

Evidence Check

Cancer control plans



A Draft Evidence Check rapid review brokered by the Sax Institute for the Cancer Institute NSW,
June 2020.

This report was prepared by: Imogen Ramsey, Kate Kennedy, Deborah Forsythe, Micah Peters, Greg Sharplin,
Nadia Corsini and Marion Eckert.

June 2020

© Cancer Institute NSW 2020

This work is copyright. It may be reproduced in whole or in part subject to the inclusion of an acknowledgement
of the source. It may not be reproduced for commercial usage or sale. Reproduction for purposes other than
those indicated above requires written permission from the copyright owners.

Enquiries regarding this report may be directed to the:

Manager
Knowledge Exchange Program
Sax Institute
www.saxinstitute.org.au
knowledge.exchange@saxinstitute.org.au
Phone: +61 2 9188 9500

Suggested Citation:

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.

doi:10.57022/jkea9139

Disclaimer:

This Evidence Check Review was produced using the Evidence Check methodology in response to specific
questions from the commissioning agency.

It is not necessarily a comprehensive review of all literature relating to the topic area. It was current at the time
of production (but not necessarily at the time of publication). It is reproduced for general information and third
parties rely upon it at their own risk.

Cancer control plans

An Evidence Check rapid review brokered by the Sax Institute for the Cancer Institute NSW, June 2020

This report was prepared by Imogen Ramsey, Kate Kennedy, Deborah Forsythe, Micah Peters, Greg Sharplin, Nadia Corsini and Marion Eckert.

Contents

Executive summary	4
Background	4
Aim and review questions	4
Summary of methods	5
Results and discussion	6
Conclusion	8
Background	9
Global cancer burden	9
Lessons and challenges for cancer control in Australia	10
Addressing the global cancer burden through cancer control plans	14
The NSW Cancer Plan	15
Aim and review questions	16
Methods	18
Question 1 and Question 2	18
Question 3	18
Reporting	19
Results	20
Results for Question 1 and Question 2	20
Results for Question 3	55
Discussion	59
Summary of findings for Question 1 and Question 2	59
Summary of findings for Question 3	61
Analysis and applicability for the NSW Context	61
Gaps analysis	61
Limitations of this review	61
Conclusion	61
References	63

Appendices	66
Appendix 1 – Search strategies	66
Appendix 2 – Supporting resources	72

Executive summary

Background

There is increasing recognition that reducing cancer burden is a public health priority requiring coordinated efforts that are evidence-based and tailored to local contexts, addressed within a cancer control plan. Cancer control plans provide a comprehensive approach to translating commitments for the prevention and control of cancer into actions that are evidence-based and relevant for the specific locality.

Aim and review questions

The aim of this review is to inform and aid the Cancer Institute NSW in developing the next NSW Cancer Plan, by identifying and analysing the key features of cancer control plans, their implementation, and the relevance of these to the New South Wales (NSW) context.

This review aimed to address the following questions posed by the Cancer Institute NSW:

Question 1: What are the main elements of the selected national and jurisdictional cancer control plans included in Table 1?

Question 2: What are the common components across the selected national and jurisdictional cancer control plans and what is the relevance of these to the NSW context?

Question 3: What key learnings from the implementation of cancer control plans may be relevant for the NSW context?

Table 1. National and international cancer control plans

Victorian Cancer Plan 2016 – 2020	health.vic.gov.au/about/health-strategies/cancer-care/victorian-cancer-plan
Western Australia Cancer Plan 2020 – 2025	health.wa.gov.au/Articles/U_Z/WA-Cancer-Plan

Queensland Cancer Care Statewide Health Service Strategy 2014	health.qld.gov.au/_data/assets/pdf_file/0028/621586/cancer-care-strategy.pdf
NHS Long term Plan (Cancer)	longtermplan.nhs.uk/online-version/chapter-3-further-progress-on-care-quality-and-outcomes/better-care-for-major-health-conditions/cancer/
New Zealand Cancer Action Plan 2019 – 2029	health.govt.nz/publication/new-zealand-cancer-action-plan-2019-2029
Canadian Strategy for Cancer Control 2019-2029	s22457.pcdn.co/wp-content/uploads/2019/06/Canadian-Strategy-Cancer-Control-2019-2029-EN.pdf
Manitoba Cancer Plan 2016-2021	www.cancercare.mb.ca/export/sites/default/About-Us/.galleries/files/corporate-publications/Manitoba_Cancer_Plan_2016-2021.pdf
Changing our Future: Alberta's Cancer Plan to 2030	open.alberta.ca/dataset/09e65e85-2796-456e-ac52-353b533450fd/resource/0c184a3f-e897-4794-a40a-a71b86ff91a5/download/6153402-2013-changing-our-future-albertas-cancer-plan-2030.pdf

Summary of methods

To address Questions 1 and 2 the research team were provided with current national and international cancer control plans selected by the Cancer Institute NSW (Table 1). To address Question 3, both published and other (i.e. grey literature) sources of evidence were sought via a rapid review using an approach based on an internationally recognised methodology for the conduct of systematic scoping reviews, which was abbreviated for use within the project's time constraints.¹ A systematic search was conducted across the following databases: MEDLINE (Ovid), EMCARE, EMBASE, Scopus and selected grey literature for relevant government or non-government sources of evidence.

English language evidence produced from 1 January 2018 to 12 May 2020 was included to provide the most up to date information on the topic. Only sources of evidence from Australia and other

countries agreed with Cancer Institute NSW to be the most applicable to the NSW context were eligible for inclusion (New Zealand, the UK and Canada).

Results and discussion

Search results (Question 3)

- The searches returned 4095 results, of which 1490 were duplicate references.
- There were 2605 unique search results, of which 2573 were excluded based on lack of relevance to the review.
- After assessing the full texts of the remaining 32 articles, 4 sources were selected for inclusion.

Key findings for Question 1 and Question 2

- What are the main elements of the selected national and jurisdictional cancer control plans included in Table 1?
- What are the common components across the selected national and jurisdictional cancer control plans and what is the relevance of these to the NSW context?

Eight cancer control plans from Australia, New Zealand, Canada and the UK provided information to answer Questions 1 and 2. Generally, the plans reported data that addressed most of the elements of interest of the review, although how priority areas and actions were organised within the plans varied.

Prevention

Approaches to cancer prevention were very similar across the plans, with most seeking to reduce exposure to lifestyle risk factors for cancer and prevent cancers related to infection. While tobacco prevention and cessation programs were frequently mentioned, it was noted that specific information regarding what strategies would be employed to achieve reduction of other modifiable risk factors, such as inadequate diet and physical activity, was often lacking. This is likely due to the much stronger evidence to support tobacco control initiatives in reducing cancer risk, relative to the evidence for cancer prevention initiatives targeting diet, alcohol consumption and physical activity, which is still emerging. Most plans recognised the need for targeted prevention initiatives for populations with higher cancer risk.

Screening and early detection

All plans aimed to improve cancer screening, particularly within under-screened groups, although strategies for achieving this were often not specified. Detecting cancers earlier was a goal of all plans, and strategies to achieve this included improving access to diagnostic services, enhancing health literacy and awareness of cancer signs and symptoms, enhancing the capacity of primary care providers to support the flow of patients and information across services, and using new technologies and models for testing.

Treatment

Priorities for cancer treatment, with the aim of improving outcomes, were to improve and accelerate access to services and developments in cancer treatment; enhance the quality and consistency of care through the implementation of best practice standards, monitoring and reporting of key indicators and provision of multidisciplinary care; improve the efficiency and coordination of care; and understand and enhance patient experiences.

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. Empowering patients to seek information and services, self-manage side effects, live well, and make decisions about care, was recognised as an important objective of survivorship care in several plans.

Interface between primary and specialist services

Supporting and enhancing the coordination and integration of cancer care services was a defined goal of most plans, although how this would be realised was frequently not addressed. Strategies that were mentioned include encouraging collaboration, developing and implementing follow-up care guidelines, and improving referral processes and the flow of information between providers.

Approaches to cancer control for priority populations

Many of the plans aimed to reduce disparities in cancer outcomes for priority groups including Aboriginal and First Nations peoples, although approaches to determining cancer control priorities for these populations varied. Only three plans consulted or collaborated with consumers representing priority populations in the plan development.

Cancer research and training

Key priorities for advancing cancer research included increasing opportunities and access to clinical trials; encouraging researchers to collaborate across sectors, internationally, and between metropolitan and regional services; enhancing the translation of research evidence into practice; and developing research workforce capacity and infrastructure.

Workforce

Common workforce objectives in the plans included enhancing opportunities for education and professional development, implementing routine monitoring of workforce requirements, supporting staff wellbeing, and upskilling and growing the Aboriginal workforce.

Implementation, evaluation and monitoring

All plans addressed an aspect of plan implementation, evaluation or monitoring, although approaches were heterogenous and described with differing levels of detail. In most cases, the approach was to be determined via future activities and subsequently the detail provided was limited. How progress towards implementation and goals would be reported to the public was a gap across the plans.

Trends for cancer control

Major challenges and trends that informed the priorities outlined in the plans include rising cancer incidence and longer survival; the subsequent growing demand for cancer services; the rising costs and complexities of cancer treatments, and how this will add to workforce, financial and health system pressures. Achieving health equity by addressing disparities in outcomes and the need for patient-centred care tailored to all population groups was another key trend across the plans.

Key findings for Question 3

- What key learnings from the implementation of cancer control plans may be relevant for the NSW context?

Limited evidence relevant to Question 3 was identified by the comprehensive search of published and grey literature. This suggests that if evaluation of the implementation of cancer control plans is occurring, then this information is not being publicly released.

Four sources that varied in scope provided information to answer Question 3. A common theme across the included sources was that a dedicated budget for implementation and evaluation is important for developing a cancer control plan with actionable steps that can be evaluated. Related to this was the need for specific implementation or action plans with clear links to cancer control plan outcomes, and frameworks for the implementation and ongoing evaluation of cancer plans to determine progress toward population cancer outcomes.

Conclusion

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.

The findings from the review highlight key trends and specific elements of cancer control plans developed in countries and jurisdictions with health systems comparable to NSW. The review also identified several resources that may be useful for the design and implementation of the NSW Cancer Plan (supplied in Appendix 2).

Background

Global cancer burden

Noncommunicable diseases (NCD) account for over 70% of global deaths.² Of these, deaths due to cancer are estimated to have risen to 9.6 million, equating to approximately one in six NCD deaths, in 2018.³ Cancer is expected to rank as the leading cause of death and most significant barrier to increasing life expectancy in every country of the world in the 21st century, and its incidence and mortality are rapidly growing worldwide.³ The reasons are complex but reflect population growth and ageing, in addition to changes in the prevalence and distribution of the main risk factors for cancer, several of which are associated with socioeconomic development.³ With rapid population growth and aging worldwide, the rising prominence of cancer as a leading cause of death partly reflects declines in mortality rates of communicable diseases as well as stroke and coronary heart disease, relative to cancer, in many countries.³ The disease burden from cancer is greatest in low- and middle-income countries, where 75% of cancer deaths occur and the number of cancer cases is rising fastest.⁴ Cancer incidence is estimated to double by 2035, with the greatest increase in cases anticipated in low- and middle-income countries due to demographic changes, such as increasing exposure to risk factors and population ageing.^{4,5}

Worldwide, the age-standardised incidence rate for all cancers combined in 2018 was 219 per 100,000 for men, about 20% higher than the rate for women (183 per 100,000).³ Incidence rates across the 20 world regions in the most recent GLOBOCAN report varied among males almost sixfold, from 571 per 100,000 in Australia and New Zealand to 96 per 100,000 in Western Africa.³ Among females, incidence rates varied nearly fourfold, from 362 per 100,000 in Australia and New Zealand to 96 per 100,000 in South-Central Asia.³ These variations largely reflect differences in the type of exposures and associated cancers and in the availability and use of screening services and diagnostic imaging.³ For example, the high overall incidence rates of cancer among both men and women observed in Australia and New Zealand are partly due to increased detection of skin cancers, particularly nonmelanoma skin cancers, in these countries.³

Addressing the growing cancer burden as a public health priority is challenging as cancer is not a single disease, but rather a multitude of diseases with unique epidemiology.⁴ That many cancers are heterogeneous in their characteristics, with hundreds of histological and biological subtypes, must also be considered.⁴ Cancer control efforts must be tailored to local populations and geographical, socioeconomic and cultural contexts; while effective disease management requires specific diagnostic and therapeutic strategies, a highly skilled workforce to implement them, and patient care that is coordinated and multidisciplinary.⁴ The following section will summarise key lessons and challenges for cancer control in Australia, with a focus on the cancers that account for the majority of the cancer incidence and mortality burden in Australia and NSW.

Lessons and challenges for cancer control in Australia

Cancer is the leading cause of disease burden in Australia, which has among the world's highest age-standardised incidence rates and cancer survival rates for most cancers.⁶ Consistent with global trends, the increasing number of cancer cases and deaths in Australia is largely due to the growth in size and ageing of the Australian population, which is predicted to continue to increase the demand for health services in the future.⁶ Changes in population exposure to cancer risk factors, advancements in treatment, and increased early diagnosis due to diagnostic innovations and the implementation of national cancer screening programs have and will continue to affect cancer incidence and mortality rates in Australia.⁶

Lung cancer

Globally, lung cancer has the highest incidence and mortality, with 2.1 million new lung cancer cases and 1.8 million deaths predicted in 2018, representing close to 1 in 5 (18.4%) cancer deaths.³ There is a 20-fold variation in lung cancer rates by region, which largely reflects historical and cultural differences in tobacco use as well as geographical differences in air quality.^{3,7} There is also significant variation in lung cancer incidence and mortality within regions due to associated racial, ethnic and sociodemographic factors.³ Among men, a decrease in smoking prevalence, followed by a peak and decline in lung cancer rates in the same generations, was first observed in several high-income countries including the UK, the US, Finland, Australia, New Zealand, the Netherlands, and Singapore.³

In Australia, lung cancer is the fifth most commonly diagnosed cancer and leading cause of cancer death for men, women, Aboriginal and non-Aboriginal populations.⁸ Around 85% of lung cancers in Australia are attributable to tobacco, which is comparable to other developed countries.⁶ Rates of lung cancer incidence and mortality in Australia have been in steady decline since the early 1980s,⁸ mirrored by a decrease in smoking prevalence.⁹ These are attributed to a range of tobacco control initiatives and policies first introduced in the 1970s, including bans on tobacco advertising, anti-smoking media campaigns, smoke-free legislation and policy, tax increases, plain packaging, and behavioural interventions.^{6,10} Lung cancer rates are higher among population subgroups with higher rates of tobacco use, which include people with low socioeconomic status, people living in rural and remote areas, and Aboriginal people.¹⁰ In NSW, epidemiological studies have found that while incidence of lung cancer among men has decreased over the past 25 years, there has been an increase in disparity across socioeconomic groups.¹⁰

There have been small improvements in lung cancer survival rates in Australia although long-term survival remains low, largely due to diagnostic delays resulting in a more advanced stage of disease at diagnosis.⁶ Aboriginal Australians are 1.8 times as likely to die from lung cancer and have a significantly lower five-year survival rate of lung cancer (11%) than non-Aboriginal Australians (16%).¹¹ Although the reasons for this are complex, population-based studies in Queensland, Western Australia and NSW have attributed the difference largely to disparities in the medical treatment received between Aboriginal and non-Aboriginal people.¹²⁻¹⁴ Lung cancer was defined as a priority in the National Aboriginal and Torres Strait Islander Cancer Framework, developed by the Australian Government in 2015 to improve cancer survival outcomes for this group.¹⁵

Although primary prevention through tobacco control remains the most effective long-term strategy for reducing lung cancer burden in Australia, the full benefits of these initiatives will not be realised for

many years to come.⁶ Meanwhile, there is room for secondary prevention and advances in lung cancer treatments to improve survival rates over the coming decades. Lung cancer screening for high risk smokers is not yet recommended in Australia but trials aimed at optimising the benefits, harms, and cost-effectiveness of screening with low dose computer tomography are underway.^{6,16} Additionally, numerous targeted therapies and immunotherapies are now being subsidized in Australia to treat certain types of lung cancer. These initiatives will hopefully contribute to further advances in survival for lung cancer in Australia.⁶

Breast cancer

Worldwide, there will be about 2.1 million newly diagnosed female breast cancer cases in 2018, accounting for almost 1 in 4 cancer cases among women.³ Breast cancer is the most commonly diagnosed cancer in most countries (154 of 185) including Australia (excluding nonmelanoma skin cancer), and the leading cause of cancer death in over 100 countries, with Australia, New Zealand and Northern America among the main exceptions.³ Breast cancer incidence rates are highest in Australia and New Zealand, Northern Europe (e.g., the UK, Sweden, Finland and Denmark), Western Europe (Belgium, the Netherlands, and France), Southern Europe (Italy), and Northern America.³

The primary risk factors for breast cancer stem from prolonged endogenous hormonal exposures and are therefore not easily modifiable.³ While prevention efforts promoting healthy diet, physical activity, weight management and safe alcohol consumption may achieve some risk reduction, early detection is the cornerstone of breast cancer control. Australia's national BreastScreen program, which offers biennial mammography screening to women from the age of 40, targeting those aged 50 to 74, is one of the most comprehensive breast cancer screening programs in the world.¹⁷ More than 1.7 million Australian women within the target age range (representing 55% of this group) were screened through the program in 2015-16.¹⁷

The rising age-standardised incidence rate of breast cancer in Australia is in part due to improved detection from screening, as suggested by the temporal correlation between rise in incidence and implementation of the BreastScreen Australia program in 1991.¹⁸ While the number of new breast cancer cases in Australia has more than tripled since, mortality has decreased (from 74 deaths per 100,000 women aged 50 to 74 in 1991 to fewer than 50 deaths per 100,000 since 2010).^{17,19} This is likely attributable to a combination of factors including earlier detection with screening, advances in primary and adjuvant therapy, and better management of the disease.¹⁸ The risk of death among women diagnosed with breast cancer between 2002 and 2012 was 42% lower among those whose cancer was detected through BreastScreen Australia than women who had never been screened.¹⁷ In 2016, 46% of breast cancers detected in women attending their first screen and 61% of breast cancers detected in women attending a subsequent screen at BreastScreen Australia were classified as small (≤ 15 mm in diameter), compared to 28% of breast cancers detected outside BreastScreen Australia.²⁰ However, there is growing international evidence for increases in early stage disease through screening with minimal or no decline in advanced breast cancer, indicating an unintended consequence of overdiagnosis.²¹ A study in NSW that examined stage-specific incidence of breast cancer in women before and after the introduction of BreastScreen found that screening was not associated with lower incidence of late-stage breast cancer at diagnosis, suggesting that some of the expected benefits of screening may not have been realised.²²

Improvements in breast cancer outcomes have not been uniformly experienced; women who are Aboriginal, living in rural and remote areas, socioeconomically disadvantaged, or from an ethnic minority experience worse breast cancer outcomes.^{18,23-25} For example, a study examining breast

cancer screening and survival among Aboriginal women in Australia found that Aboriginal women participate less frequently in screening than other women, have less favourable screening experiences, and – if diagnosed with breast cancer through screening – have twice the risk of death than other women after adjustment for sociodemographic factors and tumour characteristics.²³

Colorectal cancer

Colorectal cancer ranks third in terms of global cancer incidence and second in terms of mortality.³ Globally, more than 1.8 million new diagnoses and 881,000 deaths of colorectal cancer are estimated to have occurred in 2018, accounting for around 1 in 10 cancer cases and deaths.³ Colorectal cancer incidence rates vary substantially by world region and are approximately three times higher in high-income versus low- or middle-income countries, with the highest rates found in parts of Europe, Australia/New Zealand, Northern America, and Eastern Asia.³ Generally, incidence and mortality rates of colorectal cancer reflect socioeconomic development and point to the adoption of a western lifestyle.²⁶ Rates are increasing in many low-and middle-income countries where economic growth is shifting dietary patterns towards an increased intake of sugar, fat and animal-derived products; while rates in high-income countries are stabilising or decreasing due to population screening and the adoption of best practices in cancer treatment and management.²⁶

In Australia, colorectal cancer is the second most commonly diagnosed cancer in men and women (excluding nonmelanoma skin cancer), and the third leading cause of cancer mortality.⁸ Approximately half of colorectal cancer cases in Australia are attributable to exposure to known modifiable risk factors including tobacco use, alcohol consumption, overweight and obesity, insufficient physical activity, insufficient fibre intake, and red and processed meat intake.³ The five-year relative survival for colorectal cancer has increased since the 1980s and was 70% in 2010–2014. However, there are socioeconomic and geographic disparities in survival marked by area health services, rurality and socioeconomic status.³ The decline in mortality from bowel cancer observed in Australia also does not apply to its Aboriginal population, for who colorectal cancer is increasing as a significant cause of premature death.²⁷ Similar patterns have been observed in Indigenous populations across the world including Inuit and First Nations in Canada and Maori in New Zealand, generally attributed to an increasingly westernised lifestyle.²⁷ Despite a lower incidence of bowel cancer overall, Aboriginal Australians are more likely to be diagnosed at an advanced stage when prognosis is poor.

Bowel cancer screening is an effective means of reducing incidence and mortality from bowel cancer through early identification and prompt treatment.²⁷ In 2006 Australia initiated a population-based National Bowel Cancer Screening Program (NBCSP), offering free screening with an immunochemical faecal occult blood test to all Australians aged 55-74 every two years. The program was fully implemented in 2019 and according to the latest Australian Institute of Health and Welfare (AIHW) report, 41% of eligible individuals participated in the program in 2015-2016, with an 8% screening positivity rate.¹⁷ A recent analysis found the program to be cost-effective at observed and increased participation levels, associated with a reduction in the number of cases, deaths and total annual expenditure on colorectal cancer after 2030. Initial evaluation of the program revealed substantial disparities in bowel cancer screening uptake with Aboriginal Australians and members of culturally and linguistically diverse groups who were significantly less likely to participate in screening.²⁷ This adds to the disparity in survival observed between Aboriginal and non-Aboriginal people with colorectal cancer from NSW, despite comparable rates of surgical treatment, complications and follow-up colonoscopy.²⁸

Prostate cancer

It is estimated that there will be almost 1.3 million new cases of prostate cancer and 359,000 associated deaths worldwide in 2018, ranking as the second most frequent cancer and the fifth leading cause of cancer death in men.³ It is the most frequently diagnosed cancer among men in over one-half (105 of 185) of the countries of the world, notably in the Americas, Northern and Western Europe, Australia/New Zealand, and much of Sub-Saharan Africa.³ Excluding nonmelanoma skin cancer, it is the second most commonly diagnosed cancer in Australia (previously ranked first) with the number of new cases in 2018 (18,274) estimated just below breast cancer (18,558) and ranks third in terms of mortality (behind lung cancer and colorectal cancer).⁸

Variations in the incidence and mortality rates of prostate cancer in Australia over the past three decades partly reflect the rapid uptake and stabilisation of prostate-specific antigen screening and the adoption of extended biopsy procedures.⁶ The age-standardised mortality rate for prostate cancer in Australia dropped by 25% between 1994 and 2011, but this was only half of the improvement (50%) observed in the US.²⁹ The decrease in mortality in Australia began as incidence peaked, leading some studies to attribute the improvement to treatment advances, since any beneficial effects of screening would not yet have been realised.^{29,30} Decreases in mortality were also reported in developed countries with and without widespread screening throughout this time. Conservative management, specifically active surveillance, has been identified as the preferred management option for men with low-risk prostate cancer, showing a pronounced increase in its adoption in Victoria between 2009 and 2016.³¹

Five-year relative survival from prostate cancer in Australia was 94.5% during 2009-2013.⁸ However, there is a significant and ongoing disparity in the use of diagnostic and treatment services and prostate cancer survival and mortality outcomes for Australian men living in regional and rural areas that warrants further exploration.³² Conversely, Aboriginal people have lower prostate (and breast) cancer incidence rates compared with non-Aboriginal people.¹¹ This pattern has been reported among Indigenous peoples in many international jurisdictions and proposed as being related to the prevalence of risk factors for these cancers and competing causes of death.³³ However, estimates of health outcomes among Aboriginal people and the size of disparities compared with non-Aboriginal people can change depending on how Aboriginal status is reported.³⁴ A population-based study in NSW that used data linkage methods to enhance the reporting of Aboriginal status found higher breast and prostate cancer incidence among Aboriginal people than non-Aboriginal people in NSW after enhancement, which has implications on widely held views on risk of these cancers among Aboriginal people.³⁴

Skin cancer

With more than 1 million new cases and 65,000 annual deaths estimated globally, and incidence rates about two times higher among men than among women, nonmelanoma skin cancer is the most frequently diagnosed cancer in North America, and in Australia and New Zealand; the countries with the highest incidence rates worldwide in men and women, respectively.³ By comparison, with more than 250,000 new cases and 60,000 deaths estimated globally, melanoma accounts for just 1.6% of global cancer cases.³ However, Australia has the world's highest age-standardised incidence of melanoma, and melanoma is the fourth most commonly diagnosed cancer in Australia (more than 15,000 cases per year).^{3,8} The age-standardised incidence rate of melanoma in Australia has been increasing steadily for males and slightly for females from 1982 to 2014, while the mortality rate has remained relatively constant.⁸

Both melanoma and nonmelanoma skin cancers are highly preventable and caused by overexposure to harmful ultraviolet radiation. Prevention strategies for skin cancer in Australia have largely involved mass media campaigns promoting skin cancer education and sun protection, with a strong focus on childhood and adolescence.^{6,35} The “Slip-Slop-Slap” campaign was first introduced in the 1980s in Queensland, which has the highest melanoma incidence in Australia, and this was replaced by the national SunSmart campaign in the 1990s.⁶ The rates of melanoma incidence and mortality in Queensland stabilised and declined for people under 40 between 1995 and 2014, which is attributed to the success of these campaigns.⁶ These trends have also been observed nationally, with the incidence rate for adolescents and young adults (aged 15-24) decreasing from 2000-2011.^{6,8} From the 1980s to 2012, mortality decreased by 71% (with a further 8% reduction predicted in 2013-2025) and five-year survival increased by 4% to 90.4%.^{6,8} Conversely, the 2014 rates of melanoma incidence and mortality were significantly higher for adults aged over 60, particularly men, which is likely due to elevated levels of accumulated sun exposure earlier in life.^{6,8} Economic evaluations of skin cancer prevention campaigns in New South Wales implemented between 2006-2013 found a benefit-cost ratio of 3.85, indicating a return on investment of \$3.85 for every \$1 invested.³⁶

Addressing the global cancer burden through cancer control plans

Recent research in high-income countries including Australia and the UK has indicated that 30% to 40% of new cancer cases could be avoided by eliminating or reducing exposure to known lifestyle and environmental risk factors.^{3,37,38} Despite the demonstrated effectiveness of numerous interventions at reducing cancer risk, international efforts to promote and implement primary prevention still lack momentum, and policy lags in this area.³ The recent global estimates of cancers attributable to obesity, infection and sun exposure highlight the variability in their relevance for different parts of the world and the subsequent need to tailor cancer control policy and actions to localised patterns of risk factors and cancer burden profiles.³ Given its ranking as the first or second most common cause of premature death in close to 100 countries worldwide, governments at the World Health Assembly in 2017 recognised the need for high-level investment in cancer control alongside other major noncommunicable diseases (NCDs) and unanimously adopted a new cancer resolution which noted the potential for cancer prevention in reducing the future cancer burden.³ The resolution builds on the WHO Global Action Plan for the Prevention and Control of Noncommunicable Diseases 2013 to 2020 and the United Nations Sustainable Development Goals 2030, which aim to achieve a one-third reduction in premature mortality from noncommunicable diseases by 2030.³ The resolution endorsed the development of national cancer control programs and plans, and emphasised the importance of effective implementation with a focus on equity and access.

A national cancer control program is the total of all cancer prevention and control activities undertaken in a country to address the national cancer burden. The program should result from a national cancer control plan (NCCP) or a national health plan inclusive of cancer that has been developed as a strategic public health approach to prevent and control cancer in the context of the country’s sociocultural environment and health-care system.³⁹

Over the past decade there has been a dramatic increase in the development and uptake of national cancer control plans, consistent with international recommendations for comprehensive, evidence-

based and resourced country-level approaches to translating commitments for noncommunicable diseases, including the prevention and control of cancer, into action. In 2018, there were 224 national cancer control plans from 93 countries registered in the online portal of the International Cancer Control Partnership; a significant increase from 91 national cancer control plans from 42 countries in 2013.³⁹ This reflects the increasing recognition that reducing cancer burden is a public health priority requiring coordinated efforts that are evidence-based and tailored to local contexts, addressed within a national cancer control plan.^{4,39}

The NSW Cancer Plan

In Australia, cancer plans have typically been the jurisdictional responsibility of each state and territory. The NSW Cancer Plan sets out a coordinated and collaborative approach to cancer control with the aim of reducing the burden of cancer in NSW. Released in 2016, it is the fourth cancer plan for NSW and builds on the success of previous plans. A new NSW Cancer Plan is due. To inform its development, the Cancer Institute NSW commissioned an Evidence Check of select cancer plans developed in countries with similar healthcare systems to NSW. The review will be used as the basis for a discussion paper for consultation in the development of the next NSW Cancer Plan.

Aim and review questions

The aim of this review is to inform and aid Cancer Institute NSW in developing the next NSW Cancer Plan, by identifying and analysing the key features of cancer control plans, their implementation, and the relevance of these to the New South Wales context. Three questions were posed by Cancer Institute NSW.

Question 1: What are the main elements of the selected national and jurisdictional cancer control plans included in Table 1?

Question 2: What are the common components across the selected national and jurisdictional cancer control plans and what is the relevance of these to the NSW context?

Question 3: What key learnings from the implementation of cancer control plans may be relevant for the NSW context?

Table 1. National and international cancer control plans

Victorian Cancer Plan 2016 – 2020	health.vic.gov.au/about/health-strategies/cancer-care/victorian-cancer-plan
Western Australia Cancer Plan 2020 – 2025	health.wa.gov.au/Articles/U_Z/WA-Cancer-Plan
Queensland Cancer Care Statewide Health Service Strategy 2014	health.qld.gov.au/data/assets/pdf_file/0028/621586/cancer-care-strategy.pdf
NHS Long term Plan (Cancer)	longtermplan.nhs.uk/online-version/chapter-3-further-progress-on-care-quality-and-outcomes/better-care-for-major-health-conditions/cancer/

New Zealand Cancer Action Plan 2019 – 2029	health.govt.nz/publication/new-zealand-cancer-action-plan-2019-2029
Canadian Strategy for Cancer Control 2019-2029	s22457.pcdn.co/wp-content/uploads/2019/06/Canadian-Strategy-Cancer-Control-2019-2029-EN.pdf
Manitoba Cancer Plan 2016-2021	www.cancercare.mb.ca/export/sites/default/About-Us/.galleries/files/corporate-publications/Manitoba_Cancer_Plan_2016-2021.pdf
Changing our Future: Alberta's Cancer Plan to 2030	open.alberta.ca/dataset/09e65e85-2796-456e-ac52-353b533450fd/resource/0c184a3f-e897-4794-a40a-a71b86ff91a5/download/6153402-2013-changing-our-future-albertas-cancer-plan-2030.pdf

Methods

Question 1 and Question 2

To address Questions 1 and 2 the research team were provided with current national and international cancer control plans selected by the Cancer Institute NSW (Table 1). These included the cancer plans for Victoria, Queensland, Western Australia (WA), New Zealand, Canada, the Canadian provinces of Manitoba and Alberta, and the UK's National Health Service (NHS) Long-Term Plan.

The plans were assessed for relevance to the NSW context and in relation to the review questions. Data pertaining to the plan elements (i.e. goals, objectives, priorities, strategies and actions) of interest identified for Question 1 and Question 2 were extracted from the plans into a data extraction template. The extracted information was mapped to the categories specified in Question 1, and the categories were updated periodically to reflect how the information in the plans was organised. To identify the common components across the plans, a separate extraction table that summarised the data for each category was developed. This was examined for high-level trends, which informed the written summaries for each category.

Question 3

To address Question 3, both published and other (i.e. grey literature) sources of evidence were sought via a rapid review using an internationally recognised methodology for the conduct of systematic scoping reviews, which was abbreviated for use within the project's time constraints.¹ A rapid review is a rigorous but efficient approach to identifying and synthesising the most relevant available evidence on a given topic. As it is a rapid assessment of the literature available, rapid reviews do not capture every possible source of information, rather, they abridge the stages of other evidence synthesis methodologies (e.g. full systematic reviews) to provide a targeted, rapid assessment and synthesis of what is known about an issue. Rapid reviews have utility when knowledge users require results to make decisions regarding policy and/or practice in a timely manner.

A systematic search was conducted across the following databases: MEDLINE (Ovid), EMCARE, EMBASE, Scopus and selected grey literature for relevant government or non-government sources of evidence. Grey literature searching was conducted iteratively using the agreed upon search terms in a modified phrase search appropriate for each search engine. Searching was tracked in a custom-made excel spreadsheet to track website, search terms used, date of search, date of last website update, any limiters or filters used and if useful results were found. Relevant results were extracted to a customised data extraction form. The full search strategy is included in Appendix I.

Identified sources of evidence were first screened for relevance to the review via consideration of the title and abstract (for peer-reviewed articles), or other descriptors (for grey literature sources).

Following screening, the full texts of potentially relevant sources of evidence were obtained and examined for selection into the review based on the following inclusion criteria:

- English language papers describing key learnings from the implementation of cancer control plans, including but not limited to enablers and barriers
- Published in the past two years (1 January 2018 to 12 March 2020).
- Contexts most relevant to NSW, including Australia, New Zealand, UK and Canada

Assessment of the quality of evidence sources is an optional element of systematic scoping reviews and was not included in the present rapid review. Once relevant sources of evidence were selected, reviewers evaluated the included studies according to their relevancy to the review questions.

Reporting

Data were extracted from included sources of evidence using specifically developed templates for each question. Evidence pertaining to the three review questions was presented in tabular form and narrative summaries, as appropriate.

Results

Results for Question 1 and Question 2

To enable comparison of the main elements of the selected national and jurisdictional cancer control plans included in Table 1 (Question 1), this information is presented in tabular format. Where available, specific strategies as well as higher level classifications (i.e. outcomes or priority areas) are shown in the tables.

Along with each table, a narrative summary of each plan element or area of interest is provided to highlight the common components across the plans, and the relevance to the NSW context (Question 2).

Structure of the plans

Table 2 presents the key goals, objectives, priorities, service directions and strategies around which the plans are structured. All plans specify a timeline or period of implementation. The plan durations are: 4 years for Victoria; 5 years for WA and Manitoba; 10 years for Queensland, Canada, the UK's NHS and New Zealand; and 18 years for Alberta. The plans from Victoria and Canada identify long-term goals beyond the implementation period of the plan. All plans were in operation at the time of the review.

The plans most similar in their structure are those from Victoria, WA and Canada, which all include broad long-term goals and five priorities to achieve the goals. These priorities are similar and include reducing cancer risk (Victoria, WA, Canada), detecting cancer earlier (Victoria, Canada), providing timely and optimal care (Victoria, WA) via a sustainable and world-class system (WA, Canada) ensuring cancer survivors and their families live well (Victoria, WA) and have access to information and supports (Canada), having a strong, integrated (Victoria) and globally connected (WA) cancer research system, and eliminating barriers to people getting the care they need (Canada). The plans for WA and Canada are structured around these priorities, whereas Victoria's plan is structured around five action areas to address the priorities, which are aligned with stages of the cancer continuum (prevention, screening and early detection, treatment, wellbeing and support, and research).

The structure of New Zealand's plan is similarly based on achieving four key outcomes. These seek to ensure that New Zealanders have: a health system that delivers consistent and modern cancer care; equitable cancer outcomes; fewer cancers; and better survival, supportive care and end-of-life care.

Queensland's plan is a health service strategy structured around four service directions developed to address needs and issues related to public sector cancer care services. Despite differing in scope, the plan's service directions mirror some of the priorities of other plans. The service directions focus

on promoting consistency of care; providing care that is integrated and coordinated; improving access to timely and evidence-based services for diagnosis, treatment and support; and supporting improvement through information systems, research and education.

Manitoba's plan also has a service focus and is structured around six goal-oriented strategic directions focused on providing state-of-the-art and multidisciplinary care; enhancing service capacity, performance, safety and quality; improving care for underserved populations; and expanding the strength and scope of research. Alberta's plan is structured around 10 strategies for change and actions to achieve them, which span the cancer continuum, research, workforce, infrastructure and population surveillance.

The NHS Long Term Plan is structured in seven chapters which outline priorities and actions for the service, regarding: the move to a new service model, prevention and health inequalities, care quality and improvement, managing workforce pressures, digital care, funding, and implementation. This report will focus on the section of the plan dedicated to cancer, which is one of the clinical priorities identified for care quality and outcomes improvement.

Table 2. Summary of the structure of the plans

PLAN	STRUCTURE
<p>Victorian Cancer Plan 2016-2020</p>	<p>Structured around medium (2025) & long-term (2040) goals, priorities to achieve the goals, & 5 areas for action across the cancer care continuum to address the priorities. Specifies system supports required (integration, innovation, investment, intelligence, workforce) and guiding principles: person-centred care with equitable access, prevention across the care pathway, quality and safe care, evidence-informed, sustainable system.</p> <p>Long term goals (by 2040):</p> <ul style="list-style-type: none"> • Halve the proportion of Victorians diagnosed with preventable cancers • Double the improvement in one- and five-year cancer survival • Ensure Victorians have the best possible experience of the cancer treatment and care system • Achieve equitable outcomes for all Victorians. <p>Medium-term goal: to save 10,000 lives by 2025.</p> <p>Priorities to achieve the goals:</p> <ul style="list-style-type: none"> • Victorians are supported to reduce risks of cancer • Victorians know their risk and have cancers detected earlier • Victorians with cancer have timely access to optimal treatment • Victorians with cancer and their families live well • Victoria has a strong and integrated research system. <p>Action area 1: Primary prevention Action area 2: Screening & early detection Action area 3: Treatment Action area 4: Wellbeing & support Action area 5: Research</p>
<p>Queensland Cancer Care Statewide Health Service Strategy 2014</p>	<p>Based on four service directions developed to address health service needs and issues in public sector cancer care services over the next 10 years. Specific short (1-2 years), medium (3-5 years) and long-term (6-10 years) actions to address each service direction are provided in tables throughout the plan.</p> <p>Service direction 1: Promote consistency of care across the state. Service direction 2: Provide services through a network of integrated, coordinated, efficient service partners.</p>

	<p>Service direction 3: Continuously improve the accuracy and timeliness of cancer diagnosis, access to timely evidence-based cancer treatment services, access to support programs and/or end of life care services with the quality of care sustained over time.</p> <p>Service direction 4: Support improvement through information systems, research and education and measures of quality. Services are supported by a sustainable, credentialed, well trained and integrated workforce across the disciplines.</p>
Western Australia Cancer Plan 2020-2025	<p>Sets out 3 broad goals and structures the plan around 5 priorities to achieve these goals. Specifies objectives and strategies to address each priority.</p> <p>Goals:</p> <ul style="list-style-type: none"> • Reduce the impact of cancer • Ensure consumers have the best experience of cancer control • Drive cancer control that is based on data and research. <p>Priority 1: Reduce the cancer burden for Western Australians Priority 2: Western Australians receive optimal care Priority 3: Western Australians with cancer and their families live well Priority 4: Western Australia has a globally connected cancer research system Priority 5: Western Australia has a robust, contemporary and sustainable cancer care system</p>
New Zealand Cancer Action Plan 2019-2029	<p>Based on achieving 4 key outcomes. Areas of focus and strategies are specified for each outcome. Guided by 4 overarching principles:</p> <ul style="list-style-type: none"> • Equity-led • Knowledge-driven • Outcome-focused • Research and innovation. <p>Outcome 1: New Zealanders have a health system that delivers consistent & modern cancer care Outcome 2: New Zealanders experience equitable cancer outcomes Outcome 3: New Zealanders have fewer cancers Outcome 4: New Zealanders have better cancer survival, supportive care & end-of-life care</p>
Canadian Strategy for Cancer Control 2019-2029	<p>Specifies 10 short-term goals (by 2017), 4 medium-term gals (by 2027) and 3 long-term goals (2037). The plan is structured around 5 priorities to meet these goals, and actions to achieve them.</p> <p>Shared goals (by 2037):</p> <ul style="list-style-type: none"> • Fewer Canadians develop cancer • Fewer Canadians die from cancer • Canadians affected by cancer have a better quality of life. <p>Priority 1: Decrease the risk of people getting cancer Priority 2: Diagnose cancer faster, accurately and at an earlier stage Priority 3: Deliver high-quality care in a sustainable, world-class system Priority 4: Eliminate barriers to people getting the care they need Priority 5: Deliver information and supports for people living with cancer, families</p>
Manitoba Cancer Plan 2016-2021	<p>Based on the Cancer Care Quality Framework, which reflects three pillars or components of delivering excellence:</p> <ul style="list-style-type: none"> • Clinical excellence • Academic excellence • Operational excellence. <p>The plan is structured around 6 goal-oriented strategic directions. Operational strategies and key performance indicators are specified for each strategic direction.</p> <p>Strategic direction 1. Toward state-of-the-art patient care Strategic direction 2. Toward timely access to multidisciplinary care Strategic direction 3. Toward enhancing reporting on performance, quality and safety Strategic direction 4. Toward building capacity to meet growing needs Strategic direction 5. Toward improved care for underserved populations Strategic direction 6. Toward a broadened scope and enhanced strength of research</p>

Alberta's Cancer Plan to 2030

Structured around 10 strategies for change and action items for each strategy. Informed by underlying principles:

- People focused
- Collaborative
- Actively led
- Integrated
- Research and knowledge driven
- Accountable
- Transformative.

Strategy 1. Transform Alberta's approach to cancer by creating a comprehensive and coordinated system of prevention, screening, care and research involving stakeholders from across the wellness, healthcare and research spectrum. This integrated system, CancerControl Alberta, will ensure Alberta maximizes the return from its investments in cancer and realizes the benefits of being a focused member of the worldwide effort to fight cancer.

Strategy 2. Support, engage and integrate primary healthcare providers in the delivery of cancer services in the home or community and to underserved populations.

Strategy 3. Reduce the risk of cancer through coordinated and integrated prevention strategies.

Strategy 4. Find cancer early by using robust data and appropriate screening activities.

Strategy 5. Better integrate care to deliver cancer diagnosis, treatment and support services to Albertans.

Strategy 6. Provide cancer patients, survivors, their families and caregivers with the best possible psychosocial, physical and supportive care throughout their cancer journey and introduce palliative care early in the course of cancer treatment, where appropriate.

Strategy 7. Focus Alberta's research efforts to better support breakthroughs in cancer prevention, cancer care and policy and attract and retain world class researchers and funding.

Strategy 8. Develop a strong cancer workforce to meet the needs of cancer patients and their families.

Strategy 9. Manage health system infrastructure, including information, equipment, knowledge and technology to effectively support the delivery of best practices in cancer care to Albertans.

Strategy 10. Develop a robust cancer surveillance and monitoring system.

Not included: NHS Long Term Plan, which is not structured around a set of goals or priorities

Cancer prevention

Table 3 presents the plan elements related to cancer prevention. With the exception of the plans for Queensland and the NHS, which do not address cancer prevention, most plans aim to reduce cancer burden through primary prevention. Two main prevention activities are evident across the plans: reducing exposure to cancer risk factors, and preventing cancers related to infection. Most plans recognise that targeted prevention initiatives are required for at-risk populations (WA, Victoria, New Zealand, Canada, Alberta).

Reducing cancer risk factors

All plans that address cancer prevention mention the reduction of modifiable lifestyle risk factors for cancer associated with smoking, diet, alcohol consumption, weight management, physical activity, sun protection, and environmental and occupational hazards. Reducing lifestyle risk factors for cancer is generally proposed as a priority area for public health initiatives, but information about how risk factor reduction will be achieved was often lacking. For example, although all plans that address cancer prevention (except for Manitoba) mention improving diet and physical activity, only Alberta's

plan mentioned a dedicated initiative or program. Strategies to reduce tobacco use are present in all plans that provide information about cancer prevention, and instances where specific measures are proposed included the planned regulation of vaping and ban of smoking in vehicles carrying children in New Zealand. Several of the plans align with other state and national strategies, such as the Victorian Public Health and Wellbeing Plan 2015-2019, Canada's Tobacco strategy, Creating Tobacco-free Futures: Alberta's Strategy to Prevent and Reduce Tobacco Use, and Alberta's Alcohol Strategy.

Prevent cancers related to infection

Most plans included an objective to reduce cancers linked to infections, including hepatitis B (HBV) (Canada, WA, Victoria, New Zealand, Alberta), hepatitis C (HCV) (WA, Victoria, New Zealand, Alberta), human papillomavirus (HPV) (Alberta, Canada, Victoria, WA, New Zealand), H. pylori (New Zealand, Alberta) and human immunodeficiency virus (HIV) (New Zealand). Strategies mentioned included increasing vaccination coverage, identifying best practices for prevention, and improving detection and treatment.

The strong similarities across the plans in terms of prevention suggest that measures to reduce cancer risk factors by promoting tobacco avoidance, sun protection, healthy diet, safe alcohol consumption; and seeking to prevent cancers related to infection would also be applicable to the NSW context.

Table 3. Summary of plan elements relating to cancer prevention

PLAN	GOALS	STRATEGIES
Victoria	Action Area 1: Prevention	<ul style="list-style-type: none"> → Reduce smoking rates through legislative & non-legislative approaches to tobacco control, with the ultimate aim of achieving a tobacco-free Victoria → Target smoking cessation measures for groups with high smoking prevalence, particularly Aboriginal Victorians → Increase sun protective behaviours through statewide social marketing campaigns, expanded access to shade via the Victorian Government shade grants program, & supporting workplaces & schools to be SunSmart → Reduce risk relating to environmental & occupational hazards → Implement population health approaches to reduce lifestyle-related risk factors including obesity, physical inactivity, inadequate diet & alcohol misuse through the implementation of the Victorian Public Health & Wellbeing plan 2015–19 → Develop & implement strategies to improve HVB & HVC prevention, testing, treatment & care → Reduce stigma associated with HVB & HVC → Increase uptake of HPV vaccination for at-risk individuals → Provide catch-up vaccination for young people who missed scheduled immunisation during school immunisation program & for at-risk populations → Provide HPV vaccination for immunosuppressed women & girls
	Reduce risk factors related to lifestyle & environmental hazards	
	Reduce cancers related to viral infections	

WA	Priority 1: Reduce the cancer burden for Western Australians	<ul style="list-style-type: none"> → Reduce exposure to risk factors by supporting initiatives for tobacco control, skin cancer prevention, reducing lifestyle-related risk factors for obesity, physical inactivity & inadequate diet, reducing alcohol use, vaccination programs (HBV & HPV), hepatitis C treatment, reducing environmental, occupational & other hazards, & optimising delivery of health promotion activities to under-served populations → Reduce Aboriginal people's exposure to risk factors for preventable cancers by supporting targeted prevention initiatives that address specific barriers & enablers
	Reduce exposure to risk factors for cancer	
New Zealand	Outcome 4: New Zealanders have fewer cancers	<ul style="list-style-type: none"> → Finalise & deliver a Smokefree 2025 Action Plan → Pass legislation to ban smoking in vehicles carrying children → Co-design stop smoking services with young Māori women → Legislate to regulate vaping → Create supportive food environments & support people to be more physically active → Consider additional population approaches to achieve & maintain a healthy weight → Implement approaches to minimise harm from alcohol → Improve the detection & management of HVB & HVC → Increase uptake of HPV vaccination → Develop a strategy to address H. pylori infection in priority populations → Reduce HIV transmission & ensure people maintain treatment → Enhance prevention campaigns & dissemination → Regulate primary sunscreens as a therapeutic product → WorkSafe to develop a work-related cancer program as part of the cancer action plan
	Smokefree by 2025	
	Encourage & support healthy living	
	Prevent cancers related to infection	
	Reduce the incidence & impact of avoidable skin cancer caused by UVR	
Reduce exposure to work-related carcinogens		
NHS		Prevention is not addressed in the section of the plan on cancer. However, Chapter 2 of the plan outlines planned actions for the NHS on prevention & health inequalities, with strategies for smoking, obesity, alcohol, air pollution & antimicrobial resistance outlined.
Canada	Priority 1. Decrease the risk of people getting cancer	<ul style="list-style-type: none"> → Promote tobacco cessation/avoidance & support Canada's Tobacco Strategy, considering socio-economic & other contexts → Build awareness of risks of other inhaled substances (e.g. vaping, cannabis) → Focus on policies & enablers that promote healthier diet, physical activity, sun protection & safe alcohol consumption, & limit environmental exposures → Eliminate cancers caused by HPV through universal vaccination & secondary prevention strategies such as HPV testing → Focus efforts to determine the benefit of adopting other cancer preventative vaccinations & provision of these programs in a culturally sensitive way → Expand access to genetic testing that has clear proof of benefit at the population level (e.g. screening for Lynch Syndrome) → Expand adoption of preventive surgeries that reduce cancer risk
	Help people to stop smoking or not start in the first place & live healthier lives	
	Adopt proven practices known to reduce the risk of cancer	
Manitoba	Strategic Direction 1: Towards state-of-the-art patient care	<ul style="list-style-type: none"> → Expand smoking cessation initiatives as part of a comprehensive tobacco control strategy for cancer patients & families → Formalise other prevention activities through enhanced partnerships with chronic disease stakeholders
	Established leadership in the broad communication of current, evidenced-based knowledge on prevention of	

	cancer & in the conduct of specific prevention programs in selected areas	<ul style="list-style-type: none"> → Expand work in summarising & disseminating cancer prevention knowledge & providing expert advice for development of public policy
Alberta	Strategy 3. Reduce the risk of cancer through coordinated & integrated prevention strategies	<ul style="list-style-type: none"> → Assess key government policies & strategies to determine whether they support reduced cancer incidence → Establish knowledge transfer mechanisms to improve understanding of cancer prevention among key stakeholders in different areas (e.g. education, employment) → Together with Alberta Education, teach children about healthy behaviours & values
	Integrate & leverage government programs, policies & partnerships to realise better outcomes regarding prevention, increase knowledge transfer, & implement & promote policies that make healthy choices easy choices for Albertans	<ul style="list-style-type: none"> → Support research into prevention → Develop mechanisms to access & refresh prevention data → Support national & international partnerships that contribute to understanding of new studies → Establish targets & measures for prevention & screening → Focus on healthy eating & active living initiatives → Implement Creating Tobacco-free Futures: Alberta's Strategy to Prevent and Reduce Tobacco Use, & the Alberta Alcohol Strategy
	Build research components into cancer prevention, knowledge exchange & data systems	<ul style="list-style-type: none"> → Increase school & youth-focused prevention programs → Implement culturally appropriate strategies to reach vulnerable populations → Develop & implement social media initiatives to increase awareness of cancer risk
	Develop & implement comprehensive strategies for cancer prevention that encourage healthy lifestyles	<ul style="list-style-type: none"> → Routinely evaluate public awareness → Align with prevention strategies for chronic disease management → Develop a provincial approach to decrease skin cancer incidence
	Increase the awareness & adoption of measures to help individuals protect their health	<ul style="list-style-type: none"> → Continue to support the HPV immunisation program → Examine best practices in other jurisdictions to prevent HPV, HBV/HBC, & H.pylori infections, & develop Alberta-specific recommendations including for vulnerable populations → Support research into awareness & effective health protection programs
	Strengthen the role of primary healthcare providers in reducing cancer risk	<ul style="list-style-type: none"> → Create a network of healthcare providers with preventive medicine expertise to focus on cancer prevention & its integration with other chronic diseases → Incorporate prevention programs & services in Primary Care Networks & Family Care Clinics → Increase the number of specialists with expertise in behaviour change & health promotion to support those providing primary care & other health services
	Strengthen health promotion across the continuum of care	<ul style="list-style-type: none"> → Coordinate projects & initiatives with experts in preventable chronic diseases → Revise existing programs & interventions so that prevention & promotion approaches are linked → Develop & apply key knowledge transfer strategies to ensure primary care providers, schools & communities have the information they need → Support research into the factors that support good health from prevention to palliative care
	Prevent & control exposure to occupational & other environmental carcinogens	<ul style="list-style-type: none"> → Promote policies that encourage the reduction, substitution, containment or elimination of cancer-causing substances → Establish a surveillance system to identify occupational cancer cases in Alberta, using the information already available in administrative databases → Support the development & use of the Canadian Workplace Exposure Database

Not included: Queensland

Screening and early diagnosis

Table 4 presents the plan elements related to cancer screening and early diagnosis, which is addressed in all the included plans.

Screening participation

A goal or priority embedded in all plans is to increase participation in cancer screening, and particularly by under-screened groups such as aboriginal or ethnocultural communities or people from regional, rural and remote areas (Victoria, Queensland, WA, New Zealand, Canada, Manitoba, Alberta) which is applicable to the NSW context. To achieve this, some plans specify strategies to ensure services are equitably accessible, and culturally appropriate (Victoria, WA, Canada). Generally, however, strategies to increase population screening participation are not defined. The population screening programs mentioned in the plans are for HPV (NHS, New Zealand, Canada, Manitoba), bowel cancer (Victoria, NHS, Canada, Manitoba) and lung cancer (NHS, Canada, Manitoba).

Earlier diagnosis of cancer

A common strategy for increasing the early detection of cancers is improving the health literacy and/or public awareness of cancer signs and symptoms (Victoria, WA, New Zealand, NHS). Improved and timely access to diagnostic services is another key priority (Queensland, NHS, New Zealand, Canada), particularly for people with familial cancer risk (Victoria, New Zealand, NHS). Several plans incorporate strategies to enhance the tools, resources, pathways and capacity of primary care providers to support earlier detection of cancers (Victoria, New Zealand, Alberta, NHS, Canada) and facilitate the flow of patients and information across primary care, diagnostic services and cancer specialists (Canada). Support for the development and adoption of innovative technologies, approaches and models for screening and diagnosis such as mobile testing is evident across several plans (Canada, Manitoba, Alberta, New Zealand, NHS).

Table 4. Summary of plan elements relating to cancer screening and early diagnosis

PLAN	GOALS	STRATEGIES
Victoria	Action Area 2: Screening & early detection	<ul style="list-style-type: none"> → Increase participation in screening by under-screened groups → Provide culturally appropriate, acceptable & responsive services to all Victorians in the relevant age ranges → Develop strategies that integrate screening approaches → Improve data collection to capture under-screened populations → Prepare for full implementation of the National Bowel Cancer Screening program to optimise participation → Ensure appropriate referrals by general practitioners (GPs) & specialists → Increase access to clinical genetic services for risk assessment → Provide guidance on self-checks & when to seek advice → Provide appropriate messages for Aboriginal communities → Support primary care providers to identify symptoms early & provide appropriate advice and timely referral to testing & assessment
	Equitable & increased participation in population screening programs	
	Improve access to family cancer centres for people at high risk for heritable cancers	
	Increase early detection by improving health literacy	
	Enhance primary care capacity to support early diagnosis	

Queensland	Service Direction 3: Cancer care services continuously improve capability to support accuracy & timeliness of cancer diagnosis	<ul style="list-style-type: none"> → Improve uptake of effective cancer screening programs, especially in regional, rural, remote & Aboriginal & Torres Strait Islander communities → Improve access to highly specialised diagnostic, specialist services & pharmacy in line with evidence-based guidelines for early diagnosis & treatment
WA	Priority 1: Reduce the cancer burden for Western Australians	<ul style="list-style-type: none"> → Raise awareness of cancer signs & symptoms & the need for early intervention
	Find cancer early	<ul style="list-style-type: none"> → Improve access to standardised diagnostic pathways with subspecialist assessment where appropriate
	Improve participation in cancer screening	<ul style="list-style-type: none"> → Improve pathways for local early intervention and diagnostic services throughout rural & remote WA → Increase equitable access to & participation in screening programs, including for Aboriginal & Torres Strait Islander people by ensuring services are accessible, promoted & culturally appropriate → Advocate for improvements to the quality & analysis of national cancer screening data
NHS	By 2028, raise the proportion of cancers diagnosed at stages 1 & 2 from around 50% to 75%	<ul style="list-style-type: none"> → Raise awareness of cancer symptoms → Introduce a faster diagnosis standard to ensure most patients receive a definitive diagnosis within 28 days of referral → Lower threshold for referral by GPs → Improve early diagnosis via primary care networks → Accelerate access to diagnosis & treatment → Overhaul diagnostic services for patients with suspected cancer & roll-out new Rapid Diagnostic Centres → Invest in new equipment for faster & safer tests → Maximise the number of cancers identified through screening, including the use of personalised & risk-stratified screening & testing family members of cancer patients at risk → Modernisation of the Bowel Cancer Screening Program → Implement national HPV primary screening for cervical cancer → Review current screening programs & diagnostic capacity to improve program delivery & uptake → Extend the lung checks implemented in Liverpool & Manchester & deploy more mobile lung computerised tomography (CT) scanners starting in areas with the lowest lung cancer survival rates
New Zealand	Outcome 4: New Zealanders have better cancer survival, supportive care & end-of-life care	<ul style="list-style-type: none"> → Develop programs to increase awareness of signs & symptoms → Ensure equitable & timely access to quality diagnostic services
	Increase early detection of cancers	<ul style="list-style-type: none"> → Implement national early detection programs for priority cancers → Develop tools & pathways to facilitate cancer diagnosis for primary & community health → Provide support services for people with familial cancer risk
	High-quality population screening	<ul style="list-style-type: none"> → Enable equitable participation in screening programs by targeting priority populations → Progressively increase the breast screening eligibility age from 70 to 74

	<p>Improve cancer diagnosis & treatment outcomes</p>	<ul style="list-style-type: none"> → Explore introduction of HPV screening test for cervical screening program & HPV self-testing → Build and implement the National Screening Solution for bowel cancer and other screening programs → Monitor evidence for new screening programs targeting priority populations → Develop fast-tracked diagnostic pathways for priority cancers
Canada	<p>Priority 2. Diagnose cancer faster, accurately & at an earlier stage</p>	<ul style="list-style-type: none"> → Expand use of effective technologies that connect patients to primary care providers & specialists, & innovative models of service delivery (e.g. rapid diagnosis clinics & mobile testing) → New models of clinical care, e.g. e-referral, to empower primary care providers & support flow of patients & information between primary care, diagnostic services & cancer specialists → Innovative approaches to ensure people in rural & remote communities can receive quality care & access diagnostic services → Ensure participation in & effectiveness of cancer screening programs for breast, cervical & colorectal cancers; particularly in hard-to-reach communities, where proven strategies should be pursued & expanded (e.g. mobile breast screening, self-sampled HPV testing, home bowel testing) → Implement lung cancer screening programs nationally with a focus on at-risk communities, including work with First Nations, Inuit & Métis on culturally appropriate programs
	<p>Prioritise rapid access to diagnosis for suspected cases</p>	
	<p>Strengthen screening efforts & implement lung cancer screening across Canada</p>	
Manitoba	<p>Strategic Direction 1: Towards state-of-the-art patient care</p>	<ul style="list-style-type: none"> → Introduce evidence-based screening technology improvements into existing programs; digital mammography for breast cancer, HPV testing for cervical cancer, and fecal immunochemical test for colorectal cancer → Assess cost-benefit of low dose CT scanning for lung cancer detection in Manitoba &, if appropriate, create a plan for the development of a lung cancer screening program → Focus on improving participation in screening programs by currently underserved population groups to reduce disparities
	<p>Introduction of new & improved screening methods for early detection & increased public participation</p>	
Alberta	<p>Strategy 4. Better integrate care to deliver cancer diagnosis, treatment & support services to Albertans</p>	<ul style="list-style-type: none"> → Review and consolidate recent research on cancer screening, adapting existing programs based on the best evidence → Develop mechanisms to improve access to screening and follow-up for individuals without primary care providers → Improve access to screening through a consistent population-based screening approach, adoption of standard criteria & targeted investments → Support research into new technology & improved methods for early detection → Ensure Albertans have access to appropriate information about cancer signs & where & when to go for diagnosis & treatment → Develop a framework for the development of screening programs for cancers proven to benefit from screening & create an expert panel to provide advice to Alberta Health Services on screening
	<p>Ensure accessibility, quality & effectiveness of all cancer screening</p>	
	<p>Increase the participation of Aboriginal & ethnocultural communities in cancer screening</p>	
	<p>Develop new methods to screen & detect major cancers</p>	

Strengthen the role of primary healthcare providers in the early detection & diagnosis of cancer

- Identify groups experiencing increased cancer incidence & target initiatives to address health & service gaps
- Develop programs that support primary care providers to detect cancer & identify unscreened patients
- Support & implement education for primary care providers, patients & the community on the risks & benefits of screening

Treatment

Table 5 presents the plan elements related to cancer treatment and care. Goals and strategies related to cancer treatment are particularly heterogenous across the plans although all seek to improve outcomes for cancer survivors. The primary avenues for enhancing treatment outcomes are by improving access to treatment, consistency and quality of care, coordination and integration of services, and patient experiences.

Access to quality treatment and services

A common goal of many plans is to improve access to specialist cancer services and quality treatment (Queensland, NHS, Manitoba, New Zealand), including in regional areas (WA). Three plans seek to expand options for local care or ensure timely access to services close to home or at home (Victoria, Manitoba, Alberta). Investing in new technology, equipment upgrades and treatment capacity for radiotherapy are mentioned in the plans for the NHS, New Zealand and Manitoba. The ongoing evaluation of new developments and their integration into the health system is a key action of Alberta's plan, while Canada and New Zealand call for better regulation and earlier assessment of and access to new drugs and treatments. Increasing the availability of genomic testing is an objective of the plans for WA, Manitoba and Alberta.

Consistency and quality of care

Improving the quality of care is a priority for Australian plans which seek to implement the Optimal Cancer Care Pathways (Victoria, WA) and ensure their culturally appropriate delivery (WA). Queensland's plan aims to reduce variations in outcomes by regionality and socio-economic groups (Queensland), and Canada's plan similarly aims to improve consistency across clinicians and jurisdictions. Specific approaches to improving care quality include monitoring and reporting of key performance and/or quality improvement indicators (Victoria, New Zealand, Manitoba), increasing awareness of and implementing best practice standards and guidelines (Alberta), and ensuring timely access and consistent use of multidisciplinary teams (Queensland, WA, Canada, Manitoba).

Coordinated care

Most plans seek to improve outcomes through services that are coordinated, efficient and sustainable (WA, Queensland, Canada, Manitoba, Alberta). Specific approaches mentioned include lowering patient waiting times (Queensland, Manitoba), improving patient flow (Manitoba), fast-tracking referrals (Alberta), ensuring efficient information flow and sharing of patient information (WA, Alberta), designing new models of care (Canada), engaging primary care providers across the pathway (WA), and increasing primary care providers' capacity and expertise (Alberta).

Patient experience

Despite including many treatment-related goals and objectives, there are relatively few of these that focus on enhancing patient experiences. Victoria's plan proposes initiatives to support patient-self management, provide consumers with information about their care, and monitor patient experiences and quality of life. Two plans include objectives to understand and address social and cultural barriers (Victoria) and ensure care reflects cultural priorities and realities (Canada). Actions aimed at empowering patients from Alberta's plan include creating a patient-practitioner communication system, ensuring healthcare professionals and the public are familiar with personalised medicine, and implementing advance care planning processes. Care planning to support the use of traditional therapies is also mentioned in New Zealand's plan.

Table 5. Summary of plan elements relating to cancer treatment

PLAN	GOALS	STRATEGIES
Victoria	Action Area 3: Treatment	<ul style="list-style-type: none"> ➔ Implement the Optimal Care Pathways across Victorian services & monitor variations against best practice ➔ Continue the statewide tumour summit program ➔ Continue to develop a statewide cancer performance indicator & monitoring program, & implement data collection & reporting against key indicators ➔ Support & develop self-management programs & implement service reforms to assist cancer patients in preventing & managing side effects ➔ Better understand & address social & cultural barriers that may affect service access ➔ Expand options for patients to have care provided locally ➔ Monitor & assess care experiences, quality of life & other patient-reported outcomes to better understand treatment impacts
	Consistency in the quality of treatment	
	Improve patients' experience of treatment & care	
QLD	Service Direction 3: Continuously improve the accuracy and timeliness of cancer diagnosis, access to timely evidence-based cancer treatment services, access to support programs &/or end of life care services with the quality of care sustained over time	<ul style="list-style-type: none"> ➔ Improve access to highly specialised diagnostic, specialist services & pharmacy in line with evidence-based guidelines for early diagnosis & treatment ➔ Enable timely access to multidisciplinary teams to reduce variation in cancer outcomes ➔ Improve the sustainability, capability, efficiency & capacity of surgery, radiation & chemotherapy services to lower patient waiting times ➔ Reduce variations in outcomes by regionality & between socio-economic groups
WA	Priority 2: Western Australians receive optimal care	<ul style="list-style-type: none"> ➔ Implement the Optimal Care Pathways & ensure the Pathway for Aboriginal & Torres Strait Islander people with cancer is used in a culturally appropriate way ➔ Advocate for improvements to the quality & analysis of national cancer screening data ➔ Ensure all patients' treatment & support options are reviewed & planned by a multidisciplinary team ➔ Engage primary & community care practitioners as key care providers across the cancer pathway ➔ Improve the timeliness & efficient sharing of relevant patient information
	Improve outcomes through safe, coordinated & evidence-based care	

	Empower consumers to make well-informed decisions about their care	<ul style="list-style-type: none"> → Provide consumers with reliable information about their care, treatment pathway & costs → Improve access to evidence-based cancer control services in regional WA → Provide coordinated care for people with rare cancers & those at increased risk of inherited cancers → Develop & implement statewide genomic sequencing capability to inform treatment
NHS	Safer & more precise treatments including advanced radiotherapy techniques & immunotherapies, to support improvements in survival rates	<ul style="list-style-type: none"> → Completion of the upgrade of radiotherapy machines across England & commission the NHS new proton beam facilities in London & Manchester → Reforms to support further equipment upgrades → Faster, smarter & effective radiotherapy, supported by greater networking of specialised expertise, will mean more patients are offered curative treatment, with fewer side effects & shorter treatment times. Starting with ovarian cancer, ensure greater access to specialist expertise & knowledge in the treatment of cancers where there are fewer or more risky treatment options
New Zealand	Outcome 4: New Zealanders have better cancer survival, supportive care & end-of-life care	<ul style="list-style-type: none"> → Implement quality improvement indicators & initiatives to support access to quality cancer treatment → Nationally agree on the scope & distribution of specialist cancer & cancer surgical services → Invest in workforce, technology & treatment capacity for radiation oncology → Collect detailed data to identify & address inequities & inefficiencies in drug-based cancer treatments → Earlier assessment of new medicine applications → Options for early access to new medicines → More transparent funding decisions by the Pharmaceutical Management Agency → Support & acknowledge the use of traditional therapies as part of care planning → Proactively assess, treat & manage patients with long-term conditions
	Improve cancer diagnosis & treatment outcomes	
Canada	Priority 3. Deliver high-quality care in a sustainable, world class system	<ul style="list-style-type: none"> → Reduce variations between clinicians & jurisdictions by setting & promoting standards for high-quality care & other established best practices, such as consistent use of multidisciplinary teams → Engage with First Nations, Inuit & Métis to ensure care reflects cultural priorities & realities, & learn about community-led models of care → Improve how drugs & treatments are regularly evaluated. Those of limited value should be discontinued or reduced, allowing resource allocation to new drugs & technologies which, when proven, should be approved & equitably delivered nationally. Decisions should be more broadly informed by public/patient input → Find more effective, efficient & sustainable ways to deliver care with better outcomes for patients (e.g. virtual care, GP oncologists, patient navigators) to complement the optimal use of primary care & other community-based practitioners & their collaboration with cancer specialists
	Set best practices & standards for care delivery & promote their adoption	
	Eliminate low-benefit practices & adopt high-value practices	
	Design & implement new models of care	
Manitoba	Strategic Direction 1: Towards state-of-the-art patient care	<ul style="list-style-type: none"> → Implement the use of magnetic resonance imaging (MRI)

<p>Enhanced access to advances in radiation therapy</p>	<ul style="list-style-type: none"> → Replace aging linear accelerators & associated infrastructure → Ensure availability of novel systemic therapy → Optimise current workspace → Meet national standards on the safe handling of systemic cancer therapies
<p>Ready access to & delivery of novel systemic therapy</p>	<ul style="list-style-type: none"> → Increase dispensing of oral systemic therapy to enhance drug utility → Establish a Central Advisory Group with a provincial mandate which will be responsible for setting the priorities for genomic testing under Manitoba's Clinical Genomics Strategy
<p>Increased availability of genetic testing to support personalised treatment</p>	<ul style="list-style-type: none"> → Establish a Clinical Genomics Strategy business model & sustainable funding partnerships → Develop national research/operational partnerships
<p>Achievement of province-wide leadership in cancer surgery</p>	<ul style="list-style-type: none"> → Assign a surgical leader to each Regional Cancer Program Hub → Establish a Surgical Executive Committee representing specialty leaders from each major surgical disease site group to spearhead quality improvement activities & develop policies
<p>Increased clinical trials opportunities for patients</p>	<ul style="list-style-type: none"> → Undertake a provincial quality improvement project in each major surgical disease site → Build outcome & wait time measurements that are provincial, regional & disease site group based
<p>Strategic Direction 2: Toward timely access to multidisciplinary care</p>	
<p>Reduce waiting time between first suspicion of cancer & treatment</p>	<ul style="list-style-type: none"> → Increase availability of access & recruitment to clinical trials through meeting or exceeding local accrual targets → Reduce trial activation timelines to attract trials that have the potential to significantly impact clinical practice → Obtain increased funding for advanced patient care by demonstrating drug cost savings resulting from trial participation
<p>Efficient, expedited patient flow within the Cancer Care Manitoba system</p>	<ul style="list-style-type: none"> → Develop a systematic approach to providing expert advice on diagnostic pathways for cancers of uncertain primary origin → Establish diagnostic clinics at Cancer Care Manitoba → Expand central referral services to include all disease site groups
<p>Timely access to quality clinical services close to home</p>	<ul style="list-style-type: none"> → Establish disease site specific targets based on best practice to improve wait times → Build patient triaging into the electronic oncology record to enable more efficient & better triage processes → Establish processes to enable sustainable electronic collection of wait time data provincewide
<p>Multidisciplinary organisation of care</p>	<ul style="list-style-type: none"> → Develop a communication strategy to enhance public awareness & engagement → Enable modern technologies to improve health information delivery
<p>Expanded access to specialised urgent care services</p>	<ul style="list-style-type: none"> → Establish Cancer Program Hub Working Groups within each provincial health region to provide strong leadership & build capacity to maximise comprehensive cancer services across the continuum of care → Ensure ongoing evaluation & measurement of current work & quality improvement initiatives

	<p>Provide coordinated & efficient in-patient cancer care in host hospitals</p>	<ul style="list-style-type: none"> → Establishment of effective case conferences for all disease site groups. → Development of clinical practice guidelines for all disease site groups. → Increase participation in clinical trials and contribute to innovation and research → Increase staffing & operational hours to include evenings & weekends → Increase the capacity of the Cancer Helpline to encompass all telephone triage for the organisation → Work with our hospital partners to enable Urgent Cancer Care patients to directly access beds on an in-patient unit in an adjoining hospital or within the organisation → Develop & implement electronic reporting for the routine collection of statistical information → Collaborate with stakeholders to develop sustainable improvements to the in-hospital care of cancer patients & the patient experience → Collaboration should be multidisciplinary
<p>Alberta</p>	<p>Strategy 5. Better integrate care to deliver cancer diagnosis, treatment and support services to Albertans</p> <p>Use the focus provided by having CancerControl Alberta as a distinct division for cancer services provided within AHS to better integrate services across the care spectrum</p> <p>Continue the development of integrated care models for all major cancers, ensuring the right information is available for use by oncologists and other health professionals</p> <p>Strengthen quality and safety systems supporting evidence-informed cancer care</p> <p>Facilitate molecular testing of cancers linking new, evidence-based diagnostics with targeted treatments for individual patients</p> <p>Monitor and evaluate new, evidence-informed developments in cancer care on an ongoing basis and establish mechanisms for timely</p>	<ul style="list-style-type: none"> → Implement a provincial Advance Care Planning process to provide patients & families with the opportunity to define care goals → Expand primary healthcare capacity & expertise to manage cancer by strengthening relationships among primary, secondary and tertiary providers & improving the tools & guidelines available to all healthcare providers → Continue development of the Cancer Strategic Clinical Network to provide leadership and evidence-based improvements → Develop strong links among screening, diagnostic & treatment services through referral protocols & transition mechanisms → Develop systems to support fast-track referral & links from primary healthcare to specialist care if symptoms suggest a recurrence or progression of the disease → Invest in education & training for health professionals (HPs) from all disciplines → Ensure HPs & the general public are familiar with the concepts of personalised medicine and how it can be incorporated into health decisions → Support delivery of cancer treatments at home when appropriate → Work with health innovators to translate research findings into innovative practice → Develop a provincial quality & safety action framework for cancer → Continue to develop mechanisms that support information flow → Increase awareness among the public & HPs about standards for effective cancer treatment & quality care, including creating networks for various cancers so HPs can share knowledge → Implement rigorous pathology standards to ensure appropriate treatments are provided to cancer patients → Partner with relevant stakeholders such as universities & Genome Alberta to further explore the potential of personalised medicine → Identify new genetic and molecular markers with tumour bank specimens linked to patient treatments & outcomes → Introduce high-quality molecular testing into cancer pathology

integration into the health system

- Increase capacity for timely assessment of new health technologies & integration into the cancer system
- Establish effective mechanisms for acquiring & sharing knowledge about promising innovations in cancer care & incorporate them into clinical practice standards & guidelines
- Create an effective patient/practitioner communication system
- Continually assess current & new technologies, including drugs, to support policy decisions that maximise benefit & value

Survivorship and palliative care

Table 6 presents the plan elements associated with cancer survivorship, and palliative and end-of-life care, which were frequently grouped together in the plans. Although elements of survivorship and palliative care are mentioned in all plans, the plans that most comprehensively address this aspect of cancer control are those from Canada, Alberta, Victoria and WA.

Supportive care

Most plans include an objective to expand access to and availability of supportive and psychosocial services and care for people with cancer (Victoria, Queensland, WA, New Zealand, Canada, Alberta) as well as rehabilitation (Manitoba) and allied health services (New Zealand, Canada). Alberta's cancer plan recognises that increased professional awareness about survivorship issues and enhanced workforce capacity in providing psychosocial support are required, including the recruitment and training of individuals from ethnic and cultural groups. Ensuring that supportive care services meet the needs of cultural groups, such as Aboriginal people, are objectives in the plans for WA and Canada. The provision of support to cancer survivors in these two plans also encompasses strategies to facilitate the transition of young people with cancer from paediatric to adult care.

Empowering consumers

Many plans seek to empower patients with cancer by building their self-sufficiency to seek information and services (Victoria, WA, Alberta), cope with cancer (Alberta) manage long-term effects (WA), adopt a healthy lifestyle (WA), and make decisions about their care (Victoria, Alberta). Several plans propose using information provided by patients via patient-reported experience measures (Alberta, WA, Canada) and patient-reported outcome measures (WA, Canada, Victoria) to improve patient-centred care, track quality of life (NHS) and screen for distress (Alberta).

Palliative care

Almost all plans aim to expand the accessibility or availability of palliative care services (Queensland, WA, New Zealand, Alberta, Manitoba) and/or better support people to access these services (Victoria, New Zealand). In some plans this involves strengthening the capabilities of the cancer workforce in providing palliative and end-of-life care through education and training (Victoria, New Zealand, Canada, Alberta) Some also mention increasing uptake of advance care plans (Victoria) and ensuring their availability (WA, New Zealand).

Table 6. Summary of plan elements relating to survivorship and palliative care

PLAN	GOALS	STRATEGIES
VIC	Action Area 4: Wellbeing & support	<ul style="list-style-type: none"> ➔ Implement systematic approaches to meet people's support needs through the Optimal Care Pathway, including the identification of needs & referral to appropriate supportive care services ➔ Build & refresh workforce skills & competency in supportive care ➔ Build self-sufficiency to enable cancer patients, families & carers to seek information, peer support, referral & supportive care services ➔ Support approaches for priority groups that may have additional needs, including young & older cancer survivors ➔ Implement survivorship programs to support people in their recovery & to reduce & manage consequences of treatment: rehabilitation, long-term follow-up for late effects, link with chronic disease management in the community ➔ Develop & implement agreed follow-up guidelines, including shared care with general practitioners ➔ Integrate the care of other conditions with cancer treatment, particularly for the elderly ➔ Implement the end-of-life & palliative care framework to support people to make decisions about end-of-life care. ➔ Build end-of-life care skills & competencies across the cancer workforce & support early referral to palliative care services ➔ Work with health services to increase the uptake of advance care plans
	Strengthen supportive care & self-management	
	Support cancer survivors to recover & thrive	
	Maintain quality of life through palliative care & end-of-life care	
QLD	Service Direction 3: Continuously improve the accuracy & timeliness of cancer diagnosis, access to timely evidence-based cancer treatment services, access to support programs &/or end-of-life care services with the quality of care sustained over time	<ul style="list-style-type: none"> ➔ Improve access to support programs for cancer survivors, including young people living with cancer & their families ➔ Improve access to high quality end-of-life & specialist palliative care for patients with identified life-limiting disease (regardless of care model or setting)
WA	Priority 3: Western Australians with cancer & their families live well	<ul style="list-style-type: none"> ➔ Ensure access to supportive & psychosocial care for all ➔ Enhance provision of culturally secure supportive care, communication & information for Aboriginal people, their family, carers & community ➔ Co-develop & implement Survivorship Care Plans & Treatment Summaries in partnership with cancer survivors ➔ Empower cancer survivors to access appropriate services to self-manage long-term effects & engage in healthy lifestyle behaviours ➔ Co-develop & implement Transition Care Plans in partnership with young people & their families ➔ Establish transparent public reporting of patient-reported experience & outcomes & monitoring of systemwide performance indicators ➔ Ensure appropriate palliative care services & end-of-life care are accessible to all ➔ Ensure Advance Care Planning & Goals of Patient Care clinical documents are available to all
	Empower cancer survivors to live well	
	Support people affected by cancer	
	Integrate palliative care services	

NHS		<ul style="list-style-type: none"> ➔ By 2021, where appropriate every person diagnosed with cancer will have access to personalised care, including needs assessment, a care plan & health & wellbeing information & support. This will be delivered in line with the NHS Comprehensive Model for Personalised Care. All patients, including those with secondary cancers, will have access to the right expertise & support, including a Clinical Nurse Specialist or other support worker. ➔ After treatment, patients will move to a follow-up pathway that suits their needs & ensures rapid access to clinical support where they are worried about recurrence. This stratified follow-up approach will be established in all trusts for breast cancer in 2019, for prostate & colorectal cancers in 2020 & for other cancers where clinically appropriate by 2023. From 2019, the NHS will begin to introduce an innovative quality of life metric – the first on this scale in the world – to track & respond to the long-term impact of cancer.
NZ	<p>Outcome 4: New Zealanders have better cancer survival, supportive care & end-of-life care</p> <p>Deliver support & information for people living with cancer</p> <p>Maintain quality of life through palliative & end-of-life care</p>	<ul style="list-style-type: none"> ➔ Ensure access to allied health services throughout the cancer continuum ➔ Develop cancer surveillance guidelines ➔ Improve travel accommodation access ➔ Consider options for kaupapa Māori & Māori-led programs ➔ Develop person-specific care plans to meet holistic needs ➔ Increase uptake of advance care plans ➔ Promote early access to supportive, palliative & end-of-life care ➔ Review, update & implement the 2017 Palliative Care Action Plan ➔ Address inequity in the delivery of palliative care ➔ Support palliative care training for the wider healthcare workforce
Canada	<p>Priority 5. Deliver information & supports for people living with cancer, families</p> <p>Integrate the full spectrum of information & support services to ensure people are fully supported throughout the cancer journey</p> <p>Support children, adolescents & young adults at key transition points in their unique cancer journeys</p>	<ul style="list-style-type: none"> ➔ Enable seamless & integrated access to primary, specialty & community care, information & psychosocial support by encouraging providers to collaborate, provide quality information resources & use an integrated electronic medical record system that patients can access ➔ Provision of community-based services to help people return to work, school & life e.g. mental health care, peer support, rehabilitation therapy, educational & employment services, & transportation & associated supports. These supports need to be accessible across the country (including in rural & remote areas) & provided in a culturally sensitive manner informed by partnership with First Nations, Inuit & Métis ➔ Cancer system partners to collect patient reported outcomes & patient reported experience measures in clinical & community settings to provide more comprehensive person-centred care that recognises the broader economic & societal burdens of cancer & the factors that affect quality of life

	Address the limited & unequal access to palliative & end-of-life care across Canada	<ul style="list-style-type: none"> → Paediatric & adult systems to work collaboratively to facilitate transitions for adolescent and young adult (AYA) patients to adult cancer care → Expand access to integrated services to address the unique challenges faced by children & AYAs e.g. fertility counselling, mental health care, peer & psychosocial support & rehabilitation → Ensure that assistance & support extend to a child's family & caregivers, especially for those in rural & remote areas → Early integration of palliative care in all cancer care settings, including providing education, training & other supports to a broad range of care providers in institutional & community settings to help them integrate palliative care into services they provide → Provision of resources & other supports to ensure high-quality, person-centred end-of-life care is provided to patients in the setting of their choice across Canada, including expansion of services delivered in the home
Manitoba	Toward timely access to multidisciplinary care	<ul style="list-style-type: none"> → Phase in transition appointments to all disease site groups → Expand palliative care services to all Regional Program Hubs
	Improved planning & broadened options for continuing care	<ul style="list-style-type: none"> → Increase cancer rehabilitation services
Alberta	Strategy 6: Provide cancer patients, survivors, their families & caregivers with the best possible psychosocial, physical & supportive care throughout their cancer journey. Introduce palliative care early in the course of cancer treatment, where appropriate	<ul style="list-style-type: none"> → Implement a tool to screen for distress in cancer patients on a systematic, province-wide basis → Increase the ability of the workforce to provide psychosocial support, making special efforts to recruit & train individuals from different ethnic & cultural minority groups → Provide patients, caregivers & families with resources on healthy coping skills & mechanisms → Monitor & manage all distressing symptoms before, during & after treatment in an integrated fashion
	Augment capacity for psychosocial oncology & support services for patients & their families	<ul style="list-style-type: none"> → Develop ways for cancer survivors & their families to routinely rate their satisfaction with cancer services → Increase professional awareness of issues relating to cancer survivorship → Ensure optimal independence & function for cancer survivors through interdisciplinary teams to assess & address social & job-related needs → Support research on survivorship issues & the translation of research findings into clinical practice
	Engage cultural & community organisations as partners in developing culturally appropriate support services. Continue to improve access to quality palliative care that provides symptom control & relief, & emotional, spiritual, cultural & social support for patients with cancer & their families	<ul style="list-style-type: none"> → Develop & implement a provincial framework for palliative care services to ensure integrated & comprehensive services are provided when needed → Develop systems to allow all cancer patients to receive palliative care services at home or as close to home as possible → Support research into palliative care for cancer patients → Develop & implement public awareness initiatives to build understanding & acceptance of care at the end of life → Develop programs & support existing programs that support the health & wellbeing of caregivers → Train primary care physicians to deal with complex cancer survivorship issues

<p>Implement an integrated care model of palliative care to adequately control symptoms & to reduce suffering</p>	<ul style="list-style-type: none"> → Monitor & manage symptom burden (from the disease & treatment combined) as an alternative method to assessing symptoms through patient-reported outcomes → Identify best practice models, such as those for the Canadian Hospice Palliative Care Associations or the International Association for Hospice & Palliative Care, as a guide for providing quality palliative care in all relevant settings → Encourage partnerships among cancer centres, hospitals, hospices, long-term care, primary care, health teams, cultural & community organisations, & other providers to share innovative ideas & best practices (e.g., train the trainer model) → Include evidence-informed, effective palliative & end-of-life curricula in the faculties of medicine, nursing & other health professions using Canadian & international guidelines for hospice palliative care → Equip oncology teams to provide patients with information about where to access quality palliative care in their communities → Train primary care physicians to deal with complex cancer survivorship issues → Ensure that partnerships are built between the voluntary sector & rural & remote as well as urban communities to provide knowledge & expertise in palliative care → Build partnerships between cancer care services & cultural & community organisations that can assist in meeting the needs of cancer patients & survivors
<p>Organizations that provide cancer services should establish partnerships with the voluntary sector to ensure their services are complementary</p>	

Interface between primary care and specialist services

Supporting and enhancing the coordination and integration of cancer care services is a defined goal of most plans (Queensland, WA, Canada, Manitoba, Alberta) with some proposing the development and implementation of specific models for shared care (Manitoba, Alberta). It is mentioned throughout other plans without clearly stated objectives. For example, New Zealand’s plan mentions that better integration and coordination of care is necessary to proactively manage patients with long-term conditions but does not propose any strategies for how this may be achieved. In several plans, the need and scope for enhanced primary care capacity to improve patient outcomes is recognised across the areas of cancer detection (Victoria, Canada) and follow-up care (Victoria, Alberta, Manitoba). Specific ways to support and expand the role of primary care providers in delivering cancer care include providing resources (Canada, Alberta) and training (Alberta). The NHS Long Term Plan does not address the interface between primary and specialist services in relation to cancer care specifically.

Strategies to facilitate better coordination and integration of cancer care services include encouraging collaboration, engagement and partnerships between services, sectors and organisations (Canada, Queensland, Alberta); developing and implementing guidelines for follow-up care or surveillance (Victoria, New Zealand); and improving referral processes (Victoria, WA, Manitoba, Alberta), governance arrangements (Queensland) and the flow of information between providers (Canada).

Table 7. Summary of plan elements relating to the interface between primary care and specialist services

PLAN	GOALS	STRATEGIES
Victoria	Action Area 2: Screening & early diagnosis	<ul style="list-style-type: none"> ➔ Support healthcare providers to identify symptoms early & provide appropriate advice & timely referral to testing & assessment ➔ Develop & implement agreed follow-up guidelines, including shared care with general practitioners
	Enhance primary care capacity to support early diagnosis	
	Action Area 4: Wellbeing & support	
	Support cancer survivors to recover & thrive	
Queensland	Service direction 2: Cancer care services are provided through a network of services linked to form an integrated, coordinated, efficient service partnering with private sector & non-government support services where practicable.	<ul style="list-style-type: none"> ➔ Improve system governance arrangements to oversee & guide the development of cancer care services in Queensland ➔ Conduct local health service planning to integrate & coordinate cancer care services including establishing service partnerships & implementing appropriate clinical & business/service governance arrangements ➔ Enhance service networks so they are more clearly defined, encompassing both public & private sector services including rural & remote service providers & provide formal links between cancer services, cancer units & cancer centres
WA	Priority 5: WA has a robust, contemporary & sustainable cancer care system	<ul style="list-style-type: none"> ➔ Establish a coordinated approach & clear pathways for addressing statewide cancer-related issues ➔ Formalise patient referral pathways, based on the principles of Optimal Care Pathways, across the health system ➔ Foster collaboration between the WA health system & its partners to facilitate integrated & coordinated cancer care ➔ Engage in interagency collaboration & cross-sector engagement to improve the broader social determinants of health relevant to cancer control
	Provide strategic coordination & innovative leadership	
	Develop partnerships that enable integrated, coordinated & efficient care	
New Zealand	Outcome 4: New Zealanders have better cancer survival, supportive care & end-of-life care	<ul style="list-style-type: none"> ➔ Develop cancer surveillance guidelines <p>This action refers to developing advice to encourage collaboration between primary, secondary & tertiary services & ensure follow-up that is person-centred, focuses on risk, & is supported by holistic needs-assessment & individual care plans.</p>
NHS		The interface between primary & specialist services for cancer is not addressed in the section of the plan on cancer. However, Chapter 1 sets out how the NHS plans to move to a new service model that will see redesigned hospital support & integrated community-based healthcare, backed by a £4.5 billion increase in funding for primary & community care.
Canada	Priority 2. Diagnose cancer faster, accurately & at an earlier stage	<ul style="list-style-type: none"> ➔ Recognises the need for new models of clinical care to support a smoother flow of patients & information between primary care, diagnostic services & cancer specialists ➔ Enable seamless & integrated access to primary, specialty & community care, information & psychosocial support by encouraging providers to collaborate, provide quality information resources & use an integrated electronic medical record system that patients can access
	Prioritise rapid access to diagnosis for suspected cases	
	Priority 5: Deliver information & supports for people living with cancer, families	
	Integrate the full spectrum of information & support services	

	to ensure people are fully supported throughout the cancer journey	
Manitoba		<p>Cancer Care Manitoba's Community Oncology Program (COP) works with all provincial regional health authorities to facilitate cancer care in the community. This care is provided through the Winnipeg Regional Health Authority Oncology Program at Winnipeg's four community hospitals, & at Regional Cancer Program Hubs in hospitals located across the province. The COP integrates the Community Cancer Program Network & Uniting Primary Care & Oncology (UPCON) Program, as well as outpatient sites in the Winnipeg region.</p> <ul style="list-style-type: none"> • The 7 Regional Cancer Program Hubs provide an enhanced complement of services & support the smaller Community Cancer Program Hubs within their Regions • The UPCON Program promotes & supports the shared care of cancer patients through collaborative relationships with primary care providers. There are over 50 primary care clinics in the UPCON network across Manitoba • The Winnipeg Cancer Program Hub, a virtual clinic, provides expert clinical advice, psychological support & navigation services to patients & healthcare providers to ensure timely referral, diagnosis & coordination of care
Alberta	<p>Strategy 2: Support, engage & integrate primary healthcare providers in the delivery of cancer services in the home or community & to underserved populations</p> <p>Expand roles of community-based health & social service organizations regarding prevention, diagnosis, treatment & follow-up care</p> <p>Streamline & standardize the referral process to improve access to specialised cancer services</p> <p>Use community navigators to facilitate access to the healthcare system</p>	<p>The new system model emphasises the role of primary healthcare providers & community services. Family Care Clinics & Primary Care Networks will be supported to deliver & target cancer-related services within communities & to underserved populations. With the additional support (including training & access to resources, tools & information on prevention & whole-person care) community-based health & social service organisations will be expected to take on expanded roles in prevention, diagnosis, treatment & follow-up care. The model will encompass a wide range of services delivered at home or in the community with use of technology such as Telehealth.</p>

Approaches to cancer control for priority populations

The plans' approaches to cancer control for priority populations are summarised in Table 8. While several of the plans seek to address disparities in cancer outcomes for First Nations and Aboriginal people (Victoria, WA, New Zealand, Canada, Manitoba), as well as people living in rural and remote areas (Queensland, WA, Canada, Manitoba), their approaches to determining cancer control initiatives and policy for priority populations vary. Consultation or collaboration with First Nations or Aboriginal people was a reported part of the development process for three of the plans, to identify specific priorities and strategies for these groups (Victoria, Canada, Manitoba). Of these, the co-design approach taken in Canada's plan is the most comprehensive and delivers three distinct (i.e. peoples-specific) sets of priorities and actions for its First Nations, Inuit, and Métis populations.

Western Australia's plan recognises populations with a higher prevalence of risk factors, higher cancer incidence and poorer survival throughout. In addition to the groups mentioned above, this

includes people who are culturally and linguistically diverse (CALD); lesbian, gay, bisexual or transgender (LGBT); experiencing homelessness; living with a physical disability; or experiencing mental health issues. The plans from Canada and Manitoba each have a priority area (Priority 4 of Canada's plan, or Strategic Direction 5 of Manitoba's) dedicated to eliminating barriers to care for groups that are underserved by the health system, including people who are elderly, LGBT, CALD, or from rural and remote areas. These two plans also specify cancer control strategies for adolescent and young adult cancer survivors. Achieving equitable cancer outcomes by reducing variations in cancer survival rates based on cancer type, regionality and Aboriginal status is a long-term goal of Victoria's plan. Achieving equitable outcomes for Māori people is one of four outcome areas (with associated operational strategies) in New Zealand's plan. Aside from having dedicated priorities or outcomes for priority populations, ensuring that proposed and existing services, interventions and programs tailored to the needs of particular groups is embedded throughout many of the plans.

Table 8. Summary of the plans' approaches to cancer control for priority populations

PLAN	APPROACHES TO CANCER CONTROL FOR PRIORITY POPULATIONS
Victoria	<p>An Improving Cancer Outcomes for Aboriginal Communities Working Group was established to provide leadership & support collaboration to:</p> <ol style="list-style-type: none"> 1. Co-plan, co-design & co-deliver appropriate structures & services to: <ul style="list-style-type: none"> ○ achieve effective & acceptable cancer care pathways that are culturally responsive ○ remove barriers to access to services & programs ○ build connections across health, wellbeing & resilience & culture ○ improve community knowledge & awareness about cancer & its effects on Aboriginal people, families & communities ○ improve community trust in a culturally responsive cancer care system ○ reduce modifiable risk factors 2. Build a cancer care workforce that is culturally competent & responsive & increase the number of Aboriginal people in the cancer care workforce 3. Strengthen data collection & performance monitoring of access & outcomes for Aboriginal Victorians <p>One of the plan's long-term goals is to achieve equitable outcomes for all Victorians (by reducing variations in cancer survival rates based on cancer type, regionality & being Aboriginal). The plan also includes specific strategies for Aboriginal people regarding screening & early detection of cancer.</p>
Queensland	<p>The plan includes objectives for cancer survivors from regional, rural, remote & Aboriginal & Torres Strait Islander communities under Service Direction 3.</p>
WA	<p>The plan recognises that targeted interventions to reduce inequities & assist those with higher risk of exposure to cancer risk factors are essential. Its priority populations include groups with a higher prevalence of risk factors, higher cancer incidence & poorer cancer survival rates than the general population. This includes people who are: Aboriginal, culturally & linguistically diverse (CALD), living with a disability, living in rural & remote areas, experiencing homelessness, lesbian, gay, bisexual, transgender, &/or intersex (LGBTI), or experiencing mental health issues. The plan acknowledges these people often experience stigma, discrimination &/or racism, which causes significant barriers to accessing cancer services & can negatively impact health & wellbeing. Providing programs & services that are responsive, competent, respectful & accessible to all is essential to improving cancer outcomes for Western Australians.</p> <p>The plan includes a focus on addressing disparities in cancer outcomes for people living in rural & remote WA & Aboriginal people, as evidenced by strategies for these groups for each of the plan's priorities.</p>
New Zealand	<p>The Ministry & the Cancer Control Agency aim to align their work with their Te Tiriti o Waitangi obligations & go beyond just remedying disadvantage & reducing inequities, enabling Māori to flourish & develop & lead their own goals for health & wellbeing. Linking this plan with the Māori</p>

	<p>Health Action Plan (currently being developed) will facilitate action to achieve the aims of He Korowai Oranga – Māori Health Strategy.</p> <p>Achieving equity for Pacific people is also a priority. Linking with this plan in with the work of the Pacific Health Action Plan (currently being developed) will facilitate better understand & meet the needs of Pacific peoples, their families & their communities.</p> <p>The Ministry’s definition of equity will drive the coordinated & collaborative effort needed to achieve equitable cancer outcomes for all New Zealanders across the cancer continuum. Achieving equity for Māori will require us to carefully consider how our systems are designed & accessed & to innovate in areas that are currently underserving some populations. This will improve the system in general.</p> <p>One of the plan’s outcomes is that New Zealanders experience equitable cancer outcomes (Outcome 2). A key action from this outcome is the development of a mātauranga Māori framework for delivering the plan.</p>
NHS	<p>Approaches to priority populations are not outlined in the section of the plan on cancer. However, Chapter 2 includes strategies for NHS action on health inequalities.</p>
Canada	<p>To inform the strategy, a comprehensive engagement process was conducted to ensure it reflected the perspectives of the wider cancer community; people living with cancer & their families; the public; & First Nations, Inuit & Métis governments, organisations & individuals. More than 7500 people provided input through an online survey, in-person sessions & written submissions. Participants included patients, caregivers, the general public, health system & cancer community leaders, & people who are underserved by the health system (such as recent immigrants, people who identify as LGBTQ, minority language communities, & rural, remote & northern residents).</p> <p>One of the core themes of the plan is a need to enable more equitable access to high-quality cancer care for all. Subsequently, strategies for First Nations, Inuit & Métis are included for each of the plan’s priorities. In addition, Priority 4 of the plan is to eliminate barriers to people getting the care they need. Key actions from this priority are providing better services adapted to the needs of underserved groups, ensuring rural & remote communities have the resources required to better serve their people, & supporting children, adolescents & young adults at key transition points in their unique cancer journeys.</p> <p>First Nations, Inuit & Métis governments, organizations & individuals were engaged across Canada in a parallel process to ensure separate, respectful & Peoples-specific priorities & challenges were understood & reflected in the strategy. Engagement was guided by principles developed in collaboration with First Nations, Inuit & Métis elders & cancer survivors, governments, organisations & communities. There is a section of the plan entirely dedicated to the identified priorities & actions specific to First Nations, Inuit & Métis. The key priorities are:</p> <ul style="list-style-type: none"> ○ Culturally appropriate care closer to home ○ Peoples-specific, self-determined cancer care ○ First Nations-, Inuit- or Métis-governed research & data systems <p>For each of these priorities, Peoples-specific actions are identified that will help drive needed changes in outcome & experience for all First Nations, Inuit & Métis (see plan p7 for summary, or 37-43 for all actions).</p>
Manitoba	<p>In response to the needs of the First Peoples of Manitoba, Cancer Care Manitoba formed the First Nations, Metis, Inuit Cancer Control Program almost a decade ago. This program decreases barriers to accessing cancer services including language, culture, living in a remote community, poverty, or other health challenge barriers. The Manitoba Cancer Plan seeks to broaden the scope of underserved populations to include newcomers, the elderly & geographically isolated populations. This will further enhance access to care, reduce health disparities & improve the health status of all Manitobans, regardless of who they are or where they are located.</p> <p>Population, age, gender, ethnicity, socioeconomic status & geographic location are all factors taken into consideration in planning & projecting for cancer care & control.</p> <p>Improving equitable access to cancer services is a strategic direction in the plan (Strategic direction 5: Toward improved care for underserved populations). This entails strategies for expanding services for underserved groups & developing multidisciplinary care program for adolescent & young adult (AYA) cancer patients.</p>
Alberta	<p>Some strategies for cancer prevention, detection & survivorship care (Strategies 3, 4 & 6) relate to ethnic & cultural groups. Strategy 2 is to support, engage & integrate primary healthcare providers in</p>

the delivery of services in the home or the community & to underserved populations. This includes creating evidence-informed community interventions tailored to these groups, their enrolment in clinical trials, & research & interventions aimed at reducing disparities.

Cancer research and training

Plan elements relating to cancer research and training are presented in Table 9. All plans except for the NHS Long Term Plan include cancer research objectives. Key priorities for advancing cancer research that are common across the plans include: access to clinical trials, research collaboration, translation of research to practice, and building research workforce capacity and infrastructure.

Access to clinical trials

Increasing opportunities and access to clinical trials is a stated objective in most plans (Victoria, Queensland, WA, New Zealand, Alberta). Specific strategies mentioned to improve access include building public education and awareness of the availability and importance of clinical trials (Victoria, Alberta) and enhancing processes for streamlining and coordination of trials (Victoria, Queensland). Western Australia's plan also includes an objective to increase and advocate for consumer involvement in research.

Research collaboration

Most plans mention an aim to support or encourage researchers to collaborate (Victoria, WA, New Zealand, Manitoba, Alberta). Specific strategies proposed to enhance collaboration include building partnerships across the philanthropic and private sectors (Victoria, WA, Manitoba, Alberta), formalising international connections (New Zealand) facilitating better linkage between metropolitan and regional services (Victoria), improving the research environment (WA, Manitoba) and developing a new research structure and strategic plan (Manitoba).

Translation

Better translation of research into clinical practice is a goal of the plans for Victoria, WA, and Alberta. The WA plan mentions developing mechanisms for translation, while the Victorian plan describes specific measures such as conducting health services research to support knowledge translation (e.g. clinical care models, evaluation of care pathways, decision support tools), optimising the availability of data to researchers, and developing a framework to evaluate the impact of translational research activities. To enhance the availability of innovative treatments through research, Alberta's plan includes actions focused on fostering a culture of evidence-informed practice and the ongoing development of an efficient clinical trials system.

Developing research workforce capacity and infrastructure

Developing strategies to attract and retain an innovative and talented research workforce is mentioned in several plans (Vic, WA, Manitoba, Alberta). Specific approaches proposed include developing a cancer research workforce strategy (Manitoba, Alberta), creating partnerships to fund researchers (Manitoba), and offering scholarships and fellowships (Victoria). The plans for New Zealand, Manitoba, and Alberta also propose strategies for improving research infrastructure through

the allocation of resources and funding to the design and development of new research facilities and technologies.

Table 9. Summary of plan elements relating to cancer research and training

PLAN	GOALS	STRATEGIES
Victoria	Action Area 5: Research	<ul style="list-style-type: none"> → Develop a strategy to improve patient awareness of & access to clinical trials across the state → Improve equity of access to clinical research → Improve processes for streamlining & coordination of trials → Work with the Victorian Comprehensive Cancer Centre & the Monash Partners Comprehensive Cancer Consortium to strengthen research collaboration → Facilitate better linkages between metropolitan & regional cancer research centres to improve research access & capability → Support for collaborative research projects through the Victorian Cancer Agency to encourage collaboration & increase the quality, capacity & sustainability of cancer research in Victoria → Build strategic partnerships with the philanthropic & private sectors to leverage research funding → Support workforce progression & attract talented researchers through fellowships & scholarships → Support translational research into cancer diagnosis & treatment through the Melbourne Genomics Health Alliance → Promote health services research to support knowledge translation including clinical care models, evaluation of care pathways, & development of decision support tools → Maximise the benefit of resources available to researchers & the community through effective data collection & improved access → Support research into Aboriginal cancer outcomes to identify priority action areas → Develop a framework to evaluate the impact of translational research activities to inform future investment
	Improve access to clinical trials	
	Support cancer researchers to collaborate	
	Accelerate translation of cancer research into improved prevention efforts & clinical outcomes	
Queensland	Service direction 4: Cancer care service improvement is supported by information systems, clinical & basic research, education & measures of quality & services are supported by a sustainable, credentialed, well trained & integrated workforce across the disciplines.	<ul style="list-style-type: none"> → Improve the ability of the hospital and health services to monitor access, waiting times, education & teaching, & research activities → Strengthen quality & safety systems in relation to service capability, credentialing, support for clinical decision making, service monitoring & performance evaluation → Increase the use of statewide cancer information systems to enable sharing of patient information between services → Improve & streamline appropriate patient access to clinical trial participation opportunities
WA	Priority 4: WA has a globally connected cancer research system	<ul style="list-style-type: none"> → Commission research that addresses variations in cancer outcomes → Develop mechanisms for cancer research to be translated into practice or policy → Increase & advocate for consumer involvement in research → Enhance opportunities for cancer patients to be part of studies, especially clinical trials
	Integrate research & clinical trials	
	Build a supportive environment for cancer research & trials	

	Innovative cancer research & clinical trials workforce	<ul style="list-style-type: none"> → Build strategic partnerships with the philanthropic & private sectors to leverage cancer research funding → Streamline access to patient cancer data for researchers → Provide opportunities for cancer researchers to access innovation & commercialisation initiatives in WA → Develop targeted strategies to attract & retain an internationally recognised cancer research workforce for the future
New Zealand	Outcome 1: New Zealanders have a system that delivers consistent & modern cancer care	<ul style="list-style-type: none"> → Lead efforts to inform cancer research priorities that will support the outcomes of the plan → Increase kaupapa Māori research & evaluation capacity & capabilities → Develop advice for achieving equitable access & wider use of clinical trials → Develop national processes to assess & prioritise investment in & application of emerging medicines, clinical practices & technologies → Formalise international research partnerships & connections
	Research & innovation	
Manitoba	Strategic direction 6: Toward a broadened scope & enhanced strength of research	<ul style="list-style-type: none"> → Develop Research Institute in Oncology & Hematology administrative structure & strategic plan → Identify & foster collaborations through the new structure → Leverage funding for collaborative projects from external agencies → Work with partners to acquire resources to construct the facility → Develop a task group to advise on the design & equipment of new laboratories & allocation of new & existing space → Develop research alliances & build upon existing partnerships. → Develop multidisciplinary team “clusters” → Improve the research environment to foster trust & working together to support research efforts → Recruit a new Director for the Research Institute in Oncology & hematology → Develop a strategic plan with all stakeholders → Creation of new partnerships to fund researchers & trainees
	Expanded scope & strength of research	
	Provision of state-of-the-art laboratories & research technology platforms	
	Greater collaborations to enhance cancer & blood disorders research	
	Increased complement of highly qualified researchers	
Alberta	Strategy 7. Focus Alberta's research efforts to better support breakthroughs in cancer prevention, cancer care & policy & attract & retain world class researchers & funding	<ul style="list-style-type: none"> → Ensure the research plan considers the research-related work of key organisations involved in cancer research → Coordinate with government & philanthropic cancer research funders to align activities with priorities identified in the research plan → Attract & develop the best & brightest cancer researchers → Attract researchers in a range of domains to cancer research → Increase capacity for researchers to be part of knowledge transfer initiatives → Establish strong links with universities & other partner organisations, nationally & internationally → Define the core health research facilities needed in Alberta for cancer research → Develop a provincial strategy that coordinates core cancer research facilities, including biobanks & databases, & decreases duplication
	Coordinate cancer research in Alberta through the development of a strategic, long-term provincial cancer research plan	
	Restructure clinical trial research units in Calgary and Edmonton to improve sustainability and increase patient participation	

	Develop a comprehensive research workforce strategy	<ul style="list-style-type: none"> → Support the Alberta cohort of the Canadian Partnership for the Tomorrow Project, a national longitudinal cancer study → Develop clear mechanisms to foster a culture of evidence-informed practice among HPs, including networks that will engage the public & increase knowledge flow → Restructure clinical trials research units in Calgary & Edmonton to improve sustainability & increase patient participation → Support ongoing development of an efficient provincial clinical trial system that will provide evidence to improve practice → Develop ways to increase patient participation & enrolment in clinical trials, including educating the public about the importance of trials & their role in the discovery of new treatments → Develop partnerships to prepare for new treatments & therapies in areas such as diagnostic pathology, molecular genetics & imaging biomarkers → Enhance capacity for assessment of new health technology & supports to enable timely integration into the cancer system
	Improve research infrastructure	
	Support and integrate knowledge exchange opportunities across the cancer continuum.	
	Enhance the availability of leading and innovative treatments through research	

Workforce

Table 10 presents the elements of the plans related to cancer workforce planning. Common approaches to expanding and upskilling the cancer workforce include providing additional opportunities for education and training, monitoring workforce needs, ensuring staff wellbeing, and developing initiatives to grow the Aboriginal, Māori and Pacific workforces.

Education and training

Several plans propose providing further staff education and training (Victoria, Manitoba, WA, New Zealand), including to respond to diverse population needs (WA), develop cultural competency (New Zealand), and build proficiency in the areas of supportive and palliative care (Victoria). Alberta's plan has a strong focus on providing cancer-focused education and training based on the concept of integrated care via new interdisciplinary models.

Workforce needs

Several plans aim to better identify (Queensland), monitor (New Zealand) and address (Alberta) workforce needs or requirements. Manitoba's plan emphasises improving performance evaluation and Queensland's strategy aims to optimise workforce capacity to ensure sustainability.

Staff wellbeing

Directly supporting the wellbeing of the cancer workforce is included as an objective in the plan for WA. Actions from Alberta's plan include developing workforce models and conducting research on issues of workforce compensation, benefits, satisfaction and career development to enhance staff recruitment and retention.

Opportunities for priority groups

Initiatives to upskill and grow the Aboriginal, Māori and Pacific workforces are mentioned in the plans for WA and New Zealand. New Zealand’s plan also proposes creating a dedicated staff role focused on the provision of whānau-centred and holistic cancer care. An action from Alberta’s plan is to develop a strategy to recruit candidates from at-risk populations into nursing and other health programs and help graduates establish practices in urban and rural at-risk communities.

Table 9. Summary of plan elements relating to cancer workforce

PLAN	GOALS	STRATEGIES
Victoria	Action Area 4: Wellbeing & support	<ul style="list-style-type: none"> → Build & refresh the workforce skills & competency in supportive care approaches → Build end-of-life care skills & competencies across the cancer workforce & support early referral to palliative care services
	Strengthen supportive care & self-management	
	Maintain quality of life through palliative care & end-of-life care	
Queensland	Service direction 4: Cancer care service improvement is supported by information systems, clinical & basic research, education & measures of quality & services are supported by a sustainable, credentialed, well trained & integrated workforce across the disciplines.	<ul style="list-style-type: none"> → Improve the identification of workforce requirements to support models of care that combine hospital inpatient & outpatient care, multidisciplinary teams & other care services → Optimise the use of existing human resources available to provide safe, quality & sustainable services
WA	Priority 5: WA has a robust, contemporary & sustainable cancer care system	<ul style="list-style-type: none"> → Support the wellbeing of the cancer workforce → Support education & upskilling of the cancer workforce to be responsive to the unique, diverse & emerging needs of the population → Support growth, strengthening & upskilling of the Aboriginal health workforce
	Develop an agile, sustainable & skilled workforce	
New Zealand	Outcome 1: New Zealanders have a system that delivers consistent & modern cancer care	<ul style="list-style-type: none"> → Implement workforce development initiatives to grow the Māori & Pacific workforce → Implement routine monitoring of workforce needs assessment across the cancer continuum → Develop roles to better support a whānau-centred & holistic approach in cancer control → Support high-quality cultural competency training
	Health workforce	
NHS		Workforce shortages are currently the biggest challenge facing the health service. The plan explicitly recognises the scale of this challenge & sets out a number of specific measures to address it.
Manitoba	Strategic direction 4: Toward building capacity to meet growing needs	<ul style="list-style-type: none"> → Review & revise all job descriptions including expectations & key areas of responsibility for the purposes of performance evaluation & recruitment efforts → Provide performance evaluation for all roles & positions highlighting key areas of emotional intelligence, team building, customer service, & behaviours fostering a respectful workplace → Train & coach managers in the process & benefits of performance evaluation → Empower staff by enhancing opportunities for education & professional development
	Enhanced processes for encouraging high performance of staff	

Alberta	<p>Strategy 8. Develop a strong cancer workforce to meet the needs of cancer patients & their families.</p>	<ul style="list-style-type: none"> → Examine existing databases & identify gaps in data & information related to determining workforce needs → Define the roles & skills needed to provide cancer care & treatment across a variety of sites & settings → Develop workforce models to understand how to make the best use of the current cancer workforce & plan for the future → Conduct research on issues of compensation, benefits, work-life satisfaction & career development for cancer professionals to enhance recruitment & retention of staff → Further implement 'LEAN' processes to better use current staff & facility resources → Build primary healthcare capacity in the community to enable delivery of less complex cancer services closer to home → Support staff to understand changing treatments & developments & how they impact cancer service delivery → Develop leaders at all levels through training & succession planning → Develop a strategy to recruit candidates from at-risk populations into nursing & other health programs & help graduates establish practices in urban & rural at-risk communities → Encourage & use advanced practice providers in cancer care. → Develop interdisciplinary education models, & consider incentives for professionals to pursue post-graduate education in areas where there is a shortage of expertise → Work with universities to understand the needs of primary care physicians in managing cancer → Liaise with provincial & national licensing bodies on credentialing & scope of practice → Expand the scope of primary care providers to include greater shared responsibility with specialists for patients with cancer → Recruit well-trained professionals to meet workforce needs → Offer distance learning & web-based education to members of the cancer workforce → Introduce a provincial curriculum on cancer orientation for volunteers → Highlight cancer-related careers in high school & post-secondary institutions → Work with post-secondary institutions to incorporate oncology knowledge into undergraduate curriculum & provide post-graduate oncology certificate programs → Implement a provincial approach to establish & monitor health professional training quotas & specialist training positions
	<p>Address future workforce needs</p>	
	<p>Further implement 'LEAN' processes to better use current staff & facility resources</p>	
	<p>Provide cancer-focused education & training, based on the concept of integrated care</p>	

Implementation, evaluation and public reporting

Table 11 summarises the documented approaches to plan implementation, evaluation, monitoring and reporting. All plans addressed one of these aspects, although approaches were heterogeneous and described with differing levels of detail. In most cases, the approach to plan implementation and evaluation is contingent on external activities, such as developing an implementation or evaluation plan, framework, priorities or outcome measures (Victoria, Queensland, WA, New Zealand, NHS,

Canada, Manitoba, Alberta). Subsequently, the details of how implementation or evaluation would be carried out were often limited. In some plans a governing body was assigned to oversee activities related to implementation. How progress towards implementation and goals would be reported to the public was a gap across the plans.

Table 11. Summary of plan elements relating to implementation, evaluation, monitoring and reporting

PLAN	IMPLEMENTATION, EVALUATION & REPORTING
<p>Victoria</p>	<p>Implementation</p> <p>Implementation will be supported by a statewide cancer forum. This will be held every 2 years to continually inform objectives & policy priorities. Measures to support plan implementation & monitoring will include:</p> <ul style="list-style-type: none"> • Develop & document implementation priorities detailing key initiatives that require collective efforts • Establish outcome measures that identify short-, medium- & long-term targets & monitor the impacts of efforts to improve cancer outcomes <p>Monitoring & evaluation</p> <p>Evaluation of the cancer plan will focus on what has been achieved, what has worked, & what difference & progress has been made. A list of potential indicators that track & measure progress towards the goals are listed for each of the 5 action areas.</p>
<p>Queensland</p>	<p>Implementation</p> <p>Each health service is advised to prepare its own detailed implementation plan to translate the plan into actions, with achievements being monitored against the statewide service directions, service objectives & signs of success listed in the document. The strategy relies on each service determining how to implement the key plan elements.</p> <p>Service actions identified for implementation in the early years of the strategy (1–5 years) are designed to be completed with existing resources, while actions identified for implementation in the outer years of the strategy (6–10 years) will require additional resources. Thus, resource implications will need to be considered at regular intervals throughout the implementation process.</p> <p>Monitoring & evaluation</p> <p>Monitoring & evaluating will be the responsibility of Health Commissioning Queensland, Department of Health. It will involve collection & analysis of quantitative & qualitative data pre, during & post implementation. Evaluation will consider both the implementation process & outcomes (i.e. progress towards achieving each objective).</p> <p>Successful implementation of the strategy will be measured against criteria for success (to demonstrate the achievement of outcomes of the strategy) & signs of success (performance indicators set against each service direction) to demonstrate accomplishing the service directions & objectives. Measurement against these indicators will provide the information to enable monitoring, evaluation & reporting.</p> <p>Reporting</p> <p>The Policy & Planning Branch will prepare annual progress reports in collaboration with SCaCN as the conduit between the Department of Health & health services. These reports will be prepared for the Department’s Executive Management Team for consideration, shared with health services & published accordingly.</p> <p>In addition, there will be three formal review points for implementation, conducted as a collaborative project between Health Commissioning Queensland & SCaCN in the third year (2017), fifth year (2019) & tenth year (2024). Reviews will consider progress to date & changes to the key elements informing the development of the original strategy, including any significant changes in health need, health services, & the service environment. Based on the outcomes of the review, a revision of the strategy may be considered.</p>

<p>WA</p>	<p>Implementation & evaluation</p> <p>The plan will be implemented through ongoing engagement with partners & Western Australians. Guiding principles for implementation have been developed to ensure optimal standards & equitable access to care & research is maintained.</p> <p>Planning across short-, mid- & long-term horizons is being undertaken to inform & expedite implementation, which will be supported by a WA Cancer Plan 2020–2025 Implementation Plan & the WA Cancer Plan 2020–2025 Evaluation Framework. Development of the Implementation Plan & Evaluation Framework was planned for early 2020. They will set out how actions will be prioritised & supported, how feedback to Government & the community will be provided & how progress towards achieving the aims of the Plan will be measured.</p> <p>It is anticipated that the Implementation Plan will be an iterative plan that will allow for a responsive & agile approach in order to maximise new developments & opportunities as they occur.</p>
<p>New Zealand</p>	<p>Implementation</p> <p>A Cancer Control Agency was established to provide governance at all levels, set priorities, inform investment decisions & monitor progress on the plan. The Cancer Control Agency will work closely with the Ministry of Health to deliver the aims of the plan. A National Cancer Control Network that combines the four regional cancer networks as part of the Cancer Control Agency will be created. The Network will support the implementation of the national program to ensure consistent service delivery across the country while maintaining local innovation.</p>
<p>NHS</p>	<p>Implementation</p> <p>Following the publication of the NHS Long Term Plan, NHS England & NHS Improvement committed to publishing an implementation framework, setting out further detail on how it would be delivered.</p> <p>Local systems are developing their five-year strategic plans. These plans will clearly describe the population needs & case for change in each area, then propose practical actions that the system will take to deliver the commitments set out in the NHS Long Term Plan.</p> <p>The Implementation Framework summarise these commitments alongside further information to help local system leaders refine their planning & prioritisation. This includes detail about where additional funding will be made available to support specific commitments & where activity will be paid for or commissioned nationally.</p> <p>It is intended as an operational document to support health & care systems with their planning, developed & tested with many of the stakeholders involved in developing the Long Term Plan.</p>
<p>Canada</p>	<p>Implementation</p> <p>The priorities & actions outlined in the Strategy are designed to align with the shared priorities of the federal, provincial & territorial healthcare systems & of Canadians & will be put into action across the country in several ways. At the pan-Canadian level, there is work to be done to embed cancer priorities into the work of federal departments & federally funded pan-Canadian health agencies. The Partnership & cancer agencies & programs will work with cancer specialists & primary care providers, provincial & territorial ministries, & regulatory colleges to map & deliver new models of care. This work will provide advice to the ministries of health regarding barriers & potential incentives to bringing person-centred & financially sustainable changes into practice.</p> <p>The Partnership will engage with cancer leaders & a diverse array of partners to develop implementation plans & monitor progress on the priorities of the refreshed Strategy, learning from other countries & jurisdictions & use those learnings to inform planning & actions.</p> <p>The Partnership will lead the strategy for 2019-2029 by:</p> <p>Setting a shared vision through a refreshed strategy for cancer control</p> <ul style="list-style-type: none"> • Overseeing & reporting on the Strategy’s implementation efforts against shared measures of success <p>Establishing bold targets & reporting to Canadians on collective progress</p> <ul style="list-style-type: none"> • Supporting partners to set common measures, build data collection capacity & make data-informed decisions • Reporting to Canadians on progress & impact of priorities <p>Driving shared action & supporting aligned activities</p> <ul style="list-style-type: none"> • Seeking & sharing promising & proven best practices from anywhere in the world to improve care in Canada

	<ul style="list-style-type: none"> • Calling organisations to action on their key mandated priorities & working to remove barriers to their progress • Aligning & integrating work across all organisations in the cancer system to make faster progress & reduce duplication • Promoting a pan-Canadian culture of innovation & mobilising technology to support the efforts of partners • Mobilising & increasing action among partners to advance the priorities of Canadians • Advancing best policy & practice solutions across the country for the benefit of all <p>Leading select actions outside the provincial & territorial healthcare delivery systems</p> <ul style="list-style-type: none"> • Identifying shared priorities that require pan-Canadian action • Identifying & applying promising & best practices from within Canada & beyond to benefit the parts of the country & the populations that need support <p>Monitoring & evaluation</p> <p>Tracking the progress of the Strategy from 2019 to 2029 requires that partners work together to set targets, measure against them & report to Canadians. This will enable measurement & monitoring of the growing impact of the Strategy & its related efforts to reduce the burden of cancer in Canada. As steward of the Strategy, the Partnership is accountable for ensuring results are monitored & reported, including providing Canadians with an annual update on the collective progress toward the Strategy's priorities. The Partnership will also work closely with First Nations, Inuit & Métis on data issues. For any data collection, information systems & data-sharing with First Nations, Inuit & Métis, it is essential that the cancer community abide by the relevant principles of information governance, including the principles of Ownership, Control, Access & Possession (OCAP®), Inuit research principles & Métis research protocols.</p>
Manitoba	<p>Monitoring & evaluation</p> <p>A Performance Management Framework is in the late stages of development by Manitoba Health, Healthy Living & Seniors. This is intended to be used as a guide in formalising the performance management components already in place as part of Cancer Care Manitoba's Corporate Planning & Management Framework.</p> <p>Establishing a set of performance & quality indicators is an important component of the Performance Management Framework. The indicators allow an organisation to monitor & measure its performance, analyze trends, compare performance to targets & benchmarks & improve system efficiencies & quality of care. The 2016-2021 Manitoba Cancer Plan focuses on performance measurement & monitoring as the foundation of performance management.</p> <p>Reporting</p> <p>The plan notes that expansion of its health information system infrastructure will support standardised collection & timely reporting to the appropriate stakeholders. It will also be beneficial to report on these measures on the public Cancer Care Manitoba website & to display them in patient care areas.</p>
Alberta	<p>Implementation of initial priority action items identified in the Plan will begin immediately & it is expected that all initial priorities will be implemented within two years. The creation of CancerControl Alberta to bring together facilities & services & the establishment of a cancer stewardship committee for key stakeholders to support the Plan will ensure accountabilities for the longer-term actions & priorities are assigned & understood. Further details on actions taken & future directions linked to the Plan will be made publicly available through the development of targeted action plans.</p>

Trends and challenges informing priorities for cancer control

Table 12 presents the key challenges, priorities and trends that have informed plan development. The plans from Canada, Alberta and Manitoba include specific sections that outline the challenges they face for cancer care, whereas this information was gleaned from the background sections of other plans.

A key challenge mentioned in most plans is the rising number of cancer cases in the context of an ageing population (Victoria, WA, New Zealand, Canada, Alberta, Manitoba), and the subsequent

growing demand for cancer services and pressure this will place on the cancer workforce and health system in the future (Victoria, Queensland, WA, New Zealand, Canada, Alberta, Manitoba). A concurrent challenge is the rising cost (Victoria, Canada, Manitoba, Alberta) and complexity (Victoria, Canada, Manitoba) of cancer treatments, which will exacerbate financial, workforce and health system pressures. To meet these demands, there is a recognised need to prioritise sustainable cancer services (Manitoba, Canada), support a qualified and adaptive workforce (Victoria, Alberta, Queensland), and expand the roles of primary care providers and other health services to manage cancer survivors in the community (Canada, Alberta).

Health equity is a common theme across the plans, with many referring to disparities in cancer outcomes across groups as a key challenge for cancer control (Victoria, WA, New Zealand, Canada). Some also recognise the need for specialised approaches to meet the unique needs of patient groups such as adolescent and young adult cancer survivors (WA, New Zealand, Canada). The plans for Canada and Alberta prioritise better initiatives and education to support cancer prevention.

Representing the consumer is a key theme discussed in New Zealand’s plan, and providing care that is patient-centred is also mentioned as a priority in the plans for Alberta, Manitoba and Queensland.

Table 12. Summary of plan elements regarding challenges and trends in cancer control

PLAN	TRENDS, PRIORITIES AND CHALLENGES FOR CANCER CONTROL
Victoria	<p>The cancer plan is supported by, & delivered through, a number of other concurrent strategies in Victoria including priorities to: strengthen our health system; improve palliative care & end-of-life care; focus efforts for health & medical research; prevent illness & promote health & wellbeing; & improve health outcomes for particular population groups.</p> <p>The plan mentions the following contributing factors to the burden of cancer in Victoria:</p> <ul style="list-style-type: none"> • Rising cancer incidence in the context of a growing & ageing population • Rising cost of cancer care • Increasing demand for cancer services driven by new diagnoses & expanded treatment options, which places pressure on services & necessitates change in the way care is provided & funded • Increasing complexity of treatment because of technology, medical advances & increasing population with comorbidities • Differences in outcomes for some cancers & population groups
Queensland	<p>This is a service strategy rather than a cancer control plan & as such, does not identify challenges or priorities for cancer control. The service directions for the plan were determined based on stakeholder consultation, consideration of the National Service Improvement Framework for Cancer (2006) & an evaluation of the service environment, through which a series of health service needs & issues were identified. The plan was developed to address these needs issues, which include quality cancer service, multidisciplinary care, patient-centric care, service delivery models, service networks, timely access, surgical oncology access, end-of-life care, information systems, quality & safety, research, & workforce.</p>
New Zealand	<p>Representing the consumer is a key challenge identified in the plan, which recognises the need for a plan that is about people rather than illness, is adaptive & responsive to all New Zealanders, aspires to person-centred care that is flexible & compassionate & embraces the perspectives of people affected by cancer in the shaping of cancer control initiatives. The cancer care system should have a greater focus on the needs of people affected by cancer, who need better access to health services that are provided in a way that is fair for all; that are coordinated around consumer needs across the continuum of care; that are co-produced; that respect consumer preferences; & that are safe, effective, timely & affordable.</p> <p>The plan also recognises the following challenges:</p> <ul style="list-style-type: none"> • The economic, social & emotional impacts of increasing cancer incidence & better cancer survival

	<ul style="list-style-type: none"> • Rising demand for cancer services, & the pressure this will put on healthcare • Disparity in cancer outcomes experienced by some population groups including people who are Māori, Pacific, live in rural & deprived areas, or live with mental illness or disability <p>The plan has a strong focus on achieving equity of outcomes & contributing to wellness for all; particularly Māori & Pacific people.</p> <p>As part of the plan, a specific prioritisation framework will be developed to support national decision making about priorities for cancer on an ongoing basis. Elements relevant for prioritisation of interventions could include: meeting obligations under Te Tiriti o Waitangi, addressing the total burden of disease & for priority populations to improve health equity, the total health impact of interventions, value for money, the total cost of interventions, & the capacity of the health sector to implement interventions</p>
NHS	<p>The plan builds on the policy platform laid out in the NHS five-year forward view (Forward View) which articulated the need to integrate care to meet the needs of a changing population. This was followed by subsidiary strategies, covering general practice, cancer, mental health & maternity services, while the new models of care outlined in the Forward View have been rolled out through a program of vanguard sites.</p> <p>Cancer is one of the clinical priorities in the plan, which were chosen for their impact on the population's health & where outcomes often lag behind those of other similar advanced health systems. In cancer care, the plan aims to boost survival by speeding up diagnosis & includes a package of measures to extend screening & overhaul diagnostic services.</p>
WA	<p>The plan recognises that cancer incidence will continue to increase with the growing size of the population & an ageing population, which will bring new challenges to the delivery of cancer services for the WA community. It also recognises the need for integration across multiple health providers & settings to meet the healthcare needs of cancer survivors.</p> <p>The plan includes a focus on addressing disparities in cancer outcomes for people living in rural & remote WA & Aboriginal people. It also acknowledges the unique needs of population groups including people who are CALD, living with a disability, experiencing homelessness, LGBTI, or experiencing mental health issues.</p> <p>The plan recognises the important role of research in providing the foundation for cancer control. Research generates new ideas to prevent, treat & manage disease, improve access to services, improve quality & safety of care, & address gaps in service delivery. It can lead to the development of new technologies, underpin innovation, encourage partnerships across disciplines & sectors, & attract & retain a high-quality motivated workforce. It can uncover cost savings & better value for the health system through the discovery of cost-effective & appropriate healthcare & reduction in waste & low-value care.</p> <p>The plan aligns to a number of strategies & recommendations within the Sustainable Health Review 2019 & these are referenced throughout the plan. The plan supports cancer control & research organisations to embrace innovation & change, be outward looking & fit for the future & to build on partnerships – particularly with consumers.</p> <p>The WA Cancer Plan 2020–2025 builds on the WA Health Cancer Services Framework 2005–2010, the 2015 WA Cancer Care Taskforce Recommendations & Implementation Plan & the WA Cancer Plan 2012–2017.</p>
Canada	<p>The plan seeks to address the following opportunities & challenges:</p> <ul style="list-style-type: none"> • The health system is not equipped to provide for all needs of cancer patients & their families, so communities & workplaces are called on to play bigger roles in supporting them. • An increasing number of cancer cases in the context of an ageing population • The unique needs of patient groups such as AYA cancer survivors • Widening inequities across populations: Canadians who are part of underserved populations are disproportionately affected by cancer in terms of incidence & mortality & often face inequities & barriers in accessing care. • With the promise of new & more effective therapies, the rising cost of complex cancer treatment & the sustainability of the health system are increasingly pressing issues. These financial pressures will be further compounded by shortages of healthcare professionals, unless new models of care, & other strategies to make better use of resources are made available.

	<p>The plan's priorities & actions were determined through a comprehensive engagement process that involved input from over 7500 people through an online survey, written submissions & in-person sessions. The following core themes were identified across all participant input:</p> <ul style="list-style-type: none"> • Strong support for a pan-Canadian cancer strategy & a dedicated steward to guide implementation • A desire for better resources to educate & support people to prevent cancer • A need to enable more equitable access to high-quality cancer care for all • A recognition of the challenges to the long-term financial sustainability of the cancer system if changes are not made. <p>A set of selection criteria was then established to guide the identification of priorities & actions for the strategy.</p>
Manitoba	<p>The plan outlines the following current challenges for cancer care in Manitoba:</p> <ul style="list-style-type: none"> • Increase in demand for cancer services: due to rising cancer incidence, an ageing population, & advances in cancer treatment resulting in more patients living longer & requiring ongoing care. • Rising cost of providing state-of-the-art services (diagnosis & treatment): Advanced technologies are becoming increasingly available & often require an increase in time spent with individual patients, thereby increasing the overall volume of work & demand on the health system as well as monetary costs. • Sustainability of services: an increase in strategic investment will be needed to provide the a) material, b) space & c) human resources to effectively manage the increase in clinical demand, rising cost of providing services, & to undertake new initiatives. • Patient experience: due to the aforementioned challenges, time spent with patients must be carefully coordinated to ensure their understanding of complex information, navigation of the system & positive experience. • Health information systems: specifically, the a) limitations of the existing electronic oncology record in Manitoba, b) lack of health information system connectivity & functionality, & c) lack of database & inventory systems & outdated software
Alberta	<p>According to the plan, cancer care & service providers in Alberta face a number of challenges & drivers for change including:</p> <ul style="list-style-type: none"> • Ensuring cancer workforce renewal, as the demographics that are driving the number of cancer cases up are also reducing the cancer workforce as people near retirement. • Improved survival rates & changing roles of care providers – with people surviving longer, cancer needs to be managed in the community, & in conjunction with other health issues • Patient expectations – education & information have become key factors in patient-centred care • Recognise & address the contributing factors beyond the health system – such as education, employment, income, living & work conditions • Growing need for more effective population health initiatives, to more quickly disseminate research-derived knowledge, implement policies & encourage the public to adopt preventive measures • Increasing treatment costs – new & expensive therapies, some with limited effectiveness, raise ethical challenges regarding priorities for treatment

Results for Question 3

Search results

The search process resulted in a total of 4095 sources of evidence: 4046 from published evidence databases, 49 from grey literature sources and from examination of reference lists. Duplicate results (1490) were screened out, leaving 2605 unique sources of evidence for screening. Sources of evidence were screened for relevance to the review via consideration of the title, abstract (if available), and other descriptors of the source resulting in the exclusion of 2573 sources. The

remaining 32 sources of evidence were assessed for their relevance to the review in relation to inclusion/exclusion criteria, resulting in the inclusion of 4 sources of evidence to answer Question 3.

A modified version of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) flowchart depicts the stages of the search and inclusion process (see Figure 1).

Overview of the included literature

Four out of the 4,095 sources screened for relevance met the inclusion criteria for Question 3 by examining an aspect of the implementation of a cancer control plan. However, none of these addressed this specifically or in detail. Due to the heterogeneity of the four studies, their key learnings in relation to Question 3 are summarised in text.

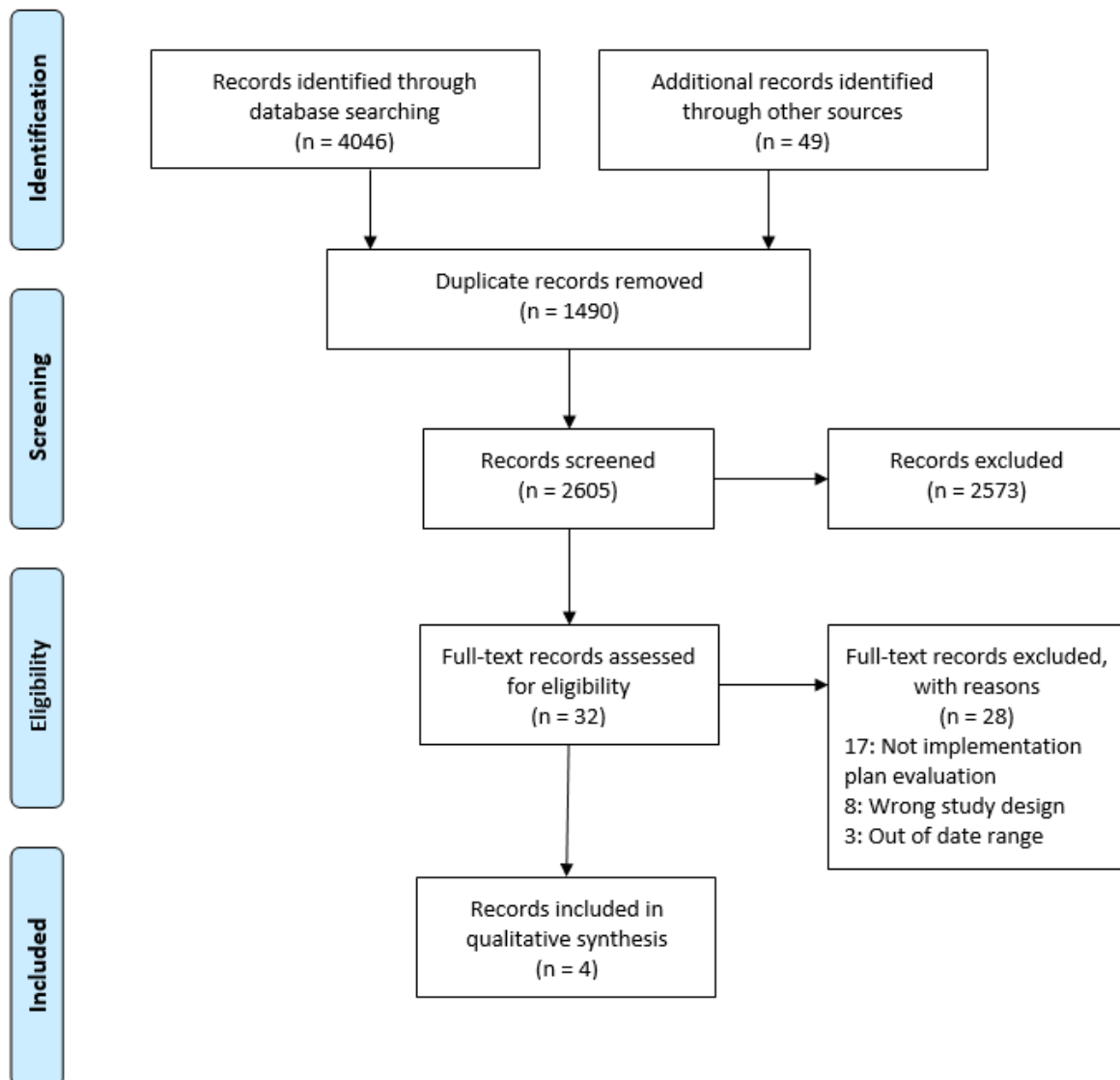


Figure 1. PRISMA flow diagram

Key learnings from the implementation of cancer control plans

Limited evidence was identified to answer Question 3. Despite a comprehensive search, very few relevant sources were identified, indicating that if evaluation of the implementation of cancer control plans is occurring, then this information is not being publicly released. None of the four studies included address specifically or in detail the implementation of a cancer control plan. The key learnings from the four studies are described below.

Exarchakou et al. examined the effectiveness of England's NHS Cancer Plan (2000) and subsequent cancer policy initiatives in terms of improvement to one-year cancer survival and the reduction of socioeconomic inequalities in survival, 14 years after introduction of the plan.⁴⁰ They note that although cancer survival trends are used to inform governments about progress towards the aims of cancer plans and policies, there is limited published evidence evaluating how cancer policy impacts survival and inequalities at a national level. This is consistent with the limited information identified in this review regarding the implementation of cancer control plans.

Gurney et al. aimed to highlight the historical context leading to the current inequities in cancer incidence, mortality and survival experienced by New Zealand's Māori population; factors that continue to drive inequities; and successes and achievements in relation to the New Zealand Cancer Control Strategy and 2005–2010 Action Plan, and the 2015 Cancer Strategy – *Better Faster Cancer Care*.⁴¹ They note that the cancer control strategy faltered in the implementation phase. The authors suggest the failure to address inequities in cancer outcomes for adult Māori stems from a lack of substantial details and specific objectives for implementation targets relating to health equity. They attribute current parity in cancer-specific survival for Māori children compared to non-Māori children to New Zealand's National Plan for Child Cancer Services, which sets out governance and network models and stipulates the need for a shared care agenda. The authors recommend the development of a specific and achievable action plan targeting equity in adult cancer outcomes.

Romero et al. analysed 527 international cancer or non-communicable disease plans related to cancer prevention and control, to improve understanding of the strengths and limitations of current plans.³⁹ They note the lack of a formal framework for the analysis of cancer plans as a barrier to effective implementation, suggesting many national plans lack sufficient detail to operationalise and provide limited evidence of effective implementation. They found countries with cancer control plans had improved cancer outcomes over those with NCD care plans and suggest this may reflect greater governmental commitment to cancer care and implementation. They flag performance of situational analyses, priority setting, and budgeting as key elements for successful implementation of cancer control plans and recommended that plans are strategically and temporally linked to a national health strategy with financial resources for implementation specified within the plan.

The Victorian Cancer Plan Monitoring and Evaluation Framework (2018)⁴² provides a long-term focus to monitor and evaluate the outcomes of the current cancer plan (Victorian Cancer Plan 2016-2020) and its successors. The framework brings together a comprehensive set of measures drawn from multiple data sources with the aim to track actions in the sector against improved cancer outcomes over time. While this source does not assess the plan's implementation, having a dedicated evaluation framework for cancer control plans is an important step in achieving outcomes outlined in cancer plans, and can be used to inform implementation priorities over time. The framework was developed with input from a range of organisations and people across the Victorian cancer sector and aimed to build on existing reporting processes. The first report (the 2020 Baseline Report) provides a

synthesis of the current status against the outcomes framework and will be used to develop the 2020-2024 Cancer Plan.

A common theme across the included sources was that a dedicated budget for implementation and evaluation is important for developing a cancer control plan with actionable steps that can be evaluated. Related to this was the need for specific implementation or action plans with clear links to cancer control plan outcomes, and frameworks for the implementation and ongoing evaluation of cancer plans to determine progress toward population cancer outcomes.

Coordination across layers (i.e. the individual, the tumour stream, and the health system) is important for ensuring consistent messaging of a cancer control plan and may facilitate implementation.⁴⁰ Coordination with national health strategies was also noted as being potentially beneficial for implementation. Additional key priorities to ensure effective implementation are to develop accountability mechanisms and to standardise indicators to monitor progress.³⁹ Romero et al. noted the importance of information systems (i.e. cancer registries) for informing decision making and monitoring/evaluating the performance of cancer plans, programs or policies.³⁹ This was echoed in the Victorian Cancer Plan Monitoring and Evaluation Framework.

The study by Exarchakou and colleagues examined improvement in one-year cancer survival as a measure of the effectiveness of England's NHS Cancer Plan (2000). This was the only identified study that reported on outcomes from the implementation of a cancer control plan. No other studies found in this review reported indicators of successful or unsuccessful plan implementation, use of champions, specific strategies to measure implementation, or implementation targets.⁴⁰ All noted the need for specific implementation actions, which are closely related to the plan, and all highlighted the importance of long-term monitoring linked to population cancer outcomes. Monitoring and evaluation of plan implementation and outcomes require an approach tailored to the local context and plan itself. The Victorian Cancer Plan Monitoring and Evaluation Framework provides an example of how this might be approached, and focuses on the principles of universality of indicators, inequality assessment, and manageable data collection and reporting implications.

Discussion

The purpose of this Evidence Check was to review cancer control plans developed in healthcare contexts similar to NSW, to inform the development of the upcoming NSW Cancer Plan. The review identified several common elements and objectives across the plans that are relevant to cancer control in NSW. Which elements or areas are the most important will depend on factors including the local context and resourcing.

Summary of findings for Question 1 and Question 2

Eight cancer control plans from Australia, New Zealand, Canada and the UK provided information to answer Questions 1 and 2, which is summarised for each plan element below. Generally, the plans reported on most of the elements of interest although how priority areas and actions were organised within the plans varied.

Prevention

Approaches to cancer prevention were very similar across the plans, with most seeking to reduce exposure to lifestyle risk factors for cancer and prevent cancers related to infection. While tobacco prevention and cessation programs were frequently mentioned, it was noted that specific information regarding what strategies would be employed to achieve reduction of other modifiable risk factors, such as inadequate diet and physical activity, was often lacking. This is likely due to the much stronger evidence to support tobacco control initiatives in reducing cancer risk, relative to the evidence for cancer prevention initiatives targeting diet, alcohol consumption and physical activity, which is still emerging. Most plans recognised the need for targeted prevention initiatives for populations with higher cancer risk.

Screening and early detection

All plans aimed to improve cancer screening, particularly by under-screened groups, although strategies for achieving this were often not specified. Detecting cancers earlier was a goal of all plans, and strategies to achieve this included improving access to diagnostic services, enhancing health literacy and awareness of cancer signs and symptoms, enhancing the capacity of primary care providers to support the flow of patients and information across services, and using new technologies and models for testing.

Treatment

Priorities for cancer treatment, with the aim of improving outcomes, were to improve and accelerate access to services and developments in cancer treatment; enhance the quality and consistency of care through the implementation of best practice standards, monitoring and reporting of key indicators

and provision of multidisciplinary care; improve the efficiency and coordination of care, and understand and enhance patient experiences.

Survivorship and palliative care

Almost all plans aim to expand access to supportive and palliative care, with some recognising the need for strengthened workforce capacity in these areas. Empowering patients to seek information and services, self-manage side effects, live well, and make decisions about care, was recognised as an important objective of survivorship care in several plans.

Interface between primary and specialist services

Supporting and enhancing the coordination and integration of cancer care services is a defined goal of most plans, although how this would be realised was frequently not addressed. Strategies that were mentioned include encouraging collaboration, developing and implementing follow-up care guidelines, and improving referral processes and the flow of information between providers.

Approaches to cancer control for priority populations

Many of the plans aimed to reduce disparities in cancer outcomes for priority groups including Aboriginal and First Nations peoples, although approaches to determining cancer control priorities for these populations varied. Only three plans consulted or collaborated with consumers representing priority populations in the plan development.

Cancer research and training

Key priorities for advancing cancer research included increasing opportunities and access to clinical trials; encouraging researchers to collaborate across sectors, internationally, and between metropolitan and regional services; enhancing the translation of research evidence into practice; and developing research workforce capacity and infrastructure.

Workforce

Common workforce objectives in the plans include enhancing opportunities for education and professional development, implementing routine monitoring of workforce requirements, supporting staff wellbeing, and upskilling and growing the Aboriginal workforce.

Implementation, evaluation and monitoring

All plans addressed an aspect of plan implementation, evaluation or monitoring, although approaches were heterogenous and described with differing levels of detail. In most cases, the approach was to be determined via future activities and subsequently the detail provided was limited. How progress towards implementation and goals would be reported to the public was a gap across the plans.

Trends for cancer control

Major challenges and trends that informed the priorities outlined in the plans include rising cancer incidence and longer survival, the subsequent growing demand for cancer services, the rising costs and complexities of cancer treatments, and how this will add to workforce, financial and system pressures. Achieving health equity by addressing disparities in outcomes and the need for patient-centred care tailored to all population groups was another key trend across the plans.

Summary of findings for Question 3

Very few sources were identified that had examined key learnings from the implementation of cancer control plans, and those that were selected to answer Question 3 varied substantially in scope. The key learnings for implementation identified from the sources include the importance of allocating resourcing and a budget to implementation as well as having a specific implementation framework or plan linked to population health outcomes. Coordination across layers to ensure consistent messaging and alignment with national health strategies were noted as beneficial for implementation.

Analysis and applicability for the NSW Context

Generally, the evidence reviewed has good applicability to the NSW context. Three of the included plans were Australian, and the remaining plans came from countries with similar healthcare systems. Examining the challenges and trends for cancer control that informed the plans' priorities indicated that they shared similarities, for example in relation to increasing cancer incidence, disparities in outcomes, and the growing demand for cancer services.

Gaps analysis

Very few sources were found to answer Question 3, indicating a gap in evidence regarding evaluation of the implementation of cancer control plans. No evidence was found regarding the use of champions, specific strategies to measure implementation, or indicators of successful or unsuccessful implementation. The lack of relevant studies or reports identified was supported by one of the included sources, which noted the lack of published evidence examining the impact of national cancer policy on survival and inequalities.⁴⁰

Limitations of this review

This was not an exhaustive review of cancer control plans, or of the components of the included cancer control plans. Furthermore, the search for sources to answer Question 3 was limited to the past two years, therefore it is not known whether other relevant key learnings from the implementation of cancer control plans were published prior to this date. Despite these limitations, the review provides comprehensive insight into the key components and trends in select cancer control plans that have relevance to the NSW context.

Conclusion

The findings from the review highlight key trends and specific elements of cancer control plans developed in countries and jurisdictions with health systems comparable to NSW. A clear message

from the literature is that 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. The review identified several resources that may be useful for the design and implementation of NSW's Cancer Plan. These include a checklist of core elements for formulating and appraising a national cancer control plan⁴³ and a National Cancer Control Plan Development and Implementation Assessment Tool.⁴⁴ The full list of resources is provided in Appendix 2.

References

1. Peters MD, Godfrey CM, Khalil H, McInerney P, Parker D, Soares CB. Guidance for conducting systematic scoping reviews. *Int J Evid Based Healthc*. 2015;13(3):141-146.
2. World Health Organization. Global Health Observatory. World Health Organization. who.int/gho/database/en/. Published 2018. Accessed 20 March 2020.
3. Bray F, Ferlay J, Soerjomataram I, Siegel RL, Torre LA, Jemal A. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: a cancer journal for clinicians*. 2018;68(6):394-424.
4. Prager GW, Braga S, Bystricky B, et al. Global cancer control: responding to the growing burden, rising costs and inequalities in access. *ESMO open*. 2018;3(2):e000285.
5. Ferlay J, Soerjomataram I, Dikshit R, et al. Cancer incidence and mortality worldwide: sources, methods and major patterns in GLOBOCAN 2012. *International journal of cancer*. 2015;136(5):E359-E386.
6. Cheng ES, Weber M, Feletto E, Smith MA, Yu XQ. Cancer burden and control in Australia: lessons learnt and challenges remaining. 2018.
7. de Groot P, Munden RF. Lung cancer epidemiology, risk factors, and prevention. *Radiologic Clinics*. 2012;50(5):863-876.
8. Australian Institute of Health and Welfare. *Cancer in Australia 2017*. Canberra: AIHW;2017.
9. Scollo M, Winstanley M. *Tobacco in Australia: facts & issues*. Cancer Council Victoria; 2012.
10. Yu XQ, Luo Q, Kahn C, et al. Widening socioeconomic disparity in lung cancer incidence among men in New South Wales, Australia, 1987–2011. *Chinese Journal of Cancer Research*. 2017;29(5):395.
11. Health Alo, Welfare. *Cancer in Aboriginal & Torres Strait Islander people of Australia*. Canberra: AIHW;2018.
12. Coory MD, Green AC, Stirling J, Valery PC. Survival of Indigenous and non-Indigenous Queenslanders after a diagnosis of lung cancer: a matched cohort study. *Medical Journal of Australia*. 2008;188(10):562-566.
13. Gibberd A, Supramaniam R, Dillon A, Armstrong BK, O'Connell DL. Lung cancer treatment and mortality for Aboriginal people in New South Wales, Australia: results from a population-based record linkage study and medical record audit. *BMC cancer*. 2016;16(1):289.
14. Hall SE, Holman CDa, Sheiner H. The influence of socio-economic and locational disadvantage on patterns of surgical care for lung cancer in Western Australia 1982-2001. *Australian Health Review*. 2004;27(2):68-79.
15. Australia C. National Aboriginal and Torres Strait Islander Cancer Framework. 2015.
16. Wade S, Weber M, Caruana M, et al. Estimating the cost-effectiveness of lung cancer screening with low-dose computed tomography for high-risk smokers in Australia. *Journal of Thoracic Oncology*. 2018;13(8):1094-1105.
17. Health Alo, Welfare. *Analysis of cancer outcomes and screening behaviour for national cancer screening programs in Australia*. Canberra: AIHW;2018.
18. Ho-Huynh A, Tran A, Bray G, et al. Factors influencing breast cancer outcomes in Australia: A systematic review. *European journal of cancer care*. 2019;28(4):e13038.
19. Olver IN, Roder D. History, development and future of cancer screening in Australia. *Public Health Res Pract*. 2017;27(3):2731725.
20. Health Alo, Welfare. BreastScreen Australia monitoring report 2018. In: AIHW Canberra; 2018.
21. Jacklyn G, McGeechan K, Houssami N, Bell K, Glasziou PP, Barratt A. Overdiagnosis due to screening mammography for women aged 40 years and over. *Cochrane Database of Systematic Reviews*. 2018(7).

22. Jacklyn G, McGeechan K, Irwig L, et al. Trends in stage-specific breast cancer incidence in New South Wales, Australia: insights into the effects of 25 years of screening mammography. *Breast Cancer Research and Treatment*. 2017;166(3):843-854.
23. Roder D, Webster F, Zorbas H, Sinclair S. Breast screening and breast cancer survival in Aboriginal and Torres Strait Islander women of Australia. *Asian Pacific Journal of Cancer Prevention*. 2012;13(1):147-155.
24. Roder D, Zorbas H, Kollias J, et al. Risk factors for poorer breast cancer outcomes in residents of remote areas of Australia. *Asian Pacific Journal of Cancer Prevention*. 2013;14(1):547-552.
25. Dasgupta P, Baade P, Youlden D, et al. Variations in outcomes for Indigenous women with breast cancer in Australia: A systematic review. *European journal of cancer care*. 2017;26(6):e12662.
26. Arnold M, Sierra MS, Laversanne M, Soerjomataram I, Jemal A, Bray F. Global patterns and trends in colorectal cancer incidence and mortality. *Gut*. 2017;66(4):683-691.
27. Christou A, Katzenellenbogen JM, Thompson SC. Australia's national bowel cancer screening program: does it work for indigenous Australians? *BMC Public Health*. 2010;10(1):373.
28. Weir K, Supramaniam R, Gibberd A, Dillon A, Armstrong BK, O'Connell DL. Comparing colorectal cancer treatment and survival for Aboriginal and non-Aboriginal people in New South Wales. *Medical Journal of Australia*. 2016;204(4):156-156.
29. Feletto E, Bang A, Cole-Clark D, Chalasani V, Rasiah K, Smith D. An examination of prostate cancer trends in Australia, England, Canada and USA: Is the Australian death rate too high? *World journal of urology*. 2015;33(11):1677-1687.
30. Smith DP, Supramaniam R, Marshall VR, Armstrong BK. Prostate cancer and prostate-specific antigen testing in New South Wales. *Medical journal of Australia*. 2008;189(6):315-318.
31. Ong WL, Evans SM, Evans M, et al. Trends in Conservative Management for Low-risk Prostate Cancer in a Population-based Cohort of Australian Men Diagnosed Between 2009 and 2016. *European Urology Oncology*. 2019.
32. Baade PD, Youlden DR, Coory MD, Gardiner RA, Chambers SK. Urban–rural differences in prostate cancer outcomes in Australia: what has changed? *Medical Journal of Australia*. 2011;194(6):293-296.
33. Moore SP, Antoni S, Colquhoun A, et al. Cancer incidence in indigenous people in Australia, New Zealand, Canada, and the USA: a comparative population-based study. *The Lancet Oncology*. 2015;16(15):1483-1492.
34. Tervonen HE, Purdie S, Creighton N. Using data linkage to enhance the reporting of cancer outcomes of Aboriginal and Torres Strait Islander people in NSW, Australia. *BMC Medical Research Methodology*. 2019;19(1):245.
35. Stanton WR, Janda M, Baade PD, Anderson P. Primary prevention of skin cancer: a review of sun protection in Australia and internationally. *Health promotion international*. 2004;19(3):369-378.
36. Doran CM, Ling R, Byrnes J, et al. Benefit cost analysis of three skin cancer public education mass-media campaigns implemented in New South Wales, Australia. *PLoS One*. 2016;11(1).
37. Wilson LF, Antonsson A, Green AC, et al. How many cancer cases and deaths are potentially preventable? Estimates for Australia in 2013. *International journal of cancer*. 2018;142(4):691-701.
38. Brown KF, Runggay H, Dunlop C, et al. The fraction of cancer attributable to modifiable risk factors in England, Wales, Scotland, Northern Ireland, and the United Kingdom in 2015. *British journal of cancer*. 2018;118(8):1130-1141.
39. Romero Y, Trapani D, Johnson S, et al. National cancer control plans: a global analysis. *The Lancet Oncology*. 2018;19(10):e546-e555.
40. Exarchakou A, Rachet B, Belot A, Maringe C, Coleman MP. Impact of national cancer policies on cancer survival trends and socioeconomic inequalities in England, 1996-2013: population based study. *Bmj*. 2018;360:k764.
41. Gurney JK, Campbell S, Turner S, Scott N. Addressing cancer inequities for indigenous populations: The New Zealand story. *Journal of Cancer Policy*. 2020;23:100209.
42. Victoria State Government Department of Health and Human Services. *Victorian cancer plan monitoring and evaluation framework report*. 2018.

-
43. Oar A, Moraes FY, Romero Y, Ilbawi A, Yap ML. Core elements of national cancer control plans: a tool to support plan development and review. *The Lancet Oncology*. 2019;20(11):e645-e652.
 44. Given LS, Hohman K, Kostelecky B, Vinson C. Cancer control planning: self-assessment for pre-planning, development, implementation and evaluation of national cancer control plans. *Cancer Causes & Control*. 2018;29(12):1297-1303.

Appendices

Appendix 1 – Search strategies

Table S1. Search strategy for Ovid MEDLINE(R) ALL 1946 to March 20, 2020

#	Searches	Results
1	exp *Neoplasms/	2886199
2	*"Early Detection of Cancer"/	13729
3	1 or 2	2887048
4	Practice Guidelines as Topic/	115725
5	Guidelines as Topic/	39260
6	State Health Plans/	4491
7	Regional Medical Programs/	3723
8	National Health Programs/	31781
9	Health Policy/	65207
10	organizational policy/	14023
11	(organization administration or standards).fs.	1094093
12	or/4-11	1254446
13	3 and 12	57705
14	((cancer* or neoplas*) adj5 (program* or plan* or strateg* or guideline* or policy or policies or guidance)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word,	66584

	organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	
15	((cancer control or cancer prevention) adj5 (program* or plan* or strateg* or guideline* or policy or policies or guidance)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	3900
16	13 or 14 or 15	116813
17	Health Plan Implementation/	5779
18	(implement* or adopt* or enact* or put ??to practic* or roll* out).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	716557
19	Program Evaluation/	61953
20	Evaluation Studies as Topic/	121736
21	Evaluation Study/	250567
22	(evaluat* or critiqu* or effectiv* or pre post test* or sustainab* or appropriat*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	5624439
23	Quality Indicators, Health Care/	15347
24	"Quality of Health Care"/	71901
25	exp "Outcome and Process Assessment, Health Care"/	1136195
26	((health or healthcare or care or outcome* or process?? or clinical or treatment*) adj3 (assess* or measure* or metric* or indicator* or study or studies or research or quality or effectiv* or efficacy or evaluat*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol	1966750

	supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	
27	(donabedian model or donabedian triad or structure process outcome triad or treatment outcome*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	985854
28	or/17-27	7436563
29	exp Australia/	141437
30	(australia* or new south wales or sydney or northern territor* or darwin or queensland* or brisbane or adelaide or tasmania* or hobart or victoria* or melbourne or canberra* or perth).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	213947
31	exp United Kingdom/	361342
32	(united kingdom or UK or britain or british or isle of man or channel islands or guernsey island or jersey island or alderney island or sark or england or london or ireland or irish or belfast or scotland or scottish or edinburgh or hebrides or wales or welsh or cardiff).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	560975
33	exp Canada/	155755
34	(canada* or alberta or british columbia or saskatchewan or edmonton or manitoba or new brunswick or newfoundland or labrador or northwest territor* or nunavut or yellowknife or nova scotia or ontario or prince edward island or quebec or yukon territory).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	213547
35	New Zealand/	38713

36	(new zealand* or wellington or auckland).mp. [mp=title, abstract, original title, name of substance word, subject heading word, floating sub-heading word, keyword heading word, organism supplementary concept word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	71452
37	or/29-36	987358
38	16 and 28 and 37	5551
39	limit 38 to yr="2018 -Current"	738
40	limit 39 to english language	735

Table S2. Grey literature search

Search engine	Date	Search phrases and terms	Other identifiers or limiters
Google Advanced search	25/03/2020	<ol style="list-style-type: none"> All words: cancer prevention control; any words: program OR plan OR strategy OR strategies OR guideline OR policy OR policies OR guidance. allintext: "Cancer control plan" 	English language, any region, search terms appear in text of the page, date range 1/1/18-25/3/20
Google Scholar	25/03/2020	allintext: cancer prevention control program OR OR OR plan OR OR OR strategy OR OR OR strategies OR OR OR guideline OR OR OR policy OR OR OR policies OR OR OR guidance	Date range 2018-2020
MedNar	26/03/2020	<ol style="list-style-type: none"> cancer care plan cancer control plan cancer control 	Manual date assessment
OpenMD.com	26/03/2020	<ol style="list-style-type: none"> cancer care plan cancer control plan 	Manual date assessment
WorldCat	26/03/2020	<ol style="list-style-type: none"> cancer care plan cancer control plan cancer control 	Manual date assessment
Australian Indigenous HealthInfoNet	26/03/2020	<ol style="list-style-type: none"> cancer care plan cancer control plan cancer control cancer 	Manual date assessment
GreyGuide	26/03/2020	<ol style="list-style-type: none"> cancer care plan cancer control plan cancer control cancer 	Manual date assessment
WHO	26/03/2020	Selected filters: Cancer Policy and Cancer Guidelines.	Manual date and country assessment
Australian Government Department of Health	30/03/2020	cancer care plan	Manual date assessment
Canadian partnership against cancer	30/03/2020		Manual date assessment
International cancer control partnership	30/03/2020	Sorted by country	Manual date assessment

CADTH - Grey Matters	30/03/2020		
British Columbia Health	30/03/2020	<ol style="list-style-type: none"> 1. cancer 2. cancer care plan 3. cancer control plan 	Manual date assessment
NICE	30/03/2020	<ol style="list-style-type: none"> 1. cancer 2. cancer care plan 3. cancer control plan 	Manual date assessment
Public Health Agency of Canada	30/03/2020	Filtered for chronic disease and then cancer	
TRIP	30/03/2020	<ol style="list-style-type: none"> 1. cancer 2. cancer care plan 3. cancer control plan 	
Google	12/05/2020	<ol style="list-style-type: none"> 1. cancer care plan evaluation 2. cancer control plan evaluation 3. [name of cancer plan provided by NSW health] evaluation 	Manual date assessment

Appendix 2 – Supporting resources

Table S3. List of publications and resources to support cancer control plan development.

Oar A, Moraes FY, Romero Y, Ilbawi A, Yap ML. Core elements of national cancer control plans: a tool to support plan development and review. *The Lancet Oncology*. 2019;20(11):e645-e652.

Given LS, Hohman K, Kostelecky B, Vinson C. Cancer control planning: self-assessment for pre-planning, development, implementation and evaluation of national cancer control plans. *Cancer Causes & Control*. 2018;29(12):1297-1303.

Cancer Control PLANET (Plan, Link, Act, and Network with Evidence-based Tools) website. URL: <http://cancercontrolplanet.cancer.gov/>

Centers for Disease Control and Prevention. Cancer Plan Self-Assessment Tool. CDC, 2012. URL: <https://www.cdc.gov/cancer/ncccp/cancerselfassesstool.htm>

Centers for Disease Control and Prevention. Comprehensive Cancer Control (CCC) Branch Program Evaluation Toolkit. CDC, 2012. https://www.cdc.gov/cancer/ncccp/prog_eval_toolkit.htm

International Cancer Control Partnership. National Cancer Control Plan Development and Implementation Assessment Tool. ICCP, 2018. URL: <https://www.iccp-portal.org/resources/national-cancer-control-plan-development-and-implementation-assessment-tool>

World Health Organization. National cancer control programmes: core capacity self-assessment tool. WHO-IAEA, 2011. URL: https://www.who.int/cancer/publications/nccp_tool2011/en/

World Health Organization. Cancer Control Knowledge into Action: WHO Guide for Effective Programmes, Planning. WHO, 2006. URL: <https://www.who.int/cancer/modules/en/>