

New Zealand Government

# **New Zealand Cancer Action Plan 2019–2029**

# **Te Mahere mō te Mate Pukupuku o Aotearoa 2019–2029**

Released 2019

Citation: Ministry of Health. 2019. *New Zealand Cancer Action Plan 2019–2029 – Te Mahere mō te Mate Pukupuku o Aotearoa 2019–2029*. Wellington: Ministry of Health.

Published in September 2019 by the Ministry of Health  
PO Box 5013, Wellington 6140, New Zealand

ISBN 978-1-98-856896-6 (online)  
HP 7158

This document is available at: [health.govt.nz](http://health.govt.nz)



This work is licensed under the Creative Commons Attribution 4.0 International licence. In essence, you are free to: share, ie, copy and redistribute the material in any medium or format; adapt, ie, remix, transform and build upon the material. You must give appropriate credit, provide a link to the licence and indicate if changes were made.

# Minister of Health's foreword– He kupu whakataki nā Te Minita Hauora

## Delivering on cancer prevention and care – ‘every person, every time’

Most New Zealanders will be impacted by cancer in their lifetime – either directly, or through friends or family members affected by cancer.

This comprehensive plan sets us on a path to better cancer prevention, treatment and care in New Zealand over the next 10 years, so that New Zealanders living with cancer have access to high quality care no matter who they are, or where they live.

‘Every person, every time’ – it’s about ensuring every person affected by cancer has the best outcome possible. It means better prevention, earlier detection and ensuring all New Zealanders have modern and consistent cancer treatment. This plan, combined with other key government initiatives addressing mental health and wellbeing, ensures support is accessible and reflects people’s cultures and needs.

Māori are 20 percent more likely to get cancer than non-Māori, and nearly twice as likely as non-Māori to die from cancer. Mental health service users, people with multiple health conditions, and Pacific peoples also have poorer survival. We cannot accept this. New Zealanders deserve a world-class system with better outcomes for all.

Budget 2019 included funding to increase the number of Māori and Pacific people in the health workforce, to improve cultural competency and better respond to and recognise the needs of these populations. This Government has taken action in these three areas already.

The Plan has four main goals:

- New Zealanders have a system that delivers consistent and modern cancer care
- New Zealanders experience equitable cancer outcomes
- New Zealanders have fewer cancers
- New Zealanders have better cancer survival.

Strong leadership and collective accountability across the sector is essential. To ensure this, we are establishing a Cancer Control Agency which will sit in the Ministry of Health. A National Director of Cancer Control has been appointed and a National Cancer Control Network will ensure consistent high standards across New Zealand.

I recognise more must be done. Some priorities and actions are already under way, such as increased investment in cancer medicines and new Linear Accelerators for the regions.

We will now consult on the wider plan and finalise further prioritised actions. We must continually strive to be better, to help more people and to do more for those with cancer and their whānau.

When the former Minister of Health, Dame Annette King, launched New Zealand's first Cancer Control Strategy in 2003, she said the Strategy encouraged government and non-government providers to work closely together to achieve long-term change. Collaboration is still vital to achieve improvements for the future of cancer care in New Zealand.

I thank everyone who has contributed to this plan, including those who have had direct experience of cancer. Your input has been invaluable.

I encourage all New Zealanders to now provide feedback on the cancer action plan so that we can deliver for people living with cancer – 'every person, every time'.

Hon Dr David Clark  
Minister of Health

# Director-General of Health's foreword – He kupu whakataki hoki nā Te Kaitohu-Matua Hauora

Kia ora koutou katoa

The Ministry of Health is committed to ensuring we have a sustainable system that enables New Zealanders to have fewer cancers, better survival rates and equitable outcomes. We're committed to ensuring all New Zealanders have access to quality cancer care regardless of where they live, or who they are. We've engaged with sector leaders and stakeholders to develop this cancer action plan, bringing together the voices of the sector as well as people with lived experience of cancer.

I want to acknowledge all those organisations, groups and individuals who have provided input into the plan. It reflects what we've heard from a wide range of organisations, clinicians and consumers. We are now seeking wider sector and community input to ensure we've got it right. We intend to finalise the plan in early 2020.

All New Zealanders will benefit as a result of the proposed improvements to our system. We are specifically focusing on Māori, Pacific peoples, those who live in rural and highly deprived areas, those with mental illness and disabled people as our priority populations. These groups currently have worse cancer outcomes than other New Zealanders, and this is unfair. For my part, I will be chairing the Interim Cancer Control Agency Board to ensure strong system-level leadership and accountability.

To deliver the plan effectively, we need strong and accountable leadership that brings together key stakeholders to collectively improve and deliver cancer care across the system. The plan also needs strong governance at all levels that sets priorities and informs investment decisions, and monitors progress. The plan will be reviewed and updated in five years to ensure it continues to meet the needs of all New Zealanders.

I am excited about and committed to the priorities and actions outlined in this plan. Its successful implementation will help ensure we have a health system that delivers the same high-quality outcomes and wellbeing for all New Zealanders. I look forward to receiving your feedback.

Ngā mihi

Dr Ashley Bloomfield  
Director-General of the Ministry of Health

## Acknowledgments – Mihi

The Ministry of Health engaged with a number of cancer-sector stakeholders in developing *New Zealand Cancer Action Plan 2019–2029 – Te Mahere mō te Mate Pukupuku o Aotearoa 2019–2029*. We acknowledge and thank all who contributed their expertise.

## Engaging with the plan’s development – Te whakawhanaketanga o te mahere nei

The Ministry is committed to collaborating and ensuring the voices of all people are heard on ‘what matters to them and why’ to ensure we make informed decisions about the way forward.

The Ministry will partner with sector leaders to review and incorporate feedback from stakeholder engagement, and then prioritise actions to publish a final plan in early 2020.

### Whakataukī

Kua tawhiti kē tō hāerenga mai  
Kia kore e hāere tonu  
He nui rawa āu mahi  
Kia kore ai e mahi tonu

You have come too far  
Not to go further  
You have done too much  
Not to do more

Nā Tā Hēmi Hēnare – Sir James Hēnare

# Contents

|  |     |
|--|-----|
| Minister of Health’s foreword– He kupu whakataki nā Te Minita Hauora   | III |
| Director-General of Health’s foreword –<br>He kupu whakataki hoki nā Te Kaitohu-Matua Hauora                                   | V   |
| Acknowledgments – Mihi   | VI  |
| Engaging with the plan’s development – Te whakawhanaketanga o te mahere nei  | VI  |
| Our challenge: Representing the consumer – Te Wero: Hei kanohi mō te tangata<br>(Cancer Consumer NZ)                           | 1   |
| About the <i>New Zealand Cancer Action Plan 2019–2029</i> –<br>Te Mahere Mate Pukupuku o Aotearoa 2019–2029                    | 2   |
| Moving forward together – Kia hāere ngātahi  | 3   |
| Cancer in New Zealand – Mate pukupuku ki Aotearoa  | 4   |
| Our commitment to the Treaty of Waitangi – Kia paiheretia Te Tiriti o Waitangi   | 8   |
| Achieving equity – He mana taurite   | 9   |
| Outcomes – Ngā huanga  | 10  |
| Outcomes framework – Te pou huanga   | 12  |
| Priority actions – Ngā mahi whakaarotau  | 13  |
| Prioritisation framework – Te pou whakaarotautanga   | 14  |
| Outcome 1: New Zealanders have a system that delivers consistent and modern<br>cancer care –<br>Te huanga 1: He pūnaha atawhai | 15  |
| Outcome 2: New Zealanders experience equitable cancer outcomes –<br>Te huanga 2: He taurite ngā huanga                         | 28  |
| Outcome 3: New Zealanders have fewer cancers –<br>Te huanga 3: He iti iho te mate pukupuku                                     | 33  |
| Outcome 4: New Zealanders have better cancer survival –<br>Te huanga 4: He hiki ake i te oranga                                | 45  |
| References   | 63  |





# Our challenge: Representing the consumer – Te Wero: Hei kanohi mō te tangata (Cancer Consumer NZ)\*

Kia ora koutou katoa.

