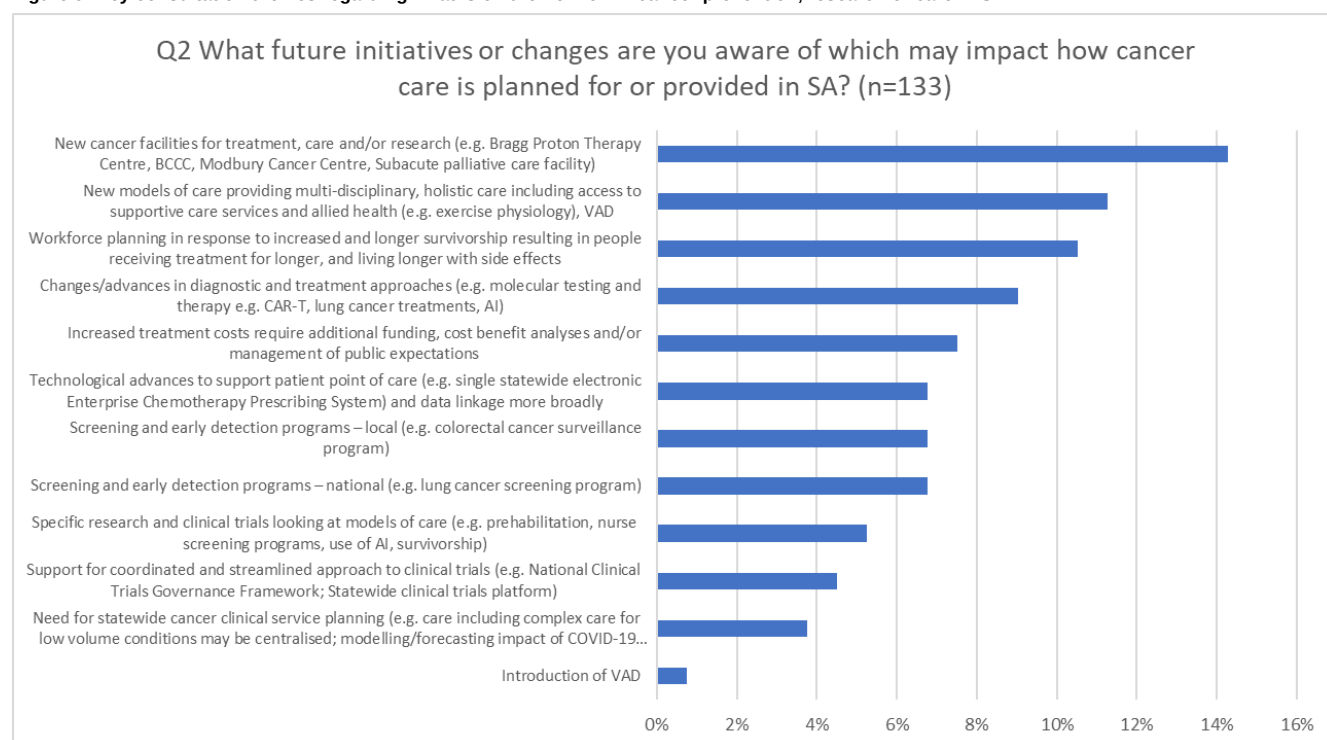
Figure 8: Key consultation themes regarding what is working well in cancer prevention, research or care in SA



5.2 What is on the horizon

When responding to the question ‘What future initiatives or changes are you aware of which may impact how cancer care is planned for or provided in SA?’, key themes were around new cancer facilities, new models of multi-disciplinary care, the need for workforce planning in response to increased survivorship and ageing population, advances in diagnostic and treatment approaches, and new national screening programs (Figure 9). Other respondents noted key initiatives which may impact the focus, coordination and approach for conduct of research and clinical trials.

Figure 9: Key consultation themes regarding what is on the horizon in cancer prevention, research or care in SA

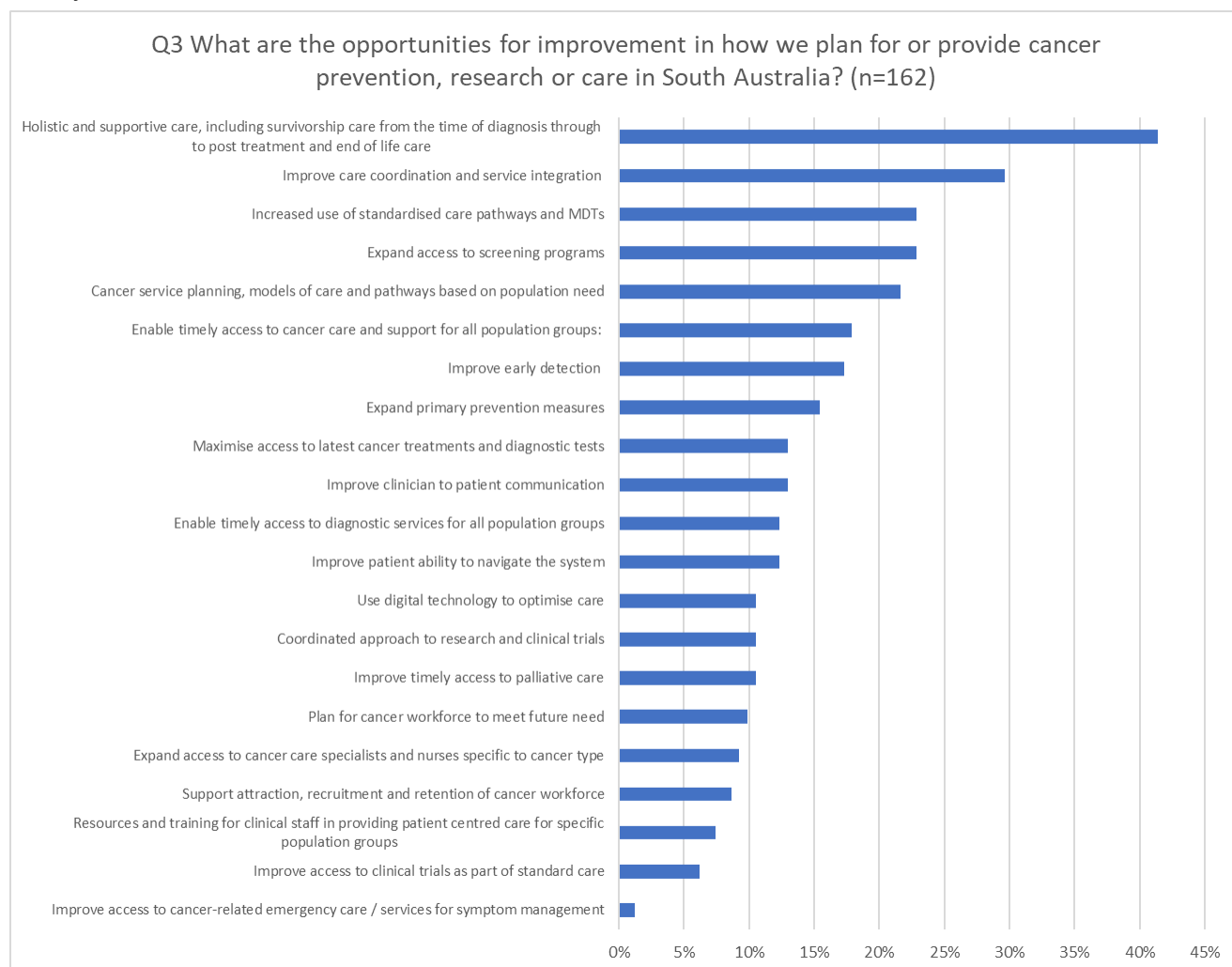


5.3 What are the opportunities for improvement

When responding to the question ‘What are the opportunities for improvement in how we plan for or provide cancer prevention, research or care in South Australia?’, the most common response them given by over 40% of respondents was the need to provide holistic and supportive care, including survivorship care which recognises the needs of the whole person from time of diagnosis, through treatment, and beyond active treatment (Figure 10). This includes access to monitoring and follow-up, support for health promotion, management of disease or treatment side effects, management of co-morbidities, support for physical, psychosocial, spiritual or economic impacts of cancer and its treatment across all stages and population groups, including support for carers.

Other key opportunities for improvement noted by over 20% of respondents were the need for improved care coordination and service integration from time of diagnosis through to post treatment for all people and all cancer types, increased used of standardised care pathways (i.e. Optimal Care Pathways) and multi-disciplinary teams, expanding access to and/or improving participation in cancer screening programs, and developing cancer service plans and models of care based on population need in SA (Figure 10). Over 20% of written submissions also commented on the need for improved support for patients to navigate the system, and improved primary prevention, early detection and timely access to diagnostic services for all population groups (**Appendix G: Consultation key themes by participation type**).

Figure 10: Key consultation themes regarding opportunities for improvement in cancer prevention, research or care in SA, including YourSAy ideas



The **SA State-wide Cancer Clinical Network (SCCN)** undertook an exercise in late 2022 to identify and prioritise key future focus areas of work for progress by SCCN. Priority work areas agreed by the SCCN align to key opportunities for improvement identified during current broad consultations for the SA Cancer Plan. These include:

- > Health services provision
- > Cancer care coordination and/or navigation
- > Data linkage and infrastructure
- > Integrated service provision ('Integrated State-wide Cancer Service')
- > Nursing education and workforce
- > State-wide CAR-T cell therapy program
- > SA cancer service mapping
- > SA cancer rehabilitation program
- > SA tumour stream groups.

Further detail on all key opportunities for improvement in SA cancer prevention, research and/or care identified during the consultation process are provided in Table 12 below.

Table 12: Key consultation themes and descriptors regarding opportunities for improvement in cancer prevention, research or care

Key opportunity	Description
Consumer experience	
Improve care coordination and integration	Design and implement approaches to improve provision of coordinated, connected/continuous and timely care from diagnosis through to post treatment for all people and for all cancer types, including continuity of care provider where possible and better links between treating teams, patient/carers and other sectors (e.g. aged care, NDIS) – this may involve individual care coordinators and/or system design which supports whole health service and multi-disciplinary team responsibility for care coordination.
Improve clinician to patient communication	Training for clinical staff to improve provision of patient-centred, compassionate care which is sensitive to patient/carer needs and not overly technical.
Improve patient ability to navigate the system	Improve availability and access to tailored information and support for consumers to improve health literacy and ability to navigate the system to receive timely care.
Prevention and early detection	
Expand access to screening programs	Design/review screening programs to enable access and improve participation by diverse population groups, including those outside existing eligibility cohorts, those who may have poor health literacy, may feel embarrassed, don't have access to mobile or internet, may have concerns re cultural safety or discrimination, or cannot currently access services in regional or remote SA.
Improve early detection	Provide both broad and targeted education to improve population health literacy, clinician awareness of cancer risk factors, symptoms and diagnoses beyond high risk groups (e.g. education regarding incidence and symptoms of breast cancer during/post pregnancy), and to improve access to screening and diagnostic services beyond existing screening program cohorts.
Expand primary prevention measures	Design and deliver targeted education, investment and support for prevention strategies (e.g. to reduce cancer risk factors such as obesity, smoking) including via school and workplace initiatives, new forms of communication, and legislative reform which aim to raise awareness, improve health literacy and promote healthier living.
Enable timely access to diagnostic services for all population groups	Enable timely access to diagnostic services for people in regional and remote areas and for people from diverse population and age groups, and which may include better coordination between public and private sector.
Health systems for optimal cancer care	
Holistic and supportive care, including survivorship care from the time of diagnosis through to post treatment and end of life care	Supportive and person-centred care from time of diagnosis should include monitoring and follow-up, support for health promotion, management of disease or treatment side effects, management of co-morbidities, support for physical, psychosocial, spiritual or economic impacts of cancer and its treatment across all stages and population groups, including support for carers.
Increased use of standardised care pathways and MDTs	Support development/updates of OCPs or where these are not yet available, relevant best practice pathways and MDTs, and embed use in planning and provision of care from prevention and early detection, prehabilitation and rehabilitation through to recovery, living with a chronic disease and end-of-life-care.
Enable timely access to cancer care and support for all population groups:	Enable timely access to cancer care and support for people in regional and remote areas and for people from diverse population and age groups, in line with OCPs or where these are not yet available, other relevant best practice pathways, and noting difficulties (including financial) in accessing care for some groups (e.g. rural and remote patients, those without support networks).

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Key opportunity	Description
Maximise access to latest cancer treatments and diagnostic tests	Ensure systems and processes support access to new technologies and emerging therapies, including alternative therapies and personalised, precision medicine.
Improve timely access to palliative care	Improve timely access to palliative care including improved service linkages, referral pathways, and public and health professional education regarding palliative care.
Improve access to clinical trials as part of standard care	Embed research and clinical trials as business as usual in healthcare, with access for all patients to relevant clinical trials as part of standard approach to care provision
Improve access to cancer-related emergency care	Develop systems and processes to support access to cancer-related emergency care and/or services for symptom management.
Strong and dynamic foundations	
Cancer service planning, models of care and pathways based on population need	Cancer service planning should be based on population need, including planned approaches for care close to home, low volume and/or high complexity cancer types, paediatric cancers, cancer types where OCPs are not yet developed, access to services for specific population groups e.g. geriatric oncology, paediatric patients, adolescent and young adult patients.
Coordinated approach to research and clinical trials	Coordinated SA approach involving key stakeholders (including medical, nursing, allied health, consumers) for prioritising, planning and undertaking cancer research, research translation and clinical trials in both metropolitan and regional SA sites, for common and rare cancers, and supported by appropriate infrastructure and resourcing.
Use digital technology to optimise care	Improve and embed data registries, systems and platforms to improve care and care pathways including telehealth and virtual care, service planning and prioritisation, coordination and collection of outcomes data (including PREMs and PROMs), and planning and undertaking research and clinical trials.
Workforce	
Plan for cancer workforce to meet future need	Support development of cancer workforce modelling and strategies at a national level, and initiate planning towards building future workforce capacity and capability in line with clear standards for cancer workforce planning.
Expand access to cancer care specialists and nurses specific to cancer type	Explore and enable options for greater access to cancer specialists and nurses/coordinators specific to cancer types beyond those currently available.
Support attraction, recruitment and retention of cancer workforce	Develop and implement attraction, recruitment and retention strategies including appropriate training and career progression pathways for specialist cancer nurses, Aboriginal and Torres Strait Islander cancer care workforce, multidisciplinary roles where staff are working at full scope of practice, including in regional and remote areas.
Resources and training for clinical staff in providing patient centred care for specific population groups	Training, education and resources for provision of cancer care and support for specific population groups (e.g. paediatrics, adolescents and young adults, older persons, CALD communities, Aboriginal and Torres Strait Islander people, people with disabilities, other diverse population groups).

5.4 Specific population needs

The consultations and submissions for the SA Cancer Plan identified specific population needs related to cancer care.

These specific needs include the lack of awareness about cancer risk and the limited access to testing for certain groups, including young adults diagnosed with bowel cancer and those in the post-pregnancy period. Patients who live in rural and remote areas also face physical, financial, and social challenges when traveling for treatment. Additionally, financial, social, emotional, technological, cultural and time barriers were identified as factors affecting access to screening and early detection based on individual circumstances.

Below is a summary list of some specific population needs identified during consultations:

- > Young people with cancer have specific needs and need access to age-appropriate care and fertility preservation, this is different to adult treatment and paediatric treatments.
- > Paediatric cancer treatment is different to adult treatments and needs to be recognised as such.
- > Parents have specific support needs when talking to children about cancer and may have additional support needs when going through treatment
- > Families and carers of people with cancer have their own emotional, financial and education support needs.
- > Children and young people may be impacted when a family member is diagnosed with cancer affecting social and school attendance
- > Older people are at a higher risk of treatment related toxicities, hospitalisations and functional decline and need combined oncological and geriatric expertise to assess their comorbidities and health status.
- > Aboriginal people need culturally safe care and access to supportive non-chemotherapy medicines that can be limited in remote Aboriginal Health Services or for financial reasons.
- > Medication information resources are not currently available in languages for all culturally and linguistically diverse populations for chemotherapy and supportive non-chemotherapy medications.
- > People identifying as LGBTQI+ are at greater risk of some cancers and face barriers in accessing screening and treatment.
- > People at risk of or experiencing homelessness have greater cancer risk factors and experience barriers to screening and access to care.

5.5 Examples of patient experience

Throughout my illness I have learned so much about cancer research, treatment and the hope for a 'cure', though I realise that the proportion of the human race with any brain tumour is a very small number. I understand this means that the key to research, funding and a 'cure' - money - is often directed towards cancers that affect more people. I have no problem with this, except that I learned that the prognosis for anyone with inoperable or grades 3 or 4 brain tumours has not changed in the last 20 years. For example, anyone diagnosed with a glioblastoma grade 4 is, on average, likely to only see the next 18 months before they pass away. I believe that clinical research is key to finding better and faster ways to diagnose, treat and extend the life of these people (despite the small number of sufferers). YourSAY story, September 2022

As a young person undergoing cancer treatment, I am very limited in what support I can access. The nature of my treatment means I am unable to drive to or from treatment, so am dependent on friends (the first week of chemo I had an allergic reaction to the treatment I require so have additional drugs to ensure I am able to be treated). Nearly all friends work, so are unable to assist in a practical sense, and am unable to access alternative options ie red cross (for over 65). YourSAy story, September 2022

5.6 Key findings and implications

Key findings – opportunities for improvement identified during consultation	Implications for SA Cancer Plan
Consumer experience	
Opportunities were identified to improve care coordination and integration, clinician to patient communication and provision of compassionate and person-centred care, and support for patient to navigate the system from pre-diagnosis to beyond treatment.	Inherently incorporate the knowledge that patient's journeys are not linear as presented in Cancer Plans traditionally Address the need for integrated care and the coordination of care for patients Consider recommendations with a personalised care lens that will require changes to decision making, culture and traditional ways of working in addition to personalised treatments
Cancer prevention and early detection	
Opportunities were identified to improve early detection, primary prevention measures, access to screening programs, and timely access to diagnostic services for all population groups.	Continue work to support primary prevention, access to screening programs and improvements to early detection of cancer Consider opportunities to improve timely access to diagnostic services for all South Australians
Health systems for optimal care	
Opportunities were identified to improve provision of holistic and supportive care, including survivorship care from the time of diagnosis through to post treatment and end of life care, increase use of Optimal Care Pathways and MDTs, improve timely access to cancer care, support and palliative care for all population groups, and maximise access to latest cancer diagnostic tests, treatments and clinical trials.	Address the need for greater focus on survivorship and care after initial treatment, including focus on the impact of cancer and/or cancer treatments on other health areas Recognise the value of supportive care and opportunities to promote this Focus on the value of allied health care as part of a multi-disciplinary approach to care Consider pathways to adopt emerging treatments in South Australia Consider how to optimise use of standardised care pathways to improve quality and consistency of care and cancer outcomes for all South Australians

Key findings – opportunities for improvement identified during consultation	Implications for SA Cancer Plan
Strong and dynamic foundations	
Opportunities were identified to focus cancer service planning, models of care and pathways based on population need, develop coordinated approaches across SA for cancer research and clinical trials, and improve use of digital technology to plan and optimise care.	Include direction on clinical trials and research that incorporates leadership and a coordinated approach across the State, that is informed by consumers and focusses on increasing access to trials Incorporate specific actions to support improved use of digital technology to plan, monitor, provide and continue to optimise care
Workforce	
Opportunities were identified for expanded access to cancer care specialists and nurses specific to cancer type, workforce planning to meet future need and to support attraction, recruitment and retention of the cancer workforce, and the need for resources and training for clinical staff in providing person centred care for specific population groups.	Consider future workforce and training needs with the view to providing patients access to specialist clinicians with expertise in particular cancers (e.g. nurses, radiologists) Consider development of co-designed resources and/or training for clinical staff to support the needs of specific population groups seeking or receiving cancer care
Equity in cancer outcomes	
Specific needs and opportunities for improvement were identified for particular population groups around lack of awareness about cancer risk, limitations in access to diagnostic testing, access to treatment or post-treatment care.	Incorporate specific recommendations for populations with specific needs Consider equity of care in broader terms than just geography and cultural background, it also needs to consider cancer type, socio- economic status and clinical trial access
Specific consultation with Aboriginal communities was recently undertaken to inform both the SA Aboriginal Cancer Plan refresh and the Australian Cancer Plan.	Actions specific to Aboriginal and Torres Strait Islander peoples will drawn from the SA Aboriginal Cancer Plan refresh and the Australian Cancer Plan for inclusion in the SA Cancer Plan

6 Current activities and future suggestions

This section presents information from workshops, targeted discussions, written submissions and YourSAY ideas regarding current activities and future suggestions for inclusion in the SA Cancer Plan. Information is presented under key areas for consideration in the Plan.

6.1 Consumer experience

Currently in SA, longer-term survivorship care was widely described as lacking, and where it does exist changes are needed. For example, some people suggested that support should be given by people who have been through the journey rather than those who are medically trained, and it needs to be more visible and acceptable. Local initiatives and support groups were identified as being invaluable and providing financial and peer support. Access to NDIS is difficult and people are often left financially vulnerable.



Breastcancer78
6 months ago



After cancer care

More support for cancer survivors please. During my breast cancer treatment I have been inundated with support which is really appreciated. I once treatment ends, I will be left to fend for myself. Once my treatment ends I'll be alone to deal with anxiety, depression, thinning hair, nerve pain, aching joints, loose teeth/dental problems, muscle pain, osteoporosis, cardiac problems, weight increase/decrease, menopause, exhaustion, financial issues, parental struggles, etc all as a result from surgery, chemotherapy and the cancer

Share    

2 

SA Health developed a **State-wide Survivorship Framework** (not dated) which aims to guide and support the implementation of key components of best-practice survivorship care. The Framework provides strategies, processes and practical tools to support change management, communication, data collection, monitoring and continuous improvement in delivery of high quality, equitable survivorship care services across SA. Unique needs and considerations for different population groups (paediatrics, Aboriginal people, CALD populations, elderly persons) are recognised in the Framework to inform a minimum and consistent level of survivorship care for all cancer survivors. However, it was reported that there is limited awareness of the *State-wide Survivorship Framework* and it has not been embedded into standard care.

Navigation of the system was viewed as an additional area for improvement. This would involve staff being across what services are available, and possibly having a navigator or triage type role to help patients navigate the system or to go to when something is wrong, including post treatment and through recovery. It was noted that many parts of the sector are already delivering navigation (cancer nurse coordinators, GPs, cancer social workers etc.). It is extremely important not to confuse cancer care coordinators and specialist cancer nurses with cancer navigators.

Current activities in SA

Examples of current activities focused on improving consumer experience in SA include:

- > **Statewide Patient Reported Measures (PRM) Program:** A statewide initiative being implemented in stages from mid-2023 by CEIH. The PRM Program will collect and report real time measures of a patients' experience and outcomes to enable improved patient clinician partnerships through enhanced decision making, continuous service improvement and benchmarking.

- > **Caring Futures Institute Research:** The Caring Futures Institute has several research trials underway to explore feasibility and models of follow-up care of people with breast cancer and lymphoma after primary treatment. The models include shared care between specialists and general practitioners, and include trials for breast cancer (EMINENT, IBIS), lymphoma (GOSPEL) and prostate cancer (MOSES).
- > **Cancer Council customer experience activities and support service mapping:** A project to define the South Australian supportive cancer care priorities among people with cancer and their caregivers. The project will provide information on unmet needs that are pertinent to a patient or caregiver's experience.
- > **Care Navigation CEIH Partnership with Caring Futures Institute:** CEIH and Caring Futures Institute at Flinders University are working together to co-develop a statewide implementation framework and model of cancer navigation that is co-designed with consumers, cancer care professionals, government and non-government organisations.
- > **Cancer Clinical Prioritisation Criteria (CPC):** CPC are developed by clinicians for use by referring health professionals, often General Practitioners, to assist with decisions about referral into public specialist outpatient services. Oncology related CPC for Genetics Cancer, Gynaecology and Gynaecology Oncology and Oncology are being developed and reviewed in 2023.
- > **Patient Portal (local to scale state-wide):** A digital communication platform that enables delivery of personalised and accurate patient appointments, digital cancer patient information, an individualised patient consent process as well as the ability to measure patient experiences for continuous quality improvement has been piloted at the Royal Adelaide Hospital oncology. The Platform will be scaled up to other LHNs who opt in.
- > **Cancer specific nurses:** Cancer specialist nurses in different capacities across SA all work to different models depending on scope of practice and funding. There is Federal funding for an additional Melanoma Nurse and four Lung Cancer Specialist Nurses to be rolled out in SA.

Future suggestions

Consultation suggestions focused on improving consumer experience included:

- > Invest into the development of non-nurse (and non-professional) navigators, and technologically enabled navigation, covering the entire continuum from screening to end of life
- > Care Navigation Framework and Roadmap for South Australia, noting the need to differentiate between navigation of the health system and navigators
- > Additional cancer care nurses including those specific to cancer type (e.g. brain cancer)
- > Provide better information on hospital discharge about other supports available (e.g. counsellors, neuropsychologists for brain cancer) that the patient can enact when ready
- > Implementation of the SA Survivorship Framework
- > Survivorship resourcing that includes integration with care for cancer survivors across SA
- > Survivorship data collection on quality of life and toxicity
- > At the system level, strengthen relationships with key sectors in cancer care including private, primary care and not-for profit sectors to provide more integrated, person-centred care
- > Availability of complementary therapies (massage, music, tai chi, acupuncture) for patients who are having inpatient cancer care.

6.2 Prevention and early detection

Current activities in SA

There are several national screening programs that are being implemented and expanded. These include the BreastScreen Australia program, the National Cervical Screening Program and the National Bowel Cancer Screening Program. Additionally, implementation of a national lung cancer screening program is being explored. This would target individuals at high risk for developing lung cancer, and use low-dose computerised tomography (CT) scans to detect lung cancer in its early stages when it is most treatable.

Wellbeing SA has a focus on health and wellbeing including primary prevention initiatives, campaigns and activities to increase physical activity, support healthy eating and health food supply chains. Wellbeing also runs training programs and other targeted initiatives to increase screening program participation rates in specific population groups, and programs to increase early skin cancer detection. DASSA runs campaigns to reduce smoking, vaping and transmission of blood-borne viruses including Hepatitis B and C which can lead to cancer.

A summary of cancer prevention and early detection activities run by Wellbeing SA and DASSA, as well as further potential system improvements which could, with appropriate funding, support increases in prevention, screening and early detection, was presented in Sections 4.2 and 4.3 of this document.

University of South Australia is also looking at the **uptake of artificial intelligence** to increase cancer screening for people in rural and remote areas.

Future suggestions

Additional consultation suggestions for improving cancer prevention and early detection included:

- > Additional co-designed screening and primary prevention efforts for specific populations, including partnerships with non-government organisations (NGOs) and other organisations already delivering care to these populations groups to increase screening rates
- > Public health campaigns for health promotion following examples for cancer prevention such as the Port Pirie Lead campaign
- > Scale up SCOOP across SA
- > Continue investment in nutrition education about the role that good nutrition plays in preventing cancer
- > Education programs to improve breast cancer symptom awareness and early diagnosis, particularly in younger women
- > Increased availability of skin cancer screening services such as free skin checks or cheaper biopsy services particularly in cases of high risk or multiple lesions.

6.3 Health systems for optimal care

There are currently four overall pillars of cancer treatment which are variously available across SA and/or interstate (Table 13):

- > Systemic treatments include chemotherapy, targeted therapy, immunotherapy (cell therapies and others), hormone therapy and miscellaneous therapies such as local ablative therapies (e.g. radio frequency, laser etc.)
- > Radiation therapy including theranostics, and proton Therapy
- > Surgery

- > Other local therapies such as Extra Corporeal Photopheresis (ECP).

Table 13: Current availability of treatments to SA patients

Treatment	Local Rural Centre	Major Rural Centre	All Metropolitan Adelaide	Selected sites only Metro Adelaide	Travel to interstate required
Chemotherapy	✓	✓	✓		
Immunotherapy	✓	✓	✓		
Targeted therapy	✓	✓	✓		
Hormone therapy	✓	✓	✓		
Radiation			✓		
Theranostics				✓	✓
Proton Therapy				Currently being built	
Surgery		✓	✓		
CAR T-cell Therapy					✓
ECP					✓
Stem Cell Transplant				Paediatric autologous, Adult	Paediatric allogenic

Source: SA Cancer Clinical Network Steering Committee members

Emerging therapies, non-curative treatments, and personalised medicine were some options participants wanted patients to have wider access to. This was in the context of a stronger national network and state-wide approach. It was also expressed that medical professionals do not always have sufficient knowledge of alternative therapies.

Several people commented on the difficulties of accessing treatment in rural locations, including the need to travel for particular procedures and treatments and the impacts this has on not just the patient but the patient's families. There was additional comment that the PATs program was not always suited to individual need and could be prohibitive for example where a patient wanted to access cross border care which may be closer to home than within the state. Attracting and retaining suitably qualified staff in rural locations was identified as a barrier to provide care locally.

Multi-disciplinary care is considered best practice for the treatment and care of patients with cancer. Cancer Australia identifies the benefits of multi-disciplinary care for patients to include increased survival, shorter timeframes from diagnosis to treatment, greater likelihood of receiving care in accord with clinical practice guidelines, including psychosocial support. Benefits for health professionals include improved patient care and outcomes through the development of an agreed treatment plan, streamlined treatment pathways and reduction in duplication of services, improved coordination of care, and improved mental well-being of health professionals.

In South Australia there is no statewide approach to multi-disciplinary treatment and care, with more than 20 cancer multi-disciplinary meetings (MDMs) occurring every month in the public and private sector. Many of the rural based oncologists and general oncologists who don't specifically specialise in particular tumours and rely on access to metropolitan multi-disciplinary teams (MDTs) for tumour specific advice.

The increased use of standardised cancer care pathways presents an opportunity to improve the quality and consistency of cancer care across the state. By implementing standardised pathways, healthcare providers can ensure that patients receive timely and appropriate interventions, and reduce the risk of treatment delays or inappropriate care. This can help to improve patient outcomes, reduce unnecessary healthcare utilisation, and optimise resource allocation. Standardised cancer care pathways can also help to address issues of variability in care across different healthcare providers and geographic regions. By implementing approaches to cancer care, providers can ensure that patients receive consistent and appropriate care regardless of where they live or seek treatment. This can help to reduce disparities in cancer care and improve equity of access to high-quality cancer services.

Several participants described barriers to palliative care. These barriers include the large amount of paperwork and complexity to receive the care, eligibility criteria being too stringent, doctors not seeing value in the service, and other more practical issues like hearing impairments. Barriers to access were also expressed in regional locations and the need for earlier access to palliative care.

Current activities in SA

Current activities to support provision of optimal cancer care in SA include:

- > **Australian Bragg Centre for Proton Therapy Proton Therapy and Research (International Network):** The Australian Bragg Centre for Proton Therapy and Research is currently being built in Adelaide with Federally committed funding of \$68 million to build Australia's (and southern hemisphere's) first proton therapy unit. The centre aims to be treating patients around 2024-25 with an initial focus on paediatric and adolescent patients and people with rare cancer types.
- > **CAR-T cell therapy program in SA:** Supported by the SA Cancer Clinical Network, a group of clinicians and researchers have begun meeting to facilitate the delivery of CAR-T cell therapy in South Australia
- > **State-wide Framework for Germline testing:** CEIH has developed a framework to support genetic testing rates, reduce wait-times and inform cancer care treatment and improve cancer care. The work provides the building blocks to be scaled and replicated across other aspects of precision medicine and personalised cancer care. Implementation of the framework across the state will be completed in early 2023.
- > **SA Pathology / Australian Cancer Research Foundation Cancer Genomics Laboratory:** The SA Pathology operated cancer genomics research laboratory will be established from 2024 in partnership with the Australian Cancer Research Foundation. It will provide for genomic diagnostic testing for prevention, diagnosis and treatment of cancer.
- > **SA Government election commitments:**
 - Mt Barker Hospital upgrades
 - More cancer beds, childhood cancer doctors and specialty nurses at Women's and Children's Hospital
 - Modbury Hospital Cancer Centre
- > **Enterprise Chemotherapy Prescribing System:** This project will deliver a new electronic system to enable the delivery of consistent and standardised systemic cancer therapy processes. Implementation will begin in 2023 and be delivered across 21 metropolitan and regional public hospitals.
- > **Cancer Council Building on Greenhill Road:** A new building that provides cancer research, prevention, support services and supportive accommodation in Adelaide for all South Australians

impacted by cancer opened in early 2023. The building will accommodate people who need to travel to Adelaide for cancer treatment.

- > **MDT Platform:** The SA Cancer Clinical Network has initiated a project to pilot an MDT digital platform that could improve consistency across the state.
- > **Multi – D treatment models:** Several innovative models of care in cancer exist across the State and are building on existing and emerging evidence in Cancer, particularly providing wholistic care and allied health support. These include the Move Through Cancer Program at CALHN, Flinders Medical Centre Exercise in Cancer, SALHN Rehabilitation in Cancer, Lift Cancer Service private specialised integrated allied health services for oncology patients
- > **Aboriginal Cancer Healing Model:** Currently being introduced at Lyell McEwan and Whyalla hospitals, a model that complements medical treatment of cancer through chemotherapy, radiation therapy, surgery and post-surgery care in acute settings.
- > **SA Health Palliative Care Services Plan and Model of Care:** Led by the Department for Health and Wellbeing, in partnership with the Statewide Palliative Care Clinical Network the Services Plan and Model of Care will inform improvements and investment in palliative care services in South Australia over the next 5 years.
- > **NALHN Careplus Clinics:** A trial of early integration of palliative care into oncology clinics has shown to have a positive outcome for cancer patients
- > **Comprehensive Palliative Care in Aged Care:** This project provides new and innovative approaches and expansions of existing models to improve palliative and end-of-life care coordination for older Australians living in residential aged care facilities (which will include delivery of palliative care for patients with cancer).

Future suggestions

Consultation suggestions for improving health systems for provision of optimal care included:

- > Statewide approach including service provision for high complexity, low volume cancer treatments
- > Personalised Medicine – Precision dosing integration into clinical practice
- > Endorse all Therapeutic Goods Administration (TGA) approved MSAC/ PBAC funded therapies for example, CAR-T, immunotherapies like blinatumomab for R/RB-ALL, ECP for T-Cell non-Hodgkin lymphoma, targeted therapies, supportive care like anti fungals
- > Access to ECP in SA for dermatological conditions including Graft versus Host Disease (GvHD).
- > Pre- screening of stem cell transplant recipients for GvHD risk identification and photography of skin/ range of movements prior to transplant
- > Improve equity and access to cancer genetics
- > Better access to PET cancer imaging in the public system provide positron emission tomography (PET) scanners at more public hospitals
- > Clearer pathways to identify eligible / noneligible paediatric patients requiring Bone Marrow Transplant that may be able to access this treatment in SA hospitals rather than going interstate for treatment
- > Statewide Cancer Service Plan to review provision and access to services and treatments and provide future direction on commissioning of cancer services in South Australia.
- > Public Statewide Cancer Service, where all patients in South Australia have access to cancer provided by a statewide cancer service rather than independent Local Health Networks
- > Introduce Cancer Optimal Care Pathways into practice across the state

- > Access to cancer prehabilitation and rehabilitation as part of standard care, aligned to the Australian Standard in 'exercise oncology'.
- > Statewide Allied Health Model of Care, including equity of access to allied health for all cancers and including:
 - Nutrition – every cancer patient should have nutrition included in their care
 - Mental Health – every patient should be offered mental health services
 - Exercise physiology – every patient should have exercise included in their care plan
- > Provide equitable access to cancer medicines that are not always available in rural and remote communities
- > Develop Geriatric Oncology models of care to address the growing geriatric patient population need
- > Review and support patients to navigate Patient Assistance Transport Scheme (PATS), support patients to navigate and understand PATS and possibly review the funding and assistance provided so it can address needs such as travel interstate where that is closer than metropolitan Adelaide
- > Telehealth outreach and domiciliary services provide innovative services including domiciliary chemo treatment, virtual care and support, particularly for people living in rural and remote locations
- > Virtual oncology Emergency Service to address cancer specific emergencies and complications without the need to attend Emergency Departments
- > Portable chemotherapy options to allow patients to travel to different destinations while having treatment
- > More rural Registered Nurses (RN) that can take blood from a central line, there are few blood collection clinics with RNs to take PICC line blood. Cancer patients need regular blood tests and need to drive long distances if they live rurally.

6.4 Strong and dynamic foundations

Strong and dynamic foundations to support cancer prevention and care in SA include digital technology and a focus on research and clinical trials, noting that workforce is considered as a separate priority area. The need for cancer service planning based on population need was also raised during consultations.

There is an opportunity to improve data systems and platforms to optimise cancer care in South Australia. By leveraging technology and data analytics, healthcare providers can improve patient outcomes, increase efficiency, and reduce costs. Implementing a comprehensive cancer data system would allow for better tracking of patient data, such as screening and diagnostic results, treatment plans, and outcomes. This data could be used to inform decision-making and identify areas for improvement in cancer care delivery. In addition, creating a centralised platform for sharing data across healthcare providers would enable better coordination of care and reduce the potential for errors

There was strong sentiment from consultation workshop that research needs to be informed by consumers, reflect a greater input from nurses, cease working in silos which can lead to duplication and imbalance of what cancers are studied, and have a greater focus on translation to inform positive patient outcomes.

A lack of awareness of clinical trials was seen as a missed opportunity, with strong support for patients to be made aware of trials and actively encouraged and supported to take part. In regional

areas access to clinical trials was raised as a concern with access being dependent on formalised affiliation with particular universities and patient access dependent on the ability to travel.

There are a number of research organisations and partnerships in cancer across South Australia. Translation of research into clinical practice is dependent upon organisational affiliations as too are opportunities for patients to participate in clinical trials. There is opportunity for strategy and coordination across South Australia, along with opportunity to coordinate bids for nationally funded grants. A coordinated and streamlined approach to research and clinical trials for cancer would involve the development of a statewide clinical trials platform. It would allow for greater collaboration between researchers and clinicians across the state, leading to more efficient and effective clinical trials that could potentially result in improved cancer outcomes for patients. This opportunity aligns with the National Cancer Plan's priority area of increasing access to clinical trials and research and could ultimately contribute to the development of new and innovative treatments for cancer.

Current activities in SA

Currently in SA, there are several current digital technology initiatives with implications for cancer prevention and care:

- > **South Australian Clinical Cancer Registry:** Commencement of the Health Care (Reporting of Cancer) Variation Regulations 2021 on 1 July 2022 requires mandatory reporting for all hospitals (public and private) at cancer diagnosis, to the extent that it is known. This includes prognostic factors, treatment, Patient Reported Outcome Measures in addition to stage at diagnosis, which is already reported. This data will form the South Australian Clinical Cancer Registry. Work is continuing to unpack how the registry will be used in South Australia.
- > **Statewide Patient Reported Measures (PRM) Program:** The PRM Program is a statewide initiative that will collect and report real time measures of a patients' experience and outcomes to enable improved patient clinician partnerships through enhanced decision making, continuous service improvement and benchmarking. The program is being implemented in stages commencing mid - 2023, commencing with services already utilising PRMs in some capacity. The Statewide Cancer Clinical Network is leading decision making about the in-scope cancer services and specific PRM instruments to be used for the initial stage.
- > **Proposed – SA Big Data Proposal:** A joint proposal with Wellbeing SA, University of Adelaide, University of South Australia to develop a statewide linked cancer database that would support service delivery and population health service and clinical research in South Australia. The vision is to link population data with clinical and patient journey data.

Key current initiatives to support coordination of and access to cancer research and clinical trials for patients in SA include:

- > **National Clinical Trials Governance Framework:** From May 2023, all health service organisations will be assessed on clinical and corporate services and clinical trials provision as part of their accreditation process against the National Safety and Quality Health Service Standards. For the first three year accreditation cycle, health service organisations will be assessed against a maturity scale as either having established systems, growing systems or initial systems in place to meet the standards for clinical trial service provision using the Governance Framework.
- > **Bragg Comprehensive Cancer Centre (and National Comprehensive Cancer Centre Network):** The Bragg Comprehensive Cancer Centre (BCCC) will be introduced on-site of the Australian Bragg Centre, and will form part of a National Network of Cancer Centres across Australia. The BCCC website states that the BCCC will have a focus on:

- Fast-tracking the translation of discovery research being done in South Australia through locally run clinics and clinical trials, ensuring the State's growing cancer research output is brought to bear on the care and treatment of cancer patients in SA.
- Being deeply integrated with the national cancer research effort and through this create a local capacity to draw on the discoveries made, and on clinical trials being run, in other jurisdictions.
- > **SAiGenCI South Australian Immunogenomics Cancer Institute:** An alliance of the University of Adelaide and Central Adelaide Local Health Network, the institute aims to provide a focal point for cancer research in the South Australian Biomedical Precinct and through this enable South Australian participation in the growing Australian network of cancer institutes, and national and international clinical trials partnerships.
- > **SA/ NT Regional Clinical Trial Coordinating Centre (RCCC):** The SA/ NT RCCC has been established to develop and implement research and clinical trials through the Australian Teletrial Program. The role of the SA/NT RCCC is to:
 - Support the Rural Support Service (RSS) to expand and develop clinical trials processes in the six regional Local Health Networks
 - Assist collaboration and establishing teletrials clusters
 - Provide education and training in clinical trials and teletrials
 - Identify and provide agreed clinical trials equipment
 - Provide funding support for primary sites to manage teletrials clusters and funding support for satellite sites that recruit participants from regional and remote areas.
- > **Health Translation SA Cancer Research Mapping:** A map of the cancer research landscape in South Australia's Metropolitan public health system.

Future suggestions

Consultation suggestions for improving digital technology and use of data to inform and improve cancer prevention, treatment, service planning and outcomes for patients include:

- > Use historical data to identify the 'non-clinical' risk factors to Aboriginal people for poor clinical outcomes and use the data to develop routine indicators and reports to monitor activity and identify patients at risk of poor clinical outcomes to seek to moderate the risks.
- > Continue to pursue the Big Data Linkage project
- > Continue to understand and apply the South Australian Clinical Cancer Registry and incorporate it into real – time patient care
- > Link PRMs with the South Australian Clinical Cancer Registry

Consultation suggestions for improving coordination of and access to cancer research and clinical trials for patients:

- > Implement a statewide clinical trials strategy
- > Expand access to clinical trials to under-represented populations and rare tumour groups
- > Coordinate access to clinical trials for all patients in South Australia
- > Coordinate research applications across South Australia
- > Coordinate access to biobank and provide the physical infrastructure to support clinical trials and research

6.5 Workforce

Nursing and midwifery staff shortages are predicted to hit 85,000 nationally by 2025, and 123,000 by 2030²⁴. A recent report from the Global Burden of Disease study shows that to achieve Universal Health Coverage everywhere requires more than 43 million additional health workers based on 2019 figures, with two-thirds of this shortfall in nurses and midwives²⁵. (All Party Parliamentary group on global health, 2022, pp9). There was an estimated 43 million global shortage of health workers in 2019 (6.4 million medical doctors, 30.6 million nurses and midwives, 3.3 million dentistry personnel, and 2.9 million pharmaceutical personnel) relative to minimum workforce density thresholds required to meet universal health coverage²⁵.

Further impacting workforce shortages, more people are surviving cancer and living longer with potential side effects as cancer treatments continue to improve. This has led to a need for workforce planning in South Australia to support the increased and longer survivorship. The workforce planning would need to address the training and education of health professionals in survivorship care, including managing side effects, monitoring for recurrence, and addressing psychological and social needs.

There is also a need to increase the number of health professionals in specific areas of care such as palliative care, survivorship care, and allied health. Additionally, there is a need to ensure that the health workforce is distributed across the state to provide equitable access to care for all cancer survivors, regardless of where they live.

There are significant opportunities for training and education for the provision of cancer care and support for specific population groups. Different population groups have unique needs and challenges when it comes to cancer care, and providing targeted education and training can help healthcare providers better understand and meet these needs.

Training and education for the provision of cancer care for paediatric patients could focus on topics such as pain management, age-appropriate communication, and supporting families during treatment. Similarly, training and education for the provision of cancer care for adolescents and young adults could focus on issues such as fertility preservation, mental health, and survivorship. Training and education for the provision of cancer care and support for culturally and linguistically diverse (CALD) communities could focus on cultural competency, understanding different health beliefs and practices, and addressing language barriers. For Aboriginal and Torres Strait Islander people, training and education could focus on the importance of cultural safety, understanding the impact of colonization on health outcomes, and incorporating traditional healing practices into cancer care.

Recruitment and retention of oncologists and medical staff in rural areas is supported by capitalising on the provision of support and suitable workloads to be seen as an attractive employer. Some of the challenges to recruiting and retaining nursing position in regional chemotherapy units include intensity of the training required, remuneration, working with cytotoxic materials while pregnant, breastfeeding or planning a family, minimal workforce to assist with sick leave or annual leave cover, limited junior medical staff to address patient issues, requiring higher level of autonomy, need to be dual trained in chemotherapy and renal dialysis in some locations, lack of career development and progression and exposure, and requirement to undertake Nurse Unit Manager duties (increased workload) for

²⁴ ANMFSA, 19 May 2022 available at: https://www.anmfsa.org.au/Web/News/2022/ANMF_taking_action_to_curb_alarming_staff_shortages.aspx#:~:text=Nursing%20and%20midwifery%20staff%20shortages,2025%2C%20and%20123%2C000%20by%202030

²⁵ All Party Parliamentary group on global health, 2022, Probable Futures and Radical Possibilities An exploration of the future roles of health workers globally, available at: <https://globalhealth.inparliament.uk/sites/globalhealth.inparliament.uk/files/2022-07/2022%20report%20full%20v2.pdf>

chemotherapy as regional Nurse Unit Managers are not usually chemotherapy trained. Recruitment and retention of specialised and experienced hospital pharmacy staff is significantly more challenging in rural settings than urban settings due to the smaller pool of available pharmacists with the requisite skills.

Current activities in SA

Examples of current initiatives to support planning, training and availability of the cancer workforce in SA include:

- > **SA Health Strategic Workforce Plan 2022 – 2032:** Phase 2 of the SA Health Workforce Strategic Plan includes a focus on targeted SA Health Workforce Initiatives in 2022 – 2023 including Rural Workforce System-wide Support, Allied and Scientific Health. The initiatives are being developed and will be consulted on in the middle of 2023.
- > **Workforce Data Tool:** As part of the Workforce Plan, a data tool to assist with workforce modelling is being developed. The tool will enable different scenario planning in different work groups and clinical settings and assist with future workforce planning, including for cancer.
- > **2022 SA Government election commitment** related to nurses providing Cancer and Palliative Care'
 - Ten (10) FTE for Palliative Care Nurse Practitioners palliative care community teams, expanding coverage and filling unmet needs across regional South Australia.
 - Three (3) FTE specialist lung cancer nurses and one (1) specialist respiratory care nurse will be funded over a four-year period commencing July 2022.

Future suggestions

Consultation suggestions focussed on the future cancer workforce included:

- > Change scope of practice to enable professionals to work at the top of their practice, and employ supports to assist
- > Acknowledge the physical and emotional toll for staff working in the cancer space and provide supports and strategies for staff to deal with this and promote wellbeing and resilience to retain critical workforce.
- > Workforce planning to address the training and education of health professionals in survivorship care, including managing side effects, monitoring for recurrence, and addressing psychological and social needs.
- > Increase the number of health professionals in specific areas of care such as palliative care, survivorship care, and allied health, and ensure distribution across the state to provide equitable access to care for all cancer survivors, regardless of where they live.

6.6 Key findings and implications

Key findings – current activities and future suggestions	Implications for SA Cancer Plan
Consumer experience	
Consultation input from workshops, targeted discussions, written submissions and YourSAy ideas provided examples of current activities and future suggestions for consideration in the SA Cancer Plan.	Consider all current initiatives and suggestions for future actions to improve cancer prevention, care and outcomes for people across SA in next steps to develop the draft SA Cancer Plan.

Appendix A: Background paper scope, key questions and data sources

Scope

The project takes a population-based approach to cancer planning, promoting resources towards the areas of greatest health need, with consideration of the following:

- > **All cancer care domains** including prevention, screening, early detection, treatment, survivorship and palliative care
- > **All cancer types** including most common through to rare and less common cancers
- > **All care settings** where SA Health services are delivered and/or funded, and ensuring strong links with primary care and research sectors
- > **Private cancer services** acknowledging the patient journey may include both private and public health care
- > **All ages and population groups**, including paediatrics, Aboriginal and Torres Strait Islander people, CALD people, people in rural and remote locations, and hard to reach populations
- > **Coordination of research and clinical trials** to enable patient access and translation to practice
- > **Evidence-based emerging technologies** and anticipated changing modalities of treatment
- > **Strategies to address gaps in service access** and to deliver improved outcomes for at-risk groups
- > **Enablers of optimal care and outcomes** including workforce, data collection and linkages, implementation planning and transfer to those responsible for implementation, monitoring and evaluation.

Key questions and data sources

The table below provides a list of key questions explored for the Current State Analysis.

Table 14: Key project questions and data sources for Stage 2 Current State Analysis

Key project questions		Data sources		
		Quantitative data	Literature review	Stakeholder consultation
Current and projected cancer burden in SA				
1	What are the cancer incidence rates, trends, projections, survival and prevalence rates by cancer type in SA?	✓		
2	How do these differ by population groups based on age, sex, geographic location, cultural background, socioeconomic status, hard to reach population groups, whether cancer is common / rare / high risk or complex? What other factors, if any, influence cancer incidence and outcomes in SA populations?	✓		
3	How have incidence and outcomes data changed over time?	✓		



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Key project questions		Data sources		
		Quantitative data	Literature review	Stakeholder consultation
4	How do these data compare with other jurisdictions and nationally?	✓	✓	
Strategic and planning context				
5	What can be learned from previous or existing cancer plans, or plans in development, and how can these inform the new SA Cancer Plan? Consider cancer plans or other relevant plans at an international, national, state and local level. For example, NHS National Plan, Royal Marsden Hospital UK Practice Approach, Australian Cancer Plan (in progress), SA Aboriginal Cancer Plan (in review), draft SA Cancer Control Plan 2018-2021 (never finalised), other jurisdiction published cancer plans, SA Health strategy and policy documents.		✓	✓
6	To what extent are directions, strategies and priorities identified in previous or existing plans still relevant? Why or why not? If relevant, how should these be incorporated in the new plan?		✓	✓
Services and access				
7	What services are currently available and how/where are these provided in SA? Consider across all cancer domains (prevention, screening and early detection, diagnosis, treatment and optimising care, palliative care and survivorship), access to clinical trials and research, and by cancer type.	✓		✓
8	How does service availability or access differ by cancer type, age, sex, geographic location, cultural background or other relevant factors?	✓		✓
9	How does service usage differ by cancer type, age, sex, geographic location, cultural background or other relevant factors?	✓		✓
10	What is currently working well to facilitate service access and why? Consider across different demographic groups, cancer care domains, different cancer types, and also enablers of care (governance models, systems and processes, workforce, data and communication, monitoring and evaluation).			✓
11	What is currently not working so well and why not? Consider across different demographic groups, cancer care domains, different cancer types, and also enablers of care (governance models, systems and processes, workforce, data and communication, monitoring and evaluation).			✓

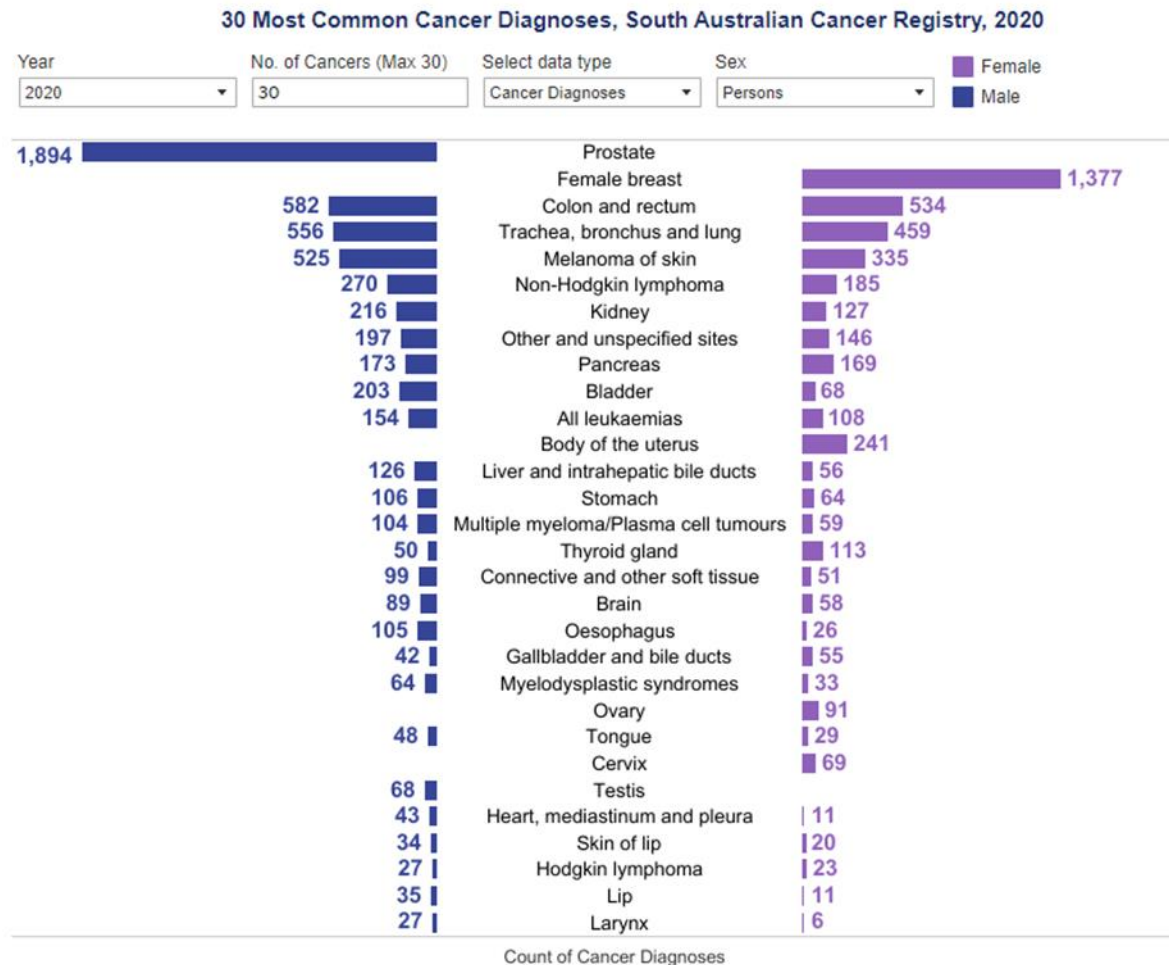
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Key project questions		Data sources		
		Quantitative data	Literature review	Stakeholder consultation
12	What initiatives are currently in progress (national, state-wide and/or local) which may impact service access or outcomes, including the timeframes and intended outcomes of these initiatives? Consider any differences by cancer type, cancer care domains , different population groups and/or care enablers.		✓	✓
13	What are the current or emerging best practice models of care and/or service delivery which may impact access, services provided and/or outcomes in cancer care over the next 5-10 years? Consider any differences by cancer type, cancer care domains, different population groups and/or care enablers.		✓	✓
Future opportunities and threats				
14	What are other emerging opportunities and/or issues over the next 5-10 years which may impact demand for and/or delivery of cancer care in SA? Consider the following: > Political > Economic > Socio-cultural > Technological > Legal > Environmental > Ethical		✓	✓

Appendix B: SA cancer incidence counts

The incidence of difference cancers and most common cancer diagnoses in SA is presented below.

Figure 11: 30 Most common cancer diagnoses by sex, South Australia 2020



Source: Wellbeing SA (2023). SA Cancer Registry: Data about cancer in South Australia: Most common cancers in South Australia. Accessed June 2023 at [Data about cancer in South Australia • Wellbeing SA](#)

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Figure 12: Count of cancer incidence by group and sex, South Australia 2018

2018 Cancer group/site by Sex	Males		Females		Total
	Count	% of total	Count	% of total	
All cancers combined	5,956	55%	4,819	45%	10,775
Prostate cancer	1,689	100%	-		1,689
Breast cancer	15	1%	1,453	99%	1,468
Colorectal cancer	627	53%	560	47%	1,187
Lung cancer	572	58%	421	42%	993
Colon cancer	421	50%	422	50%	843
Melanoma of the skin	491	61%	320	39%	811
Lymphoma	299	59%	209	41%	508
Gynaecological cancers	-		485	100%	485
Non-Hodgkin lymphoma	273	59%	186	41%	459
Head and neck cancer (including lip)	272	74%	98	26%	370
Kidney cancer	237	67%	116	33%	353
Rectal cancer	206	60%	138	40%	344
Pancreatic cancer	168	52%	158	48%	326
Neuroendocrine tumours	176	57%	131	43%	307
Head and neck cancer (excluding lip)	212	71%	87	29%	299
Bladder cancer	201	74%	70	26%	271
Uterine cancer	-		261	100%	261
Endometrial cancer	-		244	100%	244
Leukaemia	145	63%	87	38%	232
Unknown primary site (cancer of)	129	57%	99	43%	228
Stomach cancer	121	69%	54	31%	175
Liver cancer	119	68%	56	32%	175
Multiple myeloma	92	55%	74	45%	166
Brain and other central nervous system (cancer of the)	101	62%	61	38%	162
Thyroid cancer	52	34%	100	66%	152
Brain cancer	95	64%	54	36%	149
Oesophageal cancer	101	73%	38	27%	139
Soft tissue sarcoma	69	56%	55	44%	124
Ovarian cancer and serous carcinomas of the fallopian tube	-		115	100%	115
Myelodysplastic syndromes	64	71%	26	29%	90
Acute myeloid leukaemia	57	66%	30	34%	87
Tongue cancer	56	71%	23	29%	79
Lip cancer	60	85%	11	15%	71
Mesothelioma	49	70%	21	30%	70
Testicular cancer	68	100%	-		68
Oropharyngeal cancer	58	85%	10	15%	68
Cervical cancer	-		66	100%	66
Connective, subcutaneous and other soft tissues (cancer of)	35	56%	27	44%	62
Small intestine cancer	35	59%	24	41%	59
Chronic lymphocytic leukaemia	31	58%	22	42%	53
Other (less than 50 (total) per annum)	342	51%	327	49%	669

Source: AIHW - Cancer incidence counts and age-standardised rates, by sex and state and territory, 1982 to 2018

Appendix C: SA cancer diagnoses and excess deaths by location (pictorial)

Overall, data from the Australian Cancer Atlas²⁶ indicates that whilst some areas of regional and remote SA may have cancer diagnosis rates that are lower than the Australian average, excess death rates are higher in many regional areas (Figure 13 and Figure 14). Note, use following diagram to interpret figures below.

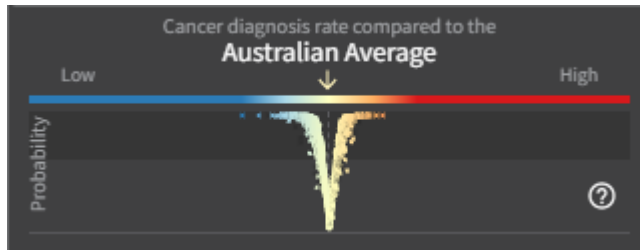
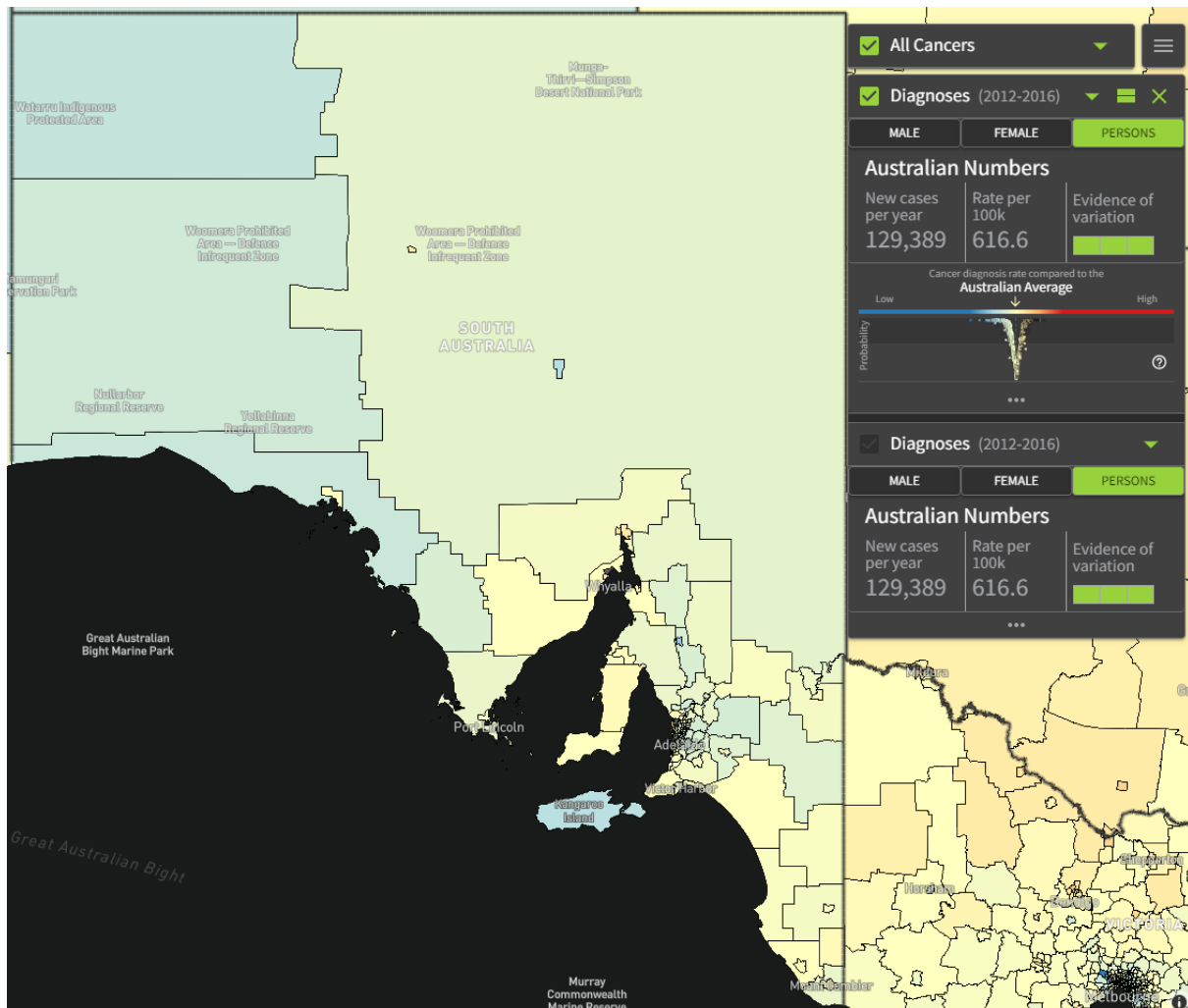
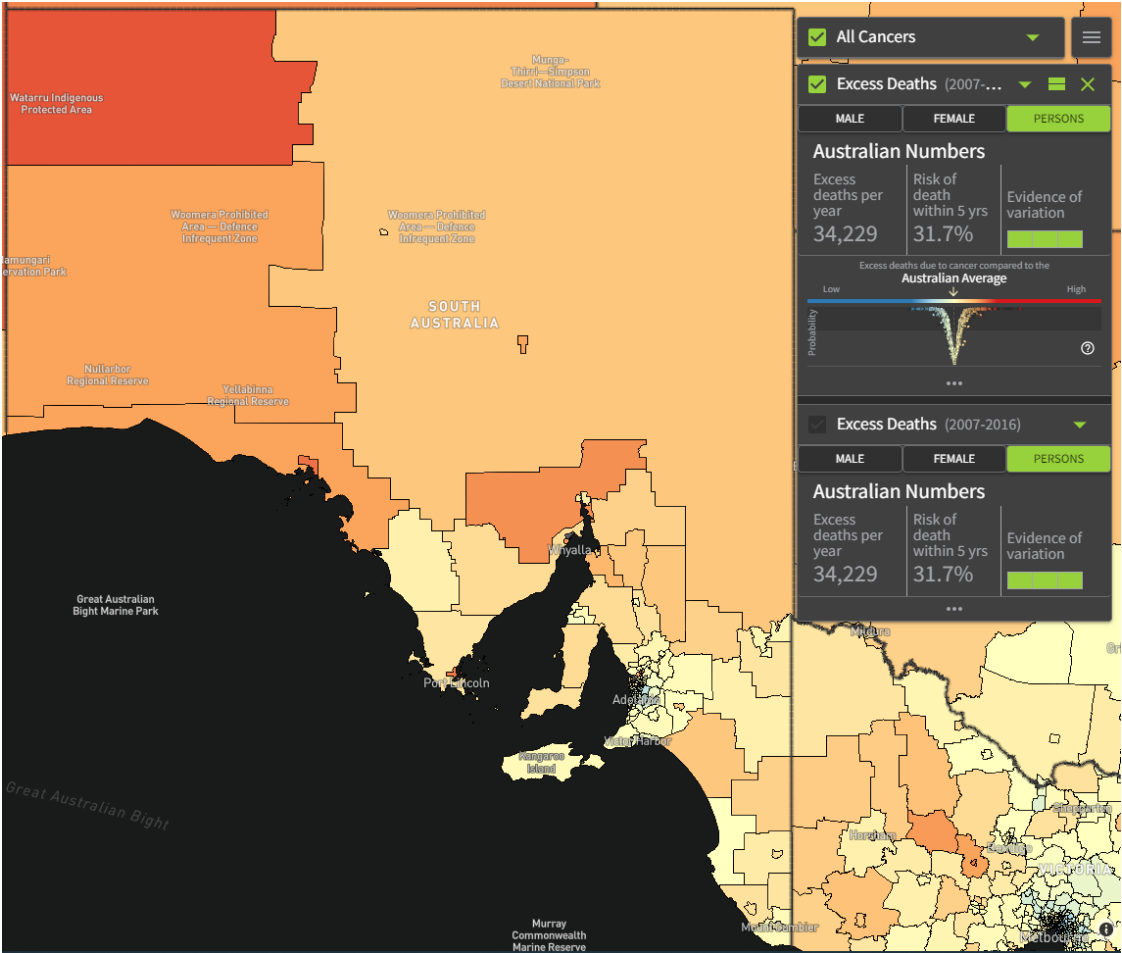


Figure 13: Average risk of people by area being diagnosed with cancer compared to the Australian average, 2012-2016



²⁶ Australian Cancer Atlas (<https://atlas.cancer.org.au>). Cancer Council Queensland, Queensland University of Technology, Cooperative Research Centre for Spatial Information. Version 09-2018. Accessed 12/10/2022 and 24/1/2023 Data provided from Australian Institute of Health and Welfare in September 2020, extract 2001 – 2016, Common cancers 2012 and 2016, less common cancers 2007 – 2016

Figure 14: Average risk of excess cancer death by area compared to the Australian average, 2012-2016



Appendix D: National cancer screening programs and SA participation

Bowel cancer screening

The National Bowel Cancer Screening Program is recommended for men and women every 2 years for people aged 50 – 74. Screening rates and invitations to screen are seasonal with the 'National Bowel Cancer Screening Program Hot Zone Policy'.

Key findings from data reported by the AIHW include:

- > South Australia has higher participation rates in the National Bowel Cancer Screening Program compared to Australian rates overall (Table 15 and Table 16)
- > Screening participation rates in South Australia decreased across most SA3 areas between 2018 - 19 and 2019 – 20 (Table 15), similar to decreases in national participation rates during this time (Table 16)
- > Some regional areas of South Australia (Yorke Peninsula, Fleurieu – Kangaroo Island) have higher screening participation rates than metropolitan areas of Adelaide, and Adelaide city and Outback North & East have lowest participation rates (Table 17)
- > Both SA Primary Health Networks were in the top 10 across the country for participation rates in 2019-20, with Country SA PHN having the third highest participation rate in Australia (48.3%), and Adelaide PHN the sixth highest (46.2%)
- > Screening participation rates increase with age in SA (Table 18), similar to increased participation by age in Australia overall.

Table 15: National Bowel Cancer Screening Program participation, SA by year

Bowel Cancer Screening SA	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	AAG (14/15 to 19/20)	AAGR (14/15 to 19/20)
Number invited	202,982	241,239	314,703	381,834	431,266	447,191	48,842	24.1%
Number participated	92,960	113,321	145,998	181,250	210,716	209,555	23,319	25.1%
Participation rate (Invited) %	45.8%	47.0%	46.4%	47.5%	48.9%	46.9%	0.2%	

Source: AIHW Participation in the National Bowel Cancer Screening Program, by state/territory, sex, people aged 50–74, 2014–2015 to 2019–2020

Table 16: National Bowel Cancer Screening Program participation, Australia by year

Bowel Cancer Screening Aus	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	AAG (14/15 to 19/20)	AAGR (14/15 to 19/20)
Number invited	2,608,599	3,174,835	4,100,498	5,074,538	5,744,244	6,062,065	690,693	26.5%
Number participated	1,014,327	1,298,942	1,693,430	2,149,569	2,497,317	2,523,289	301,792	29.8%
Participation rate (Invited) %	38.9%	40.9%	41.3%	42.4%	43.5%	41.6%	0.5%	

Source: AIHW Participation in the National Bowel Cancer Screening Program, by state/territory, sex, people aged 50–74, 2014–2015 to 2019–2020



Table 17: South Australia 2019-20 Top/Bottom SA3 Bowel Cancer Participation Screening

2019-20 Bowel Cancer Screening SA SA3 Top/Bottom 10 Participation Rate %	Number invited	Number participated	Participatio n rate (Invited) %
Yorke Peninsula	8,469	4,633	54.7%
Fleurieu - Kangaroo Island	16,557	8,947	54.0%
Holdfast Bay	10,166	5,346	52.6%
Mitcham	16,752	8,627	51.5%
Barossa	9,253	4,745	51.3%
Adelaide Hills	21,476	10,816	50.4%
Tea Tree Gully	25,266	12,643	50.0%
Burnside	12,314	6,145	49.9%
Lower North	6,431	3,189	49.6%
Marion	23,348	11,482	49.2%
Charles Sturt	29,355	13,537	46.1%
Campbelltown (SA)	12,742	5,822	45.7%
West Torrens	14,941	6,765	45.3%
Eyre Peninsula and South West	15,361	6,845	44.6%
Port Adelaide - East	14,298	6,162	43.1%
Salisbury	32,261	13,599	42.2%
Port Adelaide - West	16,151	6,774	41.9%
Playford	20,337	7,634	37.5%
Adelaide City	6,930	2,504	36.1%
Outback - North and East	5,847	2,097	35.9%

Source: AIHW: Participation in the National Bowel Cancer Screening Program, by SA3, people aged 50–74, 2019–2020

Table 18: Participation in National Bowel Cancer Screening Program by age, SA

Bowel Cancer SA Screening by Age	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	AAG (14/15 to 19/20)	AAGR (14/15 to 19/20)
50–54								
Number invited	50,374	45,581	65,549	89,653	107,929	129,050	15,735	31.2%
Number participated	17,326	14,888	21,771	31,770	40,198	45,413	5,617	32.4%
Participation rate (Invited) %	34.4%	32.7%	33.2%	35.4%	37.2%	35.2%	0.2%	
55–59								
Number invited	47,399	44,891	64,507	65,309	63,358	81,601	6,840	14.4%
Number participated	20,233	18,031	25,258	26,925	27,363	33,141	2,582	12.8%
Participation rate (Invited) %	42.7%	40.2%	39.2%	41.2%	43.2%	40.6%	-0.4%	
60–64								
Number invited	44,733	56,523	74,770	95,255	111,621	101,414	11,336	25.3%
Number participated	22,398	27,331	35,978	46,310	55,647	50,473	5,615	25.1%
Participation rate (Invited) %	50.1%	48.4%	48.1%	48.6%	49.9%	49.8%	-0.1%	
65–69								
Number invited	39,655	36,579	33,622	50,655	66,730	59,615	3,992	10.1%
Number participated	20,441	18,564	17,859	28,099	38,123	34,611	2,834	13.9%
Participation rate (Invited) %	51.5%	50.8%	53.1%	55.5%	57.1%	58.1%	1.3%	
70–74								
Number invited	20,821	57,665	76,255	80,962	81,628	75,511	10,938	52.5%
Number participated	12,562	34,507	45,132	48,146	49,385	45,917	6,671	53.1%
Participation rate (Invited) %	60.3%	59.8%	59.2%	59.5%	60.5%	60.8%	0.1%	

Source: AIHW Participation in the National Bowel Cancer Screening Program, by state/territory, sex and 5-year age group, people aged 50–74, 2014–2015 to 2019–2020

Breast cancer screening

Breast cancer screening is recommended every 2 years for women aged 50 – 74 in the general population and encouraged from age 40 – 74 for Aboriginal women.

BreastScreen SA provides a dedicated breast cancer screening program for SA, and forms part of the BreastScreen Australia program.



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Key findings from data reported by the AIHW include:

- > South Australia has higher participation rates in the National Breast Cancer Screening Program compared to Australian rates overall, with participation of eligible persons at 52.1% (Table 19 and Table 20)
- > Breast Cancer Screening participation rates decreased 2019-20 and 2020-21 compared to 2018-19 in both SA and Australia overall, likely attributable to Covid-19 (Table 19 and Table 20); however, participation rates were still greater in SA in these years than the Australian rates for each age range (Table 21)
- > Breast Screening participation rates generally increased with age between 50 and 69 year olds in South Australia, and the average annual growth rate of participation in 70 – 74 year olds increased between 2014/15 and 2019/20 although it decreased in other age groups (Table 21)
- > Regional areas of South Australia (Yorke Peninsula, Limestone Coast, Mid North) have some of the highest participation rates in screening, whilst Metropolitan Adelaide (Playford, Adelaide City, Port Adelaide East) areas have some of the lowest rates. (Table 22).

Table 19: South Australia Breast Cancer Screening Participation

Breat Cancer Screening SA	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	AAG (14/15 to 19/20)	AAGR (14/15 to 19/20)
Eligible population	239,959	243,867	247,336	250,883	254,190	258,709	3,750	1.6%
Number participated	139,674	144,652	147,797	149,098	150,387	134,732	- 988	-0.7%
Participation Rate (Eligible pop) %	58.2%	59.3%	59.8%	59.4%	59.2%	52.1%	-1.2%	

Source: AIHW analysis of BreastScreen register data and National Cancer Screening data

Table 20: Australia Breast Cancer Screening Participation

Breat Cancer Screening Aus	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	AAG (14/15 to 19/20)	AAGR (14/15 to 19/20)
Eligible population	3,166,958	3,233,276	3,297,208	3,358,612	3,425,595	3,506,201	67,849	2.1%
Number participated	1,701,854	1,772,540	1,812,835	1,841,333	1,875,751	1,750,263	9,682	0.6%
Participation Rate (Eligible pop) %	53.7%	54.8%	55.0%	54.8%	54.8%	49.9%	-0.8%	

Source: AIHW analysis of BreastScreen register data and National Cancer Screening data

Table 21: South Australia Breast Cancer Screening Participation by Age (5-year groups)

Breat Cancer Screening SA by Age	2014–2015	2015–2016	2016–2017	2017–2018	2018–2019	2019–2020	AAG (14/15 to 19/20)	AAGR (14/15 to 19/20)
50–54								
Eligible population	56,907	56,489	53,480	55,158	53,686	55,153	- 351	-0.6%
Number participated	29,821	29,719	29,525	28,219	28,564	25,556	- 853	-2.9%
Participation Rate (Eligible pop) %	52.4%	52.6%	55.2%	51.2%	53.2%	46.3%	-1.2%	-2.3%
55–59							-	0.0%
Eligible population	53,077	55,193	55,933	56,530	54,753	56,932	771	1.5%
Number participated	31,204	31,017	32,666	32,503	32,368	27,793	- 682	-2.2%
Participation Rate (Eligible pop) %	58.8%	56.2%	58.4%	57.5%	59.1%	48.8%	-2.0%	-3.4%
60–64							-	0.0%
Eligible population	49,774	50,305	49,650	51,680	52,518	53,961	837	1.7%
Number participated	31,642	31,944	32,394	32,255	31,962	29,371	- 454	-1.4%
Participation Rate (Eligible pop) %	63.6%	63.5%	65.2%	62.4%	60.9%	54.4%	-1.8%	-2.9%
65–69							-	0.0%
Eligible population	45,290	46,629	47,255	47,571	48,262	49,171	776	1.7%
Number participated	29,492	30,428	31,164	30,997	31,333	27,417	- 415	-1.4%
Participation Rate (Eligible pop) %	65.1%	65.3%	65.9%	65.2%	64.9%	55.8%	-1.9%	-2.9%
70–74							-	0.0%
Eligible population	33,730	35,248	37,514	38,580	41,775	43,516	1,957	5.8%
Number participated	17,512	20,442	22,052	24,394	25,465	23,741	1,246	7.1%
Participation Rate (Eligible pop) %	51.9%	58.0%	58.8%	63.2%	61.0%	54.6%	0.5%	1.0%

Source: AIHW analysis of BreastScreen register data and National Cancer Screening data

Table 22: South Australia Breast Cancer Screening Participation 2019-20 Top/Bottom SA3

2019-20 Breast Cancer Screening SA SA3 Top/Bottom 10 Participation Rate %	Eligible population	Number participated	Participation Rate (Eligible pop) %
Yorke Peninsula	5,293	3,395	64.1%
Limestone Coast	10,644	6,363	59.8%
Mid North	4,792	2,800	58.4%
Barossa	6,261	3,577	57.1%
Fleurieu - Kangaroo Island	11,172	6,271	56.1%
Mitcham	9,954	5,544	55.7%
Murray and Mallee	12,204	6,704	54.9%
Unley	6,057	3,324	54.9%
Tea Tree Gully	15,000	8,131	54.2%
Prospect - Walkerville	4,333	2,321	53.6%
Norwood - Payneham - St Peters	5,607	2,893	51.6%
Adelaide Hills	12,348	6,207	50.3%
Outback - North and East	3,548	1,744	49.2%
Port Adelaide - West	9,543	4,582	48.0%
Eyre Peninsula and South West	8,884	4,160	46.8%
Salisbury	18,860	8,795	46.6%
Port Adelaide - East	8,809	4,090	46.4%
Adelaide City	2,707	1,208	44.6%
Playford	11,328	4,875	43.0%
Burnside	-	-	0.0%

Source: AIHW analysis of BreastScreen register data and National Cancer Screening data

Cervical cancer screening

Under The National Cervical Screening Program, cervical screening is recommended every 5 years for women and people with a cervix age 25-74. The first five years of the program has not yet elapsed, and it is anticipated the correct measure of participation in the five-year screening program will be available around the end of 2023.

Key findings from data reported by the AIHW to date include:

- > SA participation rates in the National Cervical Screening Program are higher than in Australia overall (Table 23 and Table 24), with SA having the third highest participation rate in the country
- > Screening rates are higher in metropolitan areas of Adelaide (except Playford) than regional South Australia (Table 25).

Table 23: South Australia Cervical Cancer Screening

Cervical Cancer Screening SA	2018–2021
Eligible population	468,078
Number participated	304,825
Participation Rate (Eligible pop) %	65.1%

Source: AIHW analysis of National Cancer Screening Register (Cervical) 9/4/2022

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Table 24: Australia Cervical Cancer Screening

Cervical Cancer Screening AUS	2018–2021
Eligible population	6,860,813
Number participated	4,279,732
Participation Rate (Eligible pop) %	62.4%

Source: AIHW analysis of National Cancer Screening Register (Cervical) 9/4/2022

Table 25: South Australia Cervical Cancer Screening 2018-20 Top/Bottom SA3

2018–2021 Cervical Cancer Screening SA SA3 Top/Bottom 10 Participation Rate %	Eligible population	Number participated	Participation Rate (Eligible pop) %
Mitcham	17,279	11,988	69.4%
Unley	10,951	7,567	69.1%
Adelaide Hills	20,103	13,762	68.5%
Holdfast Bay	9,873	6,427	65.1%
Prospect - Walkerville	7,998	5,197	65.0%
Norwood - Payneham - St Pete	10,444	6,721	64.4%
Campbelltown (SA)	14,025	9,007	64.2%
Tea Tree Gully	25,830	16,118	62.4%
Barossa	9,792	5,874	60.0%
Onkaparinga	46,943	28,052	59.8%
Gawler - Two Wells	9,404	5,314	56.5%
Port Adelaide - West	16,743	9,461	56.5%
Limestone Coast	17,044	9,531	55.9%
Adelaide City	6,479	3,440	53.1%
Yorke Peninsula	6,692	3,553	53.1%
Murray and Mallee	18,561	9,832	53.0%
Mid North	6,993	3,673	52.5%
Playford	24,231	11,449	47.2%
Outback - North and East	6,724	3,168	47.1%
Burnside	-	-	0.0%

Source: AIHW analysis of National Cancer Screening Register (Cervical) 9/4/2022

Table 26: South Australia Cervical Cancer Screening by Age (5-year groups)

Cervical Cancer Screening SA by Age	SA	Aus
25–29		
Eligible population	56,862	942,102
Number participated	34,173	513,791
Participation Rate (Eligible pop) %	60.1%	54.5%
30–34		
Eligible population	57,917	950,136
Number participated	33,396	514,887
Participation Rate (Eligible pop) %	57.7%	54.2%
35–39		
Eligible population	53,428	861,982
Number participated	31,771	481,617
Participation Rate (Eligible pop) %	59.5%	55.9%
40–44		
Eligible population	46,468	738,400
Number participated	28,767	433,893
Participation Rate (Eligible pop) %	61.9%	58.8%
45–49		
Eligible population	47,918	732,270
Number participated	30,603	444,130
Participation Rate (Eligible pop) %	63.9%	60.7%
50–54		
Eligible population	44,604	638,728
Number participated	27,769	385,993
Participation Rate (Eligible pop) %	62.3%	60.4%
55–59		
Eligible population	43,915	608,857
Number participated	27,452	367,316
Participation Rate (Eligible pop) %	62.5%	60.3%
60–64		
Eligible population	39,235	528,036
Number participated	24,238	312,403
Participation Rate (Eligible pop) %	61.8%	59.2%
65–69		
Eligible population	34,412	446,669
Number participated	20,261	244,437
Participation Rate (Eligible pop) %	58.9%	54.7%
70–74		
Eligible population	29,987	379,952
Number participated	9,851	103,968
Participation Rate (Eligible pop) %	32.9%	27.4%

Source: AIHW analysis of National Cancer Screening Register (Cervical) 9/4/2022

Appendix E: Public hospital cancer inpatient episodes, including by stay type

Table 27: SA Public Inpatient Episodes for Primary Diagnosis of Cancer

SA Inpatient	2018/19	2019/20	2020/21	2021/22
Secondaries	5,587	5,576	5,757	5,382
BASAL CELL CARCINOMA OR SQUAMOUS CELL CARCINOMA	4,797	4,260	4,374	4,237
Benign	3,494	3,386	3,581	3,404
LUNG CANCER	2,341	2,311	2,324	2,107
COLORECTAL CANCER	1,930	1,899	1,898	1,884
URINARY SYSTEM	1,699	1,700	1,666	1,729
UNKNOWN BEHAVIOUR	1,648	1,397	1,368	2,052
BREAST CANCER	1,402	1,452	1,490	1,386
INSITU	1,386	1,273	1,211	1,202
PROSTATE CANCER	1,325	1,436	1,444	1,514
HEAD AND NECK CANCER	1,187	1,066	1,140	1,182
MULTIPLE MYELOMA	1,131	982	1,054	1,051
OESOPHAGOGASTRIC CANCER	924	918	778	784
PANCREATIC CANCER	797	717	734	908
ACUTE MYELOID LEUKAEMIA	745	838	861	755
LYMPOID LEUKAEMIA	701	816	504	477
HEPATOCELLULAR CARCINOMA	695	713	761	605
HODGKIN AND DIFFUSE LARGE B-CELL LYMPHOMA	641	478	441	382
CERVICAL CANCER	638	668	578	499
LYMPHOMA	565	608	511	577
MELANOMA	548	654	582	515
CENTRAL NERVOUS SYSTEM	417	530	446	624
MYELOID LEUKAEMIA	330	304	238	237
OVARIAN CANCER	292	289	326	268
ENDOMETRIAL CANCER	258	208	249	298
UNSPECIFIED PRIMARY	240	216	195	185
DIGESTIVE SYSTEM	154	143	147	107
FEMALE REPRODUCTIVE SYSTEM	139	147	124	123
SMALL BOWEL	134	131	100	147
MESOTHELIOMA	127	142	93	109
SOFT TISSUE	115	110	92	171
BONE	104	172	219	228
MALE REPRODUCTIVE SYSTEM	100	110	123	135
EYES	66	44	75	70
OTHER	30	34	32	38
PLASMACYTOMA	24	33	23	14
THYMUS	14	6	11	6
AUTONOMIC NERVOUS SYSTEM	6	18	46	47
SARCOMA (BONE AND SOFT TISSUE SARCOMA)	4	9	1	11
CANCER OF UNKNOWN PRIMARY	1	2	2	1
KAPOSI SARCOMA	-	1	1	12
HEART	-	1	-	4

Data source: Health Information Portal Cancer Diagnosis per QIP HUB Cancer KPI Definition, Principal Diagnosis only, from Enterprise Data and Information 18 October 2022.



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Table 28: SA Sameday Inpatient Episodes for Primary Diagnosis Cancer

SA Sameday Inpatient	2018/19	2019/20	2020/21	2021/22
BASAL CELL CARCINOMA OR SQUAMOUS CELL CARCINOMA	3,825	3,421	3,495	3,494
Benign	2,151	2,037	2,217	2,213
UNKNOWN BEHAVIOUR	1,230	975	974	1,640
INSITU	904	890	810	819
Secondaries	660	742	622	621
PROSTATE CANCER	611	681	645	738
MULTIPLE MYELOMA	554	486	450	449
URINARY SYSTEM	489	435	438	511
LYMPOID LEUKAEMIA	485	562	243	263
CERVICAL CANCER	464	509	413	330
ACUTE MYELOID LEUKAEMIA	444	468	481	435
LYMPHOMA	294	319	173	243
MYELOID LEUKAEMIA	215	188	141	160
LUNG CANCER	205	176	160	167
MELANOMA	196	230	200	271
HODGKIN AND DIFFUSE LARGE B-CELL LYMPHOMA	187	133	117	82
HEAD AND NECK CANCER	160	165	177	240
BREAST CANCER	150	138	133	145
COLORECTAL CANCER	94	80	95	114
OESOPHAGOGASTRIC CANCER	73	85	75	61
CENTRAL NERVOUS SYSTEM	55	75	71	124
HEPATOCELLULAR CARCINOMA	53	62	63	48
ENDOMETRIAL CANCER	53	44	65	74
PANCREATIC CANCER	52	39	42	47
OVARIAN CANCER	30	18	20	14
DIGESTIVE SYSTEM	27	9	31	12
FEMALE REPRODUCTIVE SYSTEM	22	21	19	23
MALE REPRODUCTIVE SYSTEM	20	31	29	34
UNSPECIFIED PRIMARY	18	15	13	17
SOFT TISSUE	15	18	21	38
EYES	13	12	17	24
PLASMACYTOMA	12	10	9	1
BONE	10	12	25	19
SMALL BOWEL	10	1	1	3
OTHER	6	11	14	9
MESOTHELIOMA	6	8	8	11
AUTONOMIC NERVOUS SYSTEM	2	2	14	10
SARCOMA (BONE AND SOFT TISSUE SARCOMA)	1	7	-	2
CANCER OF UNKNOWN PRIMARY	1	1	1	-
KAPOSI SARCOMA	-	1	-	12
THYMUS	-	-	-	1

Data source: Health Information Portal Cancer Diagnosis per QIP HUB Cancer KPI Definition, Principal Diagnosis only, from Enterprise Data and Information 18 October 2022.

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Table 29: SA Overnight Inpatient Episodes for Primary Diagnosis Cancer

SA Overnight Inpatient	2018/19	2019/20	2020/21	2021/22
Secondaries	4,927	4,834	5,135	4,761
LUNG CANCER	2,136	2,135	2,164	1,940
COLORECTAL CANCER	1,836	1,819	1,803	1,770
Benign	1,343	1,349	1,364	1,191
BREAST CANCER	1,252	1,314	1,357	1,241
URINARY SYSTEM	1,210	1,265	1,228	1,218
HEAD AND NECK CANCER	1,027	901	963	942
BASAL CELL CARCINOMA OR SQUAMOUS CELL CARCINOMA	972	839	879	743
OESOPHAGOGASTRIC CANCER	851	833	703	723
PANCREATIC CANCER	745	678	692	861
PROSTATE CANCER	714	755	799	776
HEPATOCELLULAR CARCINOMA	642	651	698	557
MULTIPLE MYELOMA	577	496	604	602
INSITU	482	383	401	383
HODGKIN AND DIFFUSE LARGE B-CELL LYMPHOMA	454	345	324	300
UNKNOWN BEHAVIOUR	418	422	394	412
CENTRAL NERVOUS SYSTEM	362	455	375	500
MELANOMA	352	424	382	244
ACUTE MYELOID LEUKAEMIA	301	370	380	320
LYMPHOMA	271	289	338	334
OVARIAN CANCER	262	271	306	254
UNSPECIFIED PRIMARY	222	201	182	168
LYMPOID LEUKAEMIA	216	254	261	214
ENDOMETRIAL CANCER	205	164	184	224
CERVICAL CANCER	174	159	165	169
DIGESTIVE SYSTEM	127	134	116	95
SMALL BOWEL	124	130	99	144
MESOTHELIOMA	121	134	85	98
FEMALE REPRODUCTIVE SYSTEM	117	126	105	100
MYELOID LEUKAEMIA	115	116	97	77
SOFT TISSUE	100	92	71	133
BONE	94	160	194	209
MALE REPRODUCTIVE SYSTEM	80	79	94	101
EYES	53	32	58	46
OTHER	24	23	18	29
THYMUS	14	6	11	5
PLASMACYTOMA	12	23	14	13
AUTONOMIC NERVOUS SYSTEM	4	16	32	37
SARCOMA (BONE AND SOFT TISSUE SARCOMA)	3	2	1	9
CANCER OF UNKNOWN PRIMARY	-	1	1	1
HEART	-	1	-	4
KAPOSI SARCOMA	-	-	1	-

Data source: Health Information Portal Cancer Diagnosis per QIP HUB Cancer KPI Definition, Principal Diagnosis only, from Enterprise Data and Information 18 October 2022.

Appendix F: Risk factors for cancer

Between 30-50% of all cancer cases are preventable. Prevention offers the most cost-effective long-term strategy for the control of cancer.²⁷

Tobacco

Tobacco smoke has more than 7000 chemicals, at least 250 are known to be harmful and at least 69 are known to cause cancer. Worldwide, tobacco use is the single greatest avoidable risk factor for cancer mortality and kills more than 8 million people each year, from cancer and other diseases. Nearly 80% of the 1.1 billion smokers in the world live in low- and middle-income countries.

Physical inactivity, dietary factors, obesity and being overweight

Overweight and obesity are linked to many types of cancer such as oesophagus, colorectal, breast, endometrial and kidney. Regular physical activity, and maintaining a healthy body weight, and a healthy diet can risk. Excess body mass was responsible for 3.4% of cancers in 2012, including 110 000 cases of breast cancer per year. Alcohol use

Alcohol use

Alcohol use is a risk factor for many cancer types including cancer of the oral cavity, pharynx, larynx, oesophagus, liver, colorectal and breast. Risk of cancer increases with the amount of alcohol consumed. In 2016, alcohol-attributable cancers were estimated to be responsible for 400,000 deaths worldwide, predominantly among men.

Infections

Cancer causing infections, such as hepatitis and HPV, are responsible for up to 25% of cancer cases in low- and middle-income countries. Vaccines are available for hepatitis B virus and some types of HPV, and can reduce the risk of liver and cervical cancers, respectively.

Environmental pollution

It has been estimated that outdoor air pollution contributed to 4.2 million premature deaths worldwide in 2016, of which 6% were lung cancer deaths. Additionally, close to 4 million people die prematurely from illness attributable to the household air pollution from cooking with solid fuels and kerosene.

Occupational carcinogens

It is well documented that occupational carcinogens are causally related to lung cancer, mesothelioma, and bladder cancer. For example, mesothelioma (cancer of the outer lining of the lung or chest cavity) is to a large extent caused by work-related exposure to asbestos.

Radiation

Exposure to all types of ionizing radiation increases the risk of various types of malignancy including leukaemia and a number of solid tumours. Risks increase when the exposure occurs at a young age and also when the exposure amount is higher. Ultraviolet (UV) radiation, and in particular solar radiation, is carcinogenic to humans, causing all major types of skin cancer, such as basal cell carcinoma (BCC), squamous cell carcinoma (SCC) and melanoma. Avoiding excessive exposure, and using sunscreen and protective clothing are effective preventive measures. UV-emitting tanning devices are now also classified as carcinogenic to humans based on their association with skin and ocular melanoma cancers.

²⁷ <https://www.who.int/activities/preventing-cancer>

Appendix G: Consultation key themes by participation type

This section presents key consultation findings by participation type including written submissions (n=51), YourSAy survey (n=64), clinician survey (n=18) and YourSAy ideas (n=29). Themes and percentage of respondents are provided in tables below for each of the following questions:

1. What is working well in how cancer prevention, research or care are provided in South Australia?
2. What future initiatives or changes are you aware of which may impact how cancer care is planned for or provided in SA?
3. What are the opportunities for improvement in how we plan for or provide cancer prevention, research or care in South Australia?

Table 30: Key consultation themes regarding what is working well in cancer prevention, research or care in SA by survey type

Q1 What is working well in how cancer prevention, research or care are provided in South Australia?	Written submissions (n=51)	YourSAy survey (n=64)	Clinician survey (n=18)	Total (n=133)
Consumer experience				
Specialist cancer nurses provide specialised knowledge, passion, empathy and care	29%	0%	0%	21%
High quality care / Patient Reported Experience Measures (PREMs)	0%	0%	6%	1%
Prevention and early detection				
Screening and early detection programs – national and local (e.g. SCOOP, paediatric genetic diagnoses)	14%	25%	28%	21%
Primary prevention programs (e.g. anti-smoking campaigns, tobacco control legislation, environmental health approaches in local areas)	20%	3%	11%	11%
Health systems for optimal cancer care				
Access to latest treatments	35%	27%	0%	26%
Multi-disciplinary, holistic care including access to supportive care services	25%	20%	6%	20%
Access to affordable, high quality care in the public/private sector	16%	19%	6%	16%
Models of care which facilitate access for rural/remote patients and those with poor mobility (e.g. telehealth)	25%	5%	0%	12%
Exemplar services (e.g. Youth Cancer Service)	8%	0%	0%	3%
Strong and dynamic foundations				
Access to research and clinical trials (e.g. Medical oncologist communication using Signal)	6%	0%	11%	4%
Workforce				
Specialist cancer nurses provide specialised knowledge, passion, empathy and care	29%	20%	0%	21%
Staff dedication, expertise and culture of cooperation	12%	16%	22%	15%
Regional LHNs work well together	16%	0%	0%	6%



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Table 31: Key consultation themes regarding what is on the horizon in cancer prevention, research or care in SA by participation type

Q2 What future initiatives or changes are you aware of which may impact how cancer care is planned for or provided in SA?	Written submissions (n=51)	YourSAY survey (n=64)	Clinician survey (n=18)	Total (n=162)
Consumer experience				
Introduction of VAD	2%	0%	0%	1%
Prevention and early detection				
Screening and early detection programs – national (e.g. lung cancer screening program)	14%	2%	6%	7%
Screening and early detection programs – local (e.g. colorectal cancer surveillance program)	16%	2%	0%	7%
Health systems for optimal cancer care				
New cancer facilities for treatment, care and/or research (e.g. Bragg Proton Therapy Centre, BCCC, Modbury Cancer Centre, Subacute palliative care facility)	8%	9%	50%	14%
New models of care providing multi-disciplinary, holistic care including access to supportive care services and allied health (e.g. exercise physiology), VAD	22%	5%	6%	11%
Changes/advances in diagnostic and treatment approaches (e.g. molecular testing and therapy e.g. CAR-T, lung cancer treatments, AI)	12%	2%	28%	9%
Specific research and clinical trials looking at models of care (e.g. prehabilitation, nurse screening programs, use of AI, survivorship)	12%	2%	0%	5%
Need for statewide cancer clinical service planning (e.g. care including complex care for low volume conditions may be centralised; modelling/forecasting impact of COVID-19 on patient access to care; appropriate placement of new hospitals, beds etc based on population need)	8%	2%	0%	4%
Strong and dynamic foundations				
Increased treatment costs require additional funding, cost benefit analyses and/or management of public expectations	14%	0%	17%	8%
Technological advances to support patient point of care (e.g. single statewide electronic Enterprise Chemotherapy Prescribing System) and data linkage more broadly	14%	0%	11%	7%
Support for coordinated and streamlined approach to clinical trials (e.g. National Clinical Trials Governance Framework; Statewide clinical trials platform)	8%	3%	0%	5%
Workforce				
Workforce planning in response to increased and longer survivorship resulting in people receiving treatment for longer, and living longer with side effects	25%	2%	0%	11%



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Table 32: Key consultation themes regarding opportunities for improvement in cancer prevention, research or care in SA by participation type, including YourSAy ideas

Q3 What are the opportunities for improvement in how we plan for or provide cancer prevention, research or care in South Australia?	Written submissions (n=51)	YourSAy responses (n=93)	Clinician survey (n=18)	Total (n=162)
Consumer experience				
Improve care coordination and integration:	41%	23%	33%	30%
Improve clinician to patient communication	16%	14%	0%	13%
Improve patient ability to navigate the system	29%	4%	6%	12%
Prevention and early detection				
Expand access to screening programs	18%	27%	17%	23%
Improve early detection	24%	15%	11%	17%
Expand primary prevention measures	22%	13%	11%	15%
Enable timely access to diagnostic services for all population groups	27%	6%	0%	12%
Health systems for optimal cancer care				
Holistic and supportive care, including survivorship care from the time of diagnosis through to post treatment and end of life care	27%	47%	50%	41%
Increased use of standardised care pathways and MDTs	24%	24%	17%	23%
Enable timely access to cancer care and support for all population groups:	18%	19%	11%	18%
Maximise access to latest cancer treatments and diagnostic tests	20%	11%	6%	13%
Improve timely access to palliative care	12%	9%	17%	10%
Improve access to clinical trials as part of standard care	10%	4%	6%	6%
Improve access to cancer-related emergency care / services for symptom management	0%	1%	6%	1%
Strong and dynamic foundations				
Cancer service planning, models of care and pathways based on population need	12%	13%	94%	22%
Coordinated approach to research and clinical trials	12%	8%	22%	10%
Use digital technology to optimise care	18%	5%	17%	10%
Workforce				
Plan for cancer workforce to meet future need	16%	4%	22%	10%
Expand access to cancer care specialists and nurses specific to cancer type	8%	11%	6%	9%
Support attraction, recruitment and retention of cancer workforce	10%	5%	22%	9%
Resources and training for clinical staff in providing patient centred care for specific population groups	10%	6%	6%	7%



For more information

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