We can all expect to be affected by cancer to some extent at some stage in our lives, either directly or indirectly. For this reason, this plan is about and for all of us. Ultimately the impact of cancer is and will be felt most by those diagnosed with the disease and by their families/whānau, friends and colleagues. Cancer affects all aspects of our lives – our personal wellbeing, our participation in community life, our workplace productivity and the financial stability of our families.

Currently people affected by cancer – both those diagnosed and the people who care for them – will face challenges as they navigate their way through a complex system of care. Their voices and stories need to be heard. We need a cancer plan that is first and foremost about people rather than illness. People living with cancer say that they feel they are treated like a set of symptoms rather than as a person.

This plan needs to be adaptive and responsive to all New Zealanders. New Zealand has more diverse populations than ever before. We want the same outcomes for our populations regardless of ethnicity, socioeconomic status or geographical location. People affected by cancer need information and services tailored to their needs and cultural values. We aspire to have person-centred care that is flexible and compassionate.

The perspectives of people affected by cancer is a critical component for driving change. Actively embracing these perspectives and those of our caregivers in the planning, development and delivery of cancer services is crucial in informing and shaping cancer control initiatives, on a par with clinical effectiveness and safety.

The cancer care system should have a greater focus on the needs of those it intends to serve – people affected by cancer. We need better access to health services that are provided in a way that is fair for all; that are coordinated around our needs across the continuum of care; that are co-produced; that respect our preferences; and that are safe, effective, timely and affordable. Together we can change the cancer landscape; strive to prevent cancer; and work to improve treatment, health and wellbeing, experiences and outcomes for all of us affected by a cancer journey.

\* Cancer Consumer NZ provides the voice of lived experience in the design of cancer-care pathways, systems and tumour standards to the Ministry of Health.

# About the *New Zealand Cancer Action Plan 2019–2029* – Te Mahere Mate Pukupuku o Aotearoa 2019–2029

*The New Zealand Cancer Action Plan 2019–2029* is for all New Zealanders affected by cancer. Cancer services in New Zealand will be delivered with humanity, compassion and dignity.

The plan is guided by three overarching principles:

- equity-led
- knowledge-driven
- outcomes-focused.

The plan enables the Ministry of Health, the sector and all those affected by cancer to work collaboratively to prevent cancer and improve detection, diagnosis, treatment and care after treatment.

Effective planning, skilled management and informed governance is required to deliver the outcomes in this plan. This cancer action plan sets out the actions required over the next 10 years and beyond. Work on the priority actions has commenced. The plan is a living document and it will be reviewed and updated in five years, to ensure our efforts stay relevant to the needs and aspirations of all New Zealanders. The actions will be reviewed by the Interim Cancer Control Agency Board and adjusted as required to ensure the plan is on track.

# Moving forward together – Kia hāere ngātahi

The New Zealand Cancer Control Strategy 2003 first set the direction for managing cancer control activities in New Zealand (Ministry of Health 2018b). The goals and objectives of the Strategy remain relevant.

Through significant investments, we have seen overall improvements in cancer outcomes. New Zealand's tobacco control programme has led to reduced smoking rates. In some cases, there have been decreases in cancer incidence, such as in cervical cancer (Smith et al 2017). This could be linked to our efforts in prevention via human papilloma virus (HPV) immunisation and our ability to detect precancerous lesions through the cervical screening programme.

Our overall cancer survival rates are also improving. This could be a result of better diagnostics (eg, positron emission tomography-computed tomography (PET-CT) and advanced magnetic resonance imaging scans, more timely diagnosis and more effective treatment, including through the availability of new pharmaceuticals, new surgical techniques and new radiotherapeutic options. Access to palliative care has also improved, ensuring people affected by cancer have an improved quality of life.

New Zealanders can expect that we will manage most cancers long-term as chronic, but treatable, diseases.

While we have made good progress towards achieving the goals of the Strategy, we can do better to achieve equitable outcomes for all New Zealanders. At a time when there are many changes and challenges facing cancer control in New Zealand, we need to renew our commitment and reinvigorate our approach to preventing and managing the disease.

In 2017/18, 13.1% of adults smoked, compared with 18% in 2006/07

Cervical cancer incidence was 56% lower in the period 2009–2013 than in the period 1985–1989

Cancers such as melanoma, breast and prostate have an 80% or more five-year survival rate

# Cancer in New Zealand – Mate pukupuku ki Aotearoa

Cancer is the leading cause of death in New Zealand. It accounts for nearly one-third of all deaths (Ministry of Health 2016b). In 2016 in New Zealand, 24,086 people were diagnosed with cancer; this number represents an increase of 21 percent since 2007 (Ministry of Health 2018e). New Zealand has an ageing and growing population, so we anticipate this trend will continue. By 2040, the number of diagnoses is predicted to be around 52,531, or 144 people a day (Bray et al 2018).

The increasing incidence of cancer and better cancer survival will have a growing economic, social and emotional impact. This includes the indirect costs to people and their families/whānau through time away from work when a cancer is diagnosed and long-term disabilities from the impacts of some treatment, which may affect employment. The demand for treatment and post-treatment services will continue to put increasing pressure on health care.

In 2016, 66 people were told they had cancer every day

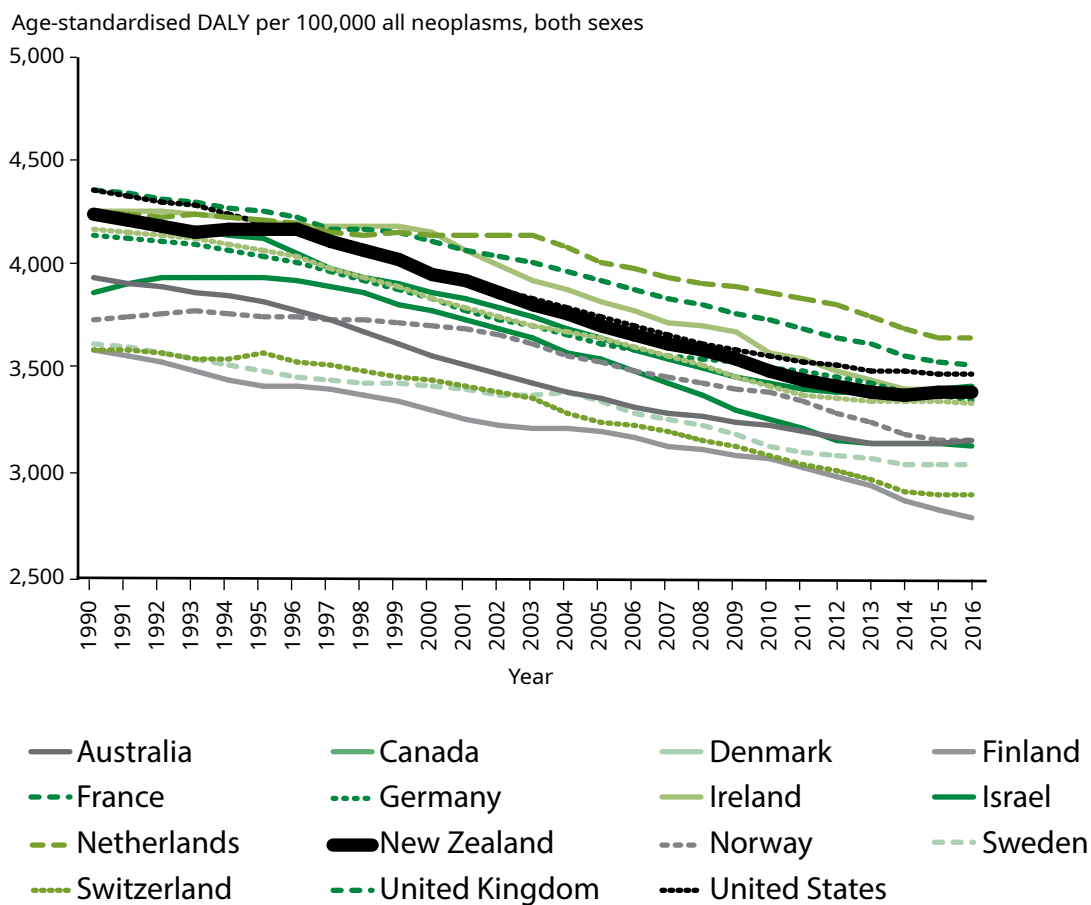
In 2016, there were 17.2 million cancer cases worldwide; an increase of 28% over the past decade

Overall, mortality rates decreased from 140.6 deaths (standardised rate per 100,000) in 2004 to 122.6 in 2016

## Global performance and how New Zealand compares

The impact of cancer in New Zealand, measured in terms of disability-adjusted life years (DALYs) lost is similar to that in comparator countries (World Health Organisation 2019). Generally, age-adjusted DALYs lost per 100,000 people is declining over time, largely reflecting reducing age-specific cancer mortality rates. Despite this, in most countries, including New Zealand, the overall number of cases will continue to increase due to growing and ageing populations.

**Figure 1: Age-standardised disability-adjusted life years lost per 100,000, all neoplasms, both sexes, selected countries, 1990–2016**



Of particular concern, incidence rates of colorectal and melanoma cancer in New Zealand rank among the highest worldwide.

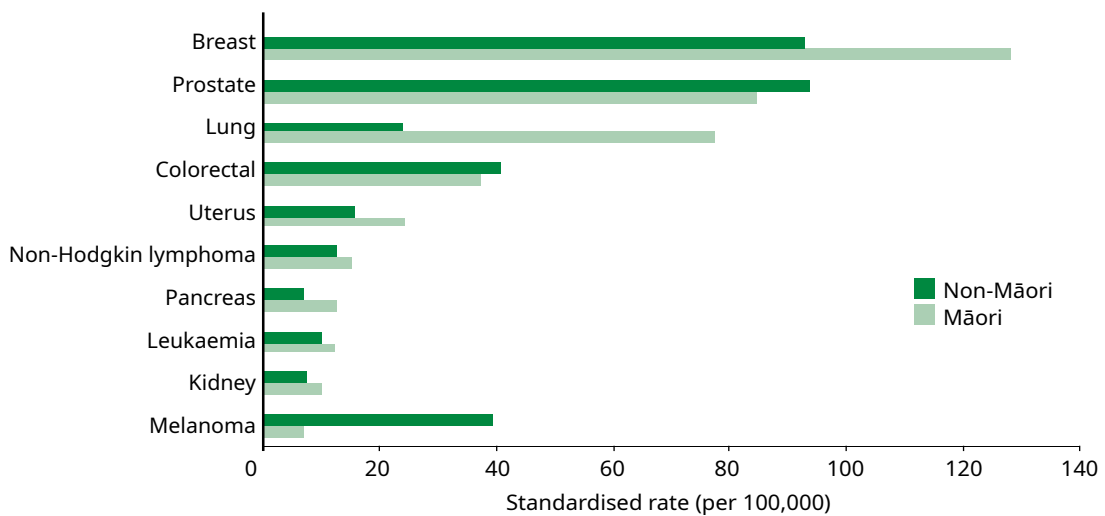
Internationally, survival trends are generally increasing. New Zealand's five-year survival rates remain among the highest in the world for most cancers, along with the United States, Canada, Australia, Finland, Iceland, Norway and Sweden (Allemani 2018). However, recent research suggests that our survival rates from cancer may be falling behind those of our comparable countries, and not improving at the same rate as elsewhere. It is time to take action to ensure we do not fall behind.

# Cancer patterns in New Zealand

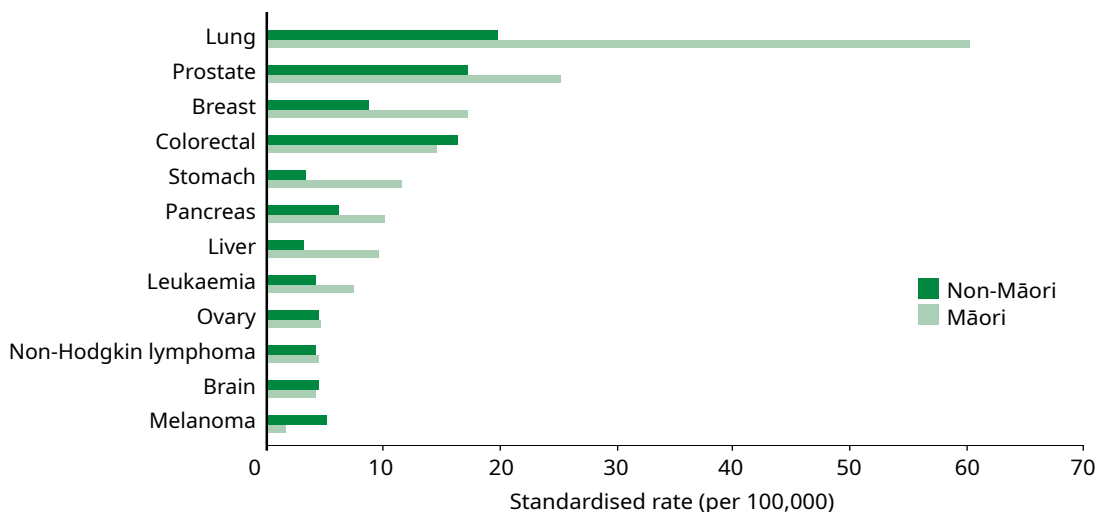
Our outcomes for cancer vary within New Zealand. Our priority populations (eg, Māori, Pacific peoples, people who live in rural and deprived areas, people with a mental illness and disabled people) fare worse.

Māori are 20 percent more likely to get cancer and nearly twice as likely to die from cancer as non-Māori (see Figure 2 for cancer registration rates and Figure 3 for mortality rates). Māori have worse survival rates for almost all cancers (Teng et al 2016).

**Figure 2: New Zealand cancer registration rates, 2016, selected cancers, Māori vs non-Māori**

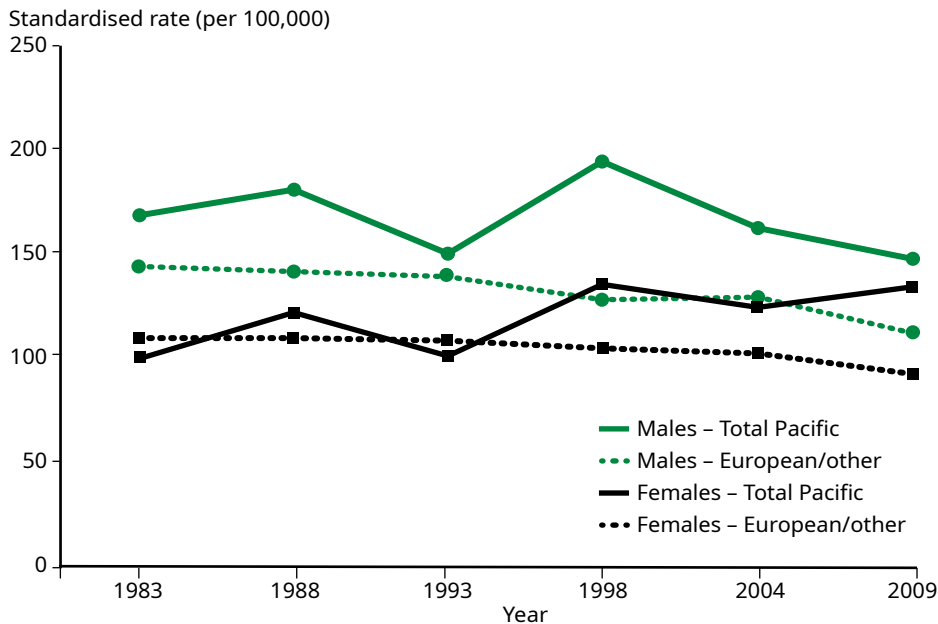


**Figure 3: New Zealand cancer mortality rates, 2013, selected cancers, Māori vs non-Māori**



Pacific peoples also have higher incidence and mortality rates for a number of cancers compared with New Zealand Europeans.

**Figure 4: Cancer mortality rates, 1983–2009, Pacific peoples vs European/other**



(Disney 2016)

People living in more socioeconomically deprived areas of New Zealand are more likely to develop cancer and less likely to have their cancer detected early than people living in less deprived areas (Ministry of Health 2010).

Disabled people have higher health risks and poorer life outcomes compared with non-disabled people; in the context of cancer, there is evidence that they experience lower screening rates and higher levels of comorbidities. Research suggests that a greater proportion of people with intellectual disabilities are treated compared to those without an intellectual disability. However, the cancer rates for people with intellectual disabilities are currently unknown.

People experiencing mental illness and / or addiction have higher cancer mortality; research indicates that this can be explained by reduced access to screening, delayed identification and unequal access to cancer treatment (Cunningham et al 2015).

New Zealand does not have substantive data that indicates cancer outcomes are poorer for rural populations; however, international data suggests there is a link between living rurally and poorer outcomes at all stages of cancer care, including delays in diagnosis. We know that access to health care services, including cancer services, is an issue for people living in rural communities. We need to undertake further research and analysis, to understand this link better.

Health outcomes can be significantly improved by improving access to appropriate health and disability services. Every system, policy, service, process and health professional plays a role in actively reducing these disparities.

# Our commitment to the Treaty of Waitangi – Kia paiheretia Te Tiriti o Waitangi

**Te Tiriti o Waitangi (the Treaty of Waitangi) provides an imperative for the Crown to protect and promote the health and wellbeing of Māori, including by responding to Māori health aspirations and meeting Māori health needs.**

The Ministry is committed to honouring the Crown's special relationship with Māori under Te Tiriti o Waitangi. The Ministry will work in partnership with tangata whenua and support tangata whenua-led processes, actions and decision-making. We will undertake specific actions to ensure equitable outcomes for tangata whenua, and will ensure that tangata whenua world views, values and wairuatanga (spirituality) are present in our work.

New Zealand is a signatory to the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP). Article 24 of the declaration states:

1. Indigenous peoples have the right to their traditional medicines and to maintain their health practices, including the conservation of their vital medicinal plants, animals and minerals. Indigenous individuals also have the right to access, without any discrimination, to all social and health services.
2. Indigenous individuals have an equal right to the enjoyment of the highest attainable standard of physical and mental health. States shall take the necessary steps with a view to achieving progressively the full realization of this right.

Te Puni Kōkiri is developing a plan to drive and measure New Zealand's progress towards meeting the objectives of the UNDRIP articles (Te Puni Kōkiri 2019).

Given that Māori have the poorest overall health status in New Zealand and are significantly disadvantaged in terms of health inequities, it is essential that we ensure the rights and meet the needs of Māori people.

This plan aims to recognise and respect the rights of our tangata whenua as laid out in the UNDRIP.



# Achieving equity – He mana taurite

**The Government has a strong focus on achieving equity of outcomes and contributing to wellness for all; particularly Māori and Pacific peoples.**

The Ministry's definition of equity underpins this plan. It is:

In Aotearoa New Zealand, people have differences in health that are not only avoidable but unfair and unjust. Equity recognises different people with different levels of advantage require different approaches and resources to get equitable health outcomes (Ministry of Health 2019a).

In applying this definition, the Ministry aims to align its work with its Te Tiriti o Waitangi obligations and to go beyond just remedying disadvantage and reducing inequities, enabling Māori to flourish and lead their goals for health and wellbeing.

Achieving equity for Pacific people is also a priority. Linking in with the work of the Pacific Health Action Plan (currently being developed) will enable us to better understand and meet the needs of Pacific peoples, their families and communities.

This definition will drive the coordinated and collaborative effort we need to achieve equitable cancer outcomes for all New Zealanders across the cancer continuum.

# Outcomes – Ngā huanga

There are four outcomes we want to achieve in delivering this plan.

## Outcome 1: New Zealanders have a system that delivers consistent and modern cancer care –

### Te huanga 1: He pūnaha atawhai

New Zealanders should expect to receive high-quality cancer care services now and in the future. To make our health and care systems future-proof, we need an approach that involves strong governance, accountability and stewardship. To continue to lift our performance in cancer care, we need to ensure we have strong national leadership, a skilled and sustainable workforce and the right information to make the best decisions possible.

## Outcome 2: New Zealanders experience equitable cancer outcomes –

### Te huanga 2: He taurite ngā huanga

Following a cancer diagnosis, all New Zealanders should experience the best treatment and care, regardless of where they live, whether rural or urban, or who they are. This is critical to ensure we achieve equitable cancer outcomes for all our people.

We will develop service models that better support Māori and Pacific peoples to improve their outcomes. We will partner with different population groups and support our workforce to carry out culturally responsive care, and enable an equal chance of success. Essential to this is increasing the number of Māori and Pacific people in the cancer health workforce, as well as developing cultural safety across the wider workforce.

## Outcome 3: New Zealanders have fewer cancers –

### Te huanga 3: He iti iho te mate pukupuku

Prevention of cancer could be the biggest contributor to improving overall cancer outcomes, as well as achieving equity.

As a country, we must place importance on preventing cancer. We must develop a more supportive environment, to enable New Zealanders to thrive and enhance their health and wellbeing. We want to develop policies to support New Zealanders to make healthy choices.

## **Outcome 4: New Zealanders have better cancer survival – Te huanga 4: He hiki ake i te oranga**

Surviving many cancers is dependent on early diagnosis and an overall system that is well coordinated, information-rich, focused on improving outcomes and that can respond in a timely, effective and appropriate way.

By ensuring New Zealanders receive people- or family/whānau-centred cancer care that is appropriately timed and of high quality, from early detection through to living well with and beyond cancer and end-of-life care, we can lift our survival rates.

We need a cultural shift in the way we deliver health services to all New Zealanders, particularly Māori, Pacific people and other priority populations, to better reflect the needs and values of our communities and deliver modern and consistent care. We need to raise awareness of cancer among our families/whānau and communities, to ensure they make the best decisions they can about their health.

# Outcomes framework – Te pou huanga

The following graphic presents the basis of our plan: its principles, its four key outcomes, and key areas within each outcome area that we will focus on to achieve our goals.



# Priority actions – Ngā mahi whakaarotau

The actions below have been identified for prioritisation and consultation. Those actions in bold are in progress.

**Our vision: Prevent and improve outcomes • Achieve equitable and consistent outcomes**



## **New Zealanders have a cancer system that delivers consistent and modern cancer care**

### **Leadership and governance**

- **Establish a Cancer Control Agency in the Ministry of Health**
- **Appoint a National Director of Cancer Control**
- **Establish an Interim Cancer Control Agency Board**
- **Implement a National Cancer Control Network**

### **Health workforce**

- Actively monitor and plan for the cancer workforce required to meet population needs
- Support cultural competency training

### **Data and information**

- Develop a cancer data and information plan for use in cancer investment decisions
- Partner with government, the health sector, academia and international experts to build collaborative and coordinated information

### **Research and innovation**

- Use research and innovation systematically to improve evidence-based practice



## **New Zealanders experience equitable cancer outcomes**

### **Achieve survival equity by 2030**

- **Increase Māori and Pacific peoples in the health workforce**
- Develop an equity-focused prioritisation and monitoring tool to be used in cancer investment decision-making
- Develop and implement an approach for creating a culturally responsive workforce



## **New Zealanders have fewer cancers**

### **Smokefree by 2025**

- **Pass legislation to ban smoking in vehicles carrying children**
- **Promote vaping to support smokers to switch and introduce legislation to ensure vaping is regulated appropriately**
- **Expand initiatives to better support young Māori women to stop smoking**
- **Finalise and deliver a Smokefree 2025 Action Plan**

### **Encourage and support healthy living**

- **Develop healthy food environments in schools**
- Support physical activity initiatives
- Consider additional approaches to achieve and maintain a healthy weight
- Implement approaches to minimise harm from alcohol

### **Prevent cancers related to infection**

- **Improve the detection and management of Hepatitis B and C**
- Reduce HIV transmission and ensure people maintain treatment
- Increase the uptake of HPV vaccinations
- Develop a strategy to address *H. pylori* infection in priority populations

### **Reduce avoidable skin cancers**

- Promote specific measures to reduce harmful sun exposure, especially for children
- Consider regulating primary sunscreens as a therapeutic product

### **Work-related cancers**

- Develop a programme to prevent work-related cancers



## **New Zealanders have better cancer survival**

### **Early detection and population screening**

- **Progress the National Bowel Screening Programme**
- Progressively increase the age for free breast screening from 70 to 74 years
- **Build and implement the National Screening IT solution for bowel screening and other cancer screening programmes**
- **Actively monitor evidence for new targeted screening programmes for priority populations**
- Explore introduction of HPV screening for the cervical screening programme

### **Cancer care and treatment**

- **Develop options for early access to new medicines**
- **PHARMAC to undertake earlier assessment of new medicines**
- **Invest in workforce, technology and treatment capacity for radiation oncology**
- **Implement quality improvement indicators and initiatives to support access to quality cancer treatment**
- Develop fast-track diagnostic pathways for priority cancers
- Nationally agree on the scope and distribution of specialist cancer services
- Collect data to identify and address inequities and inefficiencies in chemotherapy treatment
- Develop online standards for cancer care and quality performance indicators, and monitor their implementation
- Increase early access to palliative and end-of-life care

# Prioritisation framework – Te pou whakaarotautanga

**Prioritisation is based on determining how we make decisions about what health and disability services or interventions to fund, for the benefit of New Zealanders, within the resources available. It is about managing existing services effectively, as well as making decisions about what new services to fund.**

When we make prioritisation decisions, we look at the evidence and then aim to allocate or reallocate resources to services that are more effective in improving health and independence and achieving equity. Our prioritisation decisions also consider the timing of allocation or reallocation.

We will develop a specific prioritisation framework to support national decision-making about priorities for cancer on an ongoing basis.

Elements relevant for prioritisation of interventions could include:

- meeting our obligations under Te Tiriti o Waitangi
- addressing the total burden of disease and for priority populations to improve health equity
- total health impact of interventions
- value for money
- total cost of interventions
- the capacity of the health sector to implement interventions.

# Outcome 1: New Zealanders have a system that delivers consistent and modern cancer care – Te huanga 1: He pūnaha atawhai

New Zealanders should expect to receive high-quality cancer care services now and in the future. To make our health and care systems future-proof, we need an approach that involves strong governance, accountability and stewardship. To continue to lift our performance in cancer care, we need to ensure we have strong national leadership, a skilled and sustainable workforce and the right information to make the best decision possible.

**New Zealanders have a system that delivers consistent and modern cancer care**



**Leadership and governance**

**Establish a Cancer Control Agency in the Ministry of Health**



**Appoint a National Director of Cancer Control**



**Establish an Interim Cancer Control Agency Board**



**Implement a National Cancer Control Network**



**Health workforce**

Implement workforce development initiatives to increase the Māori and Pacific workforce



Implement routine monitoring of workforce needs assessment across the cancer continuum



Consider developing new roles to better support a family/whānau-centred and holistic approach in cancer control



Support cultural competency training



**Data and information**

Develop a detailed cancer data and information plan that identifies priority areas for investment to support the delivery of this plan



Partner with government, the health sector, academia and international experts to build collaborative and coordinated information



**Research and innovation**

Lead efforts to inform cancer research priorities that will support the outcomes of the plan



Increase kaupapa Māori research and evaluation capacity and capabilities



Develop advice on how equitable access and wider use of clinical trials can be achieved



Develop national processes to assess and prioritise investment in and application of emerging medicines (including precision medicines), clinical practices and technologies, for example, genomics



Formalise international research partnerships and connections





## Leadership and governance

Establish a Cancer Control Agency in the Ministry of Health



Appoint a National Director of Cancer Control



Establish an Interim Cancer Control Agency Board



Implement a National Cancer Control Network

Strong leadership and governance is required at multiple levels to ensure accountability, oversight and progress on delivering outcomes.

Influential and respected leadership is needed to bring the various and diverse stakeholders together and promote effective working relationships. This involves sharing knowledge, skills, expertise and responsibilities to deliver the actions needed to improve the outcomes for all people affected by cancer.

While all stakeholders are committed to making a positive difference, the existence of multiple groups with different functions, purposes and investment priorities can dilute focus and progress at national, regional and local levels.

To deliver the cancer action plan effectively, we must:

- prioritise strong and accountable clinical and non-clinical leadership
- prioritise Māori leadership and partnership at all levels of the system
- encourage consumer leadership, engagement and co-design
- establish a governance structure that has the mandate to prioritise and inform investment across the continuum
- implement a national network.



### Establish a Cancer Control Agency in the Ministry of Health

The Government will establish a departmental agency, the Cancer Control Agency, in the Ministry of Health to provide strong national leadership for and oversight of cancer control. The Chief Executive of the Cancer Control Agency will be accountable directly to the Minister of Health for delivery on the cancer action plan. The functions and funding for the Cancer Control Agency will be determined as part of finalising the cancer action plan and it will be stood up and operating from 1 December 2019.

A Cancer Control Agency in the Ministry is the preferred approach to providing the strong central leadership required to strengthen and improve cancer control in New Zealand. It provides the best balance between ensuring a specific focus and leadership for cancer control while maintaining the essential integration of cancer

services with the wider health system. For example, around 50 percent of curative cancer treatment is a result of surgery, which is a fundamental part of wider hospital care and cannot be separated out – cancer surgery is undertaken in the same theatres and with the same staff as non-cancer surgery. On the prevention side, many initiatives such as preventing smoking and supporting smokers to stop smoking are part of wider prevention initiatives led by the Ministry and other agencies.

The Cancer Control Agency will take a whole-of-system focus on preventing and managing cancer and will oversee system-wide prioritisation and coordination of cancer care in New Zealand. It will consider how to get the best value from existing cancer care investment, make decisions on nationally agreed aspects of cancer control, and advise the Government about what new services to fund to improve cancer system performance and practice improvements.

The Cancer Control Agency will develop initiatives and will be accountable for ensuring transparency of progress towards the goals and outcomes in the Cancer Action Plan. It will monitor progress of the Plan through regular public reporting. The Cancer Control Agency will also ensure there is clear direction for efforts to reduce cancer incidence and improve cancer outcomes in New Zealand as outlined in the Plan.

The Cancer Control Agency will:

- support the National Director of Cancer Control to implement the cancer action plan and the National Cancer Control Programme
- have a strong focus on achieving equity of outcomes and contributing to wellness for all, particularly Māori and Pacific people who currently experience poorer cancer outcomes.

In addition, immediate steps are being taken to strengthen national governance and leadership of cancer control.



## Appoint a National Director of Cancer Control

The appointment of a National Director of Cancer Control will strengthen accountability for cancer planning, quality improvement and monitoring. They will also help provide the focus we need to commence the immediate implementation of this Plan. The National Director will be a principal and authoritative source of advice on cancer and responsible for driving improved cancer outcomes, including providing leadership to achieve equity of outcomes across the cancer continuum.

The National Director will be a member of the Interim Cancer Control Agency Board and will work with the Board's key stakeholders to lead the delivery of actions in the Plan.

The role will have the following specific focus areas:

- providing sector leadership and oversight, with a clear vision for achieving equity of cancer outcomes and working closely with the full range of relevant stakeholders
- providing expert authoritative advice and information on all aspects of cancer control and influencing practitioners, DHBs, primary care, service providers, policy makers and the community to prevent cancer and improve health outcomes for people with cancer

- leading and supporting the implementation of the Plan and work with the Interim Cancer Control Agency Board to ensure progress is made
- building collaborative and meaningful partnerships and relationships across the Ministry, the wider health sector, consumer organisations, NGOs, government, providers and other professional bodies to ensure solutions and advice are evidence-based and can be successfully implemented.



## Establish an Interim Cancer Control Agency Board

The management of cancer is complex, and involves every aspect of our cancer services. Many agencies and bodies within the health system are involved in some aspect of cancer control and care. These include those involved in prevention, health promotion, screening, diagnosis, cancer care and palliative care. It also involves NGOs, iwi and Pacific providers, PHOs, labs, radiology, cancer screening providers, DHBs (including surgery and oncology), private providers, PHARMAC, HPA, hospices, mental health providers, community health and coordinators of travel and accommodation.

The Ministry will establish an Interim Cancer Control Agency Board, chaired by the Director-General of Health, which will include clinical and non-clinical cancer leaders and key stakeholders. The Board will support the National Director in their role and with the Director, lead the finalisation of the cancer action plan. The Board will also oversee the establishment of the Cancer Control Agency.



## Implement a National Cancer Control Network

We will create a National Cancer Control Network that combines the four regional cancer networks. The National Network will support the implementation of the national programme to ensure consistent service delivery across the country whilst maintaining local innovation.

We will continue to support the National Child Cancer Network and the Adolescent and Young Adult Cancer Network.



## Health workforce

### Implement workforce development initiatives to increase the Māori and Pacific workforce

Implement routine monitoring of workforce needs assessment across the cancer continuum

Consider developing new roles to better support a family/whānau-centred and holistic approach in cancer control

Support cultural competency training

People affected by cancer require diverse, sustainable and quality, family/whānau-centred care. To provide this, we need a workforce with a wide range of skills, competencies and experiences. Cultural competency is an essential part of all training.

The sector has outlined a number of significant workforce issues.

- There are overall shortages in some areas of the workforce, including radiation and medical oncology, diagnostic and interventional radiology, medical imaging, cancer nursing, allied health and palliative care, surgical cancer specialists and supportive care workers, and in particular Māori and Pacific workforce participation in these areas.
- Workforce requirements need to be accurately modelled and forecasted to support delivery to an increasing number of people with cancer, and align with new models of care, including a focus on Māori health models.
- There are insufficient numbers of trained Māori and Pacific cancer care professionals to provide appropriate care for these priority populations. The Government will need to consider future investment in growing and developing the Māori and Pacific workforce to better meet the needs of our Māori and Pacific people's.



### Implement workforce development initiatives to increase the Māori and Pacific workforce

High-quality cancer care depends on the workforce's ability to provide competent, trusted inter-professional care that is aligned with patients' needs, values and preferences (Institute of Medicine 2013).

Robust and forward-thinking workforce planning is fundamental to current and future demands. Essential to this is increasing the number of Māori and Pacific people in the cancer health workforce. Proactive measures are required to strengthen Māori and Pacific peoples' participation in the workforce to address the current disparities.

## **Implement routine monitoring of workforce needs assessment across the cancer continuum**

Our future work must take into account changing models of care, and include scanning for future trends and innovations that might impact how we should provide cancer care. Initial work needs to focus on:

- defining the requirements of the cancer control workforce
- clearly understanding the current state of that workforce
- identifying shortages and prioritising focus areas
- identifying which scopes of practice we need to expand to align with new models of care (eg, nursing roles in radiation oncology and nurse endoscopists), and where we need to target resources to meet future needs.

## **Consider developing new roles to better support a family/whānau-centred and holistic approach in cancer control**

There are challenges in accessing cancer services at all levels, particularly for Māori and other priority populations. Access to high-quality cancer care can have a substantial impact on cancer health outcomes.

We need to better enable people to access cancer services by developing roles that can provide support – from diagnosis, to living well with and beyond cancer. These roles should incorporate Māori and Pacific models of wellbeing and philosophical and practical approaches to better meet the needs of Māori and Pacific peoples, while also considering the needs of these priority populations.

## **Support cultural competency training**

New Zealand has a diverse population. It can bring challenges for health care systems and providers to create and deliver culturally competent services that meet the social, cultural and linguistic needs of New Zealanders.

We must embed Māori and Pacific cultural competencies and whānau-centred values-based practice in education and training packages and enable equitable access for Māori and Pacific peoples to training opportunities (Ministry of Health 2019d).



## Data and information

Develop a detailed cancer data and information plan that identifies priority areas for investment to support the delivery of this plan



Partner with government, the health sector, academia and international experts to build collaborative and coordinated information

We need to ensure that everyone, including people affected by cancer, communities and health care providers, has the information they need to make the best decisions they can. We need to address key data limitations, such as data about Pacific peoples, to better enable us to target and tailor our prevention efforts and service delivery.

Good-quality data and information is vital in providing decision support to clinicians, enabling predictive and preventive approaches to health care delivery, improving service integration and supporting policy development and service planning and design. Information is also important in helping people to cope with cancer and to make informed decisions based on cancer diagnosis, management and prognosis data.



## Develop a detailed cancer data and information plan that identifies priority areas for investment to support the delivery of this plan

High-quality, accurate, accessible data and information will support the implementation of this plan by helping us to:

- identify and address the needs of key stakeholders (people affected by cancer, Māori and Pacific, service providers, policymakers, researchers)
- ensure the plan is aligned to the current direction of the Ministry and other health sector providers
- identifying objectives, key activities, collaborators and measures to ensure the New Zealand Cancer Health Information Strategy is revised successfully.

We produced the *New Zealand Cancer Health Information Strategy* in 2015; its vision is to deliver comprehensive, accessible and accurate information to support the delivery of quality care across the cancer patient pathway (Ministry of Health 2015).

The New Zealand Cancer Registry, the most comprehensive source of cancer registration data in New Zealand, has been a key enabler for a range of projects in this area. More recently-reported registration data is now available for analysis and reporting; this data can be linked to other data sets held in the Ministry's National Collections. We can use such integrated data sets to improve the quality of our cancer service across district health boards (DHBs).

Current work has highlighted data and information gaps across the health sector and at a national level; for example, there are gaps in our data on stage at diagnosis, systemic anti-cancer therapy (SACT), radiology and clinically diagnosed cancer. We need to improve systems and data quality significantly to enable stakeholders to quickly access relevant, sustainable and robust cancer data and information.

We need to make more effort to address our obligations under Te Tiriti o Waitangi in gathering cancer data and information. Iwi and hapū groups, Māori organisations and Māori service providers should have better access to data to support their health and wellbeing aspirations. We must embed Māori expertise in our processes for identifying measures, collecting data and reporting information.

To measure progress towards our goal of achieving equity, we need to ensure the consistent use of data protocols to record ethnicity, deprivation, age, gender, disability and location information.

The management and use of cancer information is complex, due to the many different stakeholders holding data and information. Data must be standardised across the sector, but we must carefully consider the data we require clinicians to collect and ensure we can alter our data requirements into the future.

To deliver the cancer action plan effectively, we must:

- implement and support an integrated approach to collecting, accessing and linking high-quality, comparable data, aligned with priority stakeholder needs, in a secure, controlled and lawful manner
- create and manage an integrated approach to the timely distribution of relevant and accurate cancer data and information that addresses government and stakeholder priorities
- create a robust, efficient and sustainable model that enables rapid access by stakeholders to relevant cancer data
- drive consistent usage of data standards/protocols; for example, ethnicity data protocols
- embed Māori expertise in identifying measures, collecting data, accessing data and reporting information and ensure we meet the principles of the Māori Data Sovereignty Charter (Te Mana Raraunga 2019).



## **Partner with government, the health sector, academia and international experts to build collaborative and coordinated information**

Information is important in helping people make informed decisions based on cancer diagnosis, management and prognosis.

It is essential for the whole sector to collaborate to achieve coordinated cancer intelligence. Working with a range of partners across government, the health sector and academia, we can engage in opportunities that otherwise might not be possible.

Within the cancer sector and research communities we need to increase our involvement in benchmarking opportunities, including established international programmes that build global knowledge.

It is important for New Zealand to have a role in shaping the global cancer agenda, both because this agenda is likely to be directly applicable to New Zealand and because New Zealand has particular perspectives and expertise that are likely to be of mutual benefit. For example, our approach to identifying, monitoring and addressing ethnic inequities in cancer care and outcomes is both pioneering and instructive from a global perspective.





## Research and innovation

Lead efforts to inform cancer research priorities that will support the outcomes of the plan



Increase kaupapa Māori research and evaluation capacity and capabilities



Develop advice on how equitable access and wider use of clinical trials can be achieved



Develop national processes to assess and prioritise investment in and application of emerging medicines (including precision medicines), clinical practices and technologies, for example, genomics



Formalise international research partnerships and connections

High-quality cancer research and innovative practice drive evidence-based practice improvements across the cancer continuum and the wider health system.

Research and innovation are essential to reduce the burden of cancer (eg, in the areas of prevention and early detection) and to improve treatment outcomes and the quality of life of people affected by cancer.



### Lead efforts to inform cancer research priorities that will support the outcomes of the plan

Cancer research directions should complement the broader New Zealand Health Research Strategy 2017–2027 (Ministry of Business 2017). We need to coordinate New Zealand-wide cancer research so that it can inform priority areas of cancer care, improve clinical practices and reduce the incidence and impact of cancer for Māori, Pacific peoples and other priority populations.

To deliver the cancer action plan effectively, we must:

- assess and implement evidence-based research and innovative findings in a timely manner
- partner effectively with the health sector to assess, prioritise for investment and deploy technologies that are respectful of, and responsive to, the preferences, needs and values of our communities
- facilitate research that is relevant to cancer control and identify areas where specific research is needed
- develop and support kaupapa Māori research, monitoring and evaluation
- develop and support Pacific research, monitoring and evaluation.



## **Increase kaupapa Māori research and evaluation capacity and capabilities**

Kaupapa Māori is a research methodology underpinned by theory in which Māori beliefs and values are the central focus and findings are applied based on a Māori worldview.

The cancer care sector and cancer health research community have outlined the significant issues they are facing including a lack of investment in Māori research and evaluation capacity and capabilities. To effectively deliver the cancer action plan we must develop and support kaupapa Māori research, monitoring and evaluation.



## **Develop advice on how equitable access and wider use of clinical trials can be achieved**

The cancer care sector has clearly outlined the significant issues it faces, including inequities in participation in clinical trials for priority populations. Research and innovation must inform evidence-based interventions to support healthy lifestyles and reduce inequities for people affected by cancer, including equitable participation and increased use of clinical trials to determine if new treatments or new ways of using existing therapies, diagnostic tests, preventive or supportive interventions are safe and effective. To effectively deliver the cancer plan we must understand and remove the barriers to participation in cancer clinical trials with a focus on ensuring equitable access.



## **Develop national processes to assess and prioritise investment in and application of emerging medicines (including precision medicines), clinical practices and technologies; for example, genomics**

Research and innovation must inform evidence-based interventions to support healthy lifestyles and reduce inequities for people affected by cancer, including genomics and other molecular technologies that need to be accelerated to provide new opportunities for research into the genetic and molecular profile of cancers. This research will support the development of more effective diagnostic approaches and new pathways for personalised medicine, tailored to a person's genetic make-up and the particular characteristics of their disease. The cancer care sector has outlined issues including long lead-in times to translate research findings into policy and practices for emerging medicines, clinical practices and technologies.

Research and innovation must inform evidence-based interventions to support healthy lifestyles and reduce inequalities for people affected by cancer. In this regard, we note the following.

- Digital technologies, including telehealth and health portals, have the potential to deliver a more personalised approach and enable people to self-manage their health and wellbeing in new ways.

- In the coming years, the convergence of digital technologies, such as machine learning and artificial intelligence, will provide opportunities for us to automate administrative and manual tasks, freeing up the health workforce to focus more on providing quality health care.



## Formalise international research partnerships and connections

New Zealand is recognised internationally for its strength in research and innovation. With these strengths, we can make a valuable contribution to improving health experiences and outcomes both nationally and internationally.

International research findings are an important source of new knowledge, but we need to be able to combine them with New Zealand-based cancer research and adapt them to the New Zealand context. Some vital information can only be obtained through New Zealand research, particularly in the area of the significant disparities in the incidence of, and survival from, some cancers between different population groups within New Zealand.

New Zealand is developing strong working relationships with the New South Wales Cancer Institute, sharing information and working towards common goals.

There is also potential for New Zealand to become a member state of the International Agency for Research on Cancer (IARC).

# Outcome 2: New Zealanders experience equitable cancer outcomes – Te huanga 2: He taurite ngā huanga

Following a cancer diagnosis, all New Zealanders should experience the best treatment and care, regardless of where they live, whether rural or urban, or who they are. This is critical to ensure we achieve equitable cancer outcomes for all our people.

In Aotearoa New Zealand, people have differences in health that are not only avoidable but unfair and unjust. Equity recognises different people with different levels of advantage require different approaches and resources to get equitable health outcomes.

The Ministry will continue to work in partnership with Māori to develop and implement cancer services. Hei Āhuru Mōwai (National Māori Cancer Leadership Group) was established in 2012 and will aim to ensure Māori experience high quality equitable cancer services.

## New Zealanders experience equitable cancer outcomes



**Develop and implement a mātauranga Māori framework for delivering this cancer plan**



**Address all forms of racism and discrimination**

Develop a cancer leadership and governance framework, and a cancer health workforce that, actively addresses all forms of racism and discrimination



**Achieving equity by design**

Achieve cancer survival equity by 2030

•  
Develop a robust equity-first prioritisation methodology to be used in cancer investment decision-making

•  
Develop a monitoring framework for the cancer plan that includes an explicit focus on equity

•  
Develop and implement people- and family/whānau-centred care guidelines



## Develop and implement a mātauranga Māori framework for delivering this cancer plan

Responding to Māori health aspirations is a Tiriti o Waitangi obligation, and achieving equity in health outcomes for Māori is a core focus of this plan. He Korowai Oranga, the Māori Health Strategy, provides the framework for achieving Pae ora – Healthy futures. It describes the following pathways for action:

- Te Ara Tuatahi – Pathway 1: Development of whānau, hapū, iwi and Māori communities
- Te Ara Tuarua – Pathway 2: Māori participation in the health and disability sector
- Te Ara Tuatoru – Pathway 3: Effective health and disability services
- Te Ara Tuawhā – Pathway 4: Working across sectors.

Everyone contributing to the delivery of this plan must work together towards achieving Pae ora.

Along with ensuring kaupapa Māori input across all action areas, this plan commits to working with iwi, hapu, whānau and Māori communities to develop and implement a mātauranga Māori framework for preventing cancers and delivering cancer services in partnership with the Crown.

The plan also recognises that Māori models of service delivery will benefit all New Zealanders, as they promote holistic approaches that place people and their families/whānau at the centre.



## Achieving equity by design

Achieve cancer survival equity by 2030



Develop a robust equity-first prioritisation methodology to be used in cancer investment decision-making



Develop a monitoring framework for the cancer plan that includes an explicit focus on equity



Develop and implement people- and family/whānau-centred care guidelines



### Achieve cancer survival equity by 2030

In New Zealand, there are stark inequities in terms of the prospect of surviving cancer. For example, Māori with cancer are more likely to die (and to die sooner) than non-Māori with cancer (Soeberg et al 2012) (Robson B 2010). This highlights that the system is not working effectively for some groups (Hill et al 2013).

Since inequities in survival are sensitive to system-level interventions, particularly in terms of access to early detection and best-practice treatment, they are almost certainly avoidable. As such, it is plausible that a well-resourced approach and improved health care system could eliminate inequities in cancer survival over time. It is an explicit goal of this plan to achieve equity in cancer survival for all New Zealanders.

The first objective will be to achieve equity in cancer survival for Māori compared with non-Māori New Zealanders, given the enduring and strong inequities in cancer survival suffered by Māori.



### Develop a robust equity-first prioritisation methodology to be used in cancer investment decision-making

To meaningfully address the inequities in cancer prevalence and survival for Māori and other groups, we need to actively prioritise certain approaches and resources. We will develop an equity-first methodology to prioritise the allocation of new resources and the reallocation of existing resources and activities in a way that works towards achieving equity in cancer outcomes.

An initial set of criteria may aim to prioritise investments that:

- build understanding of equity problems through smart data, analytics, research and rich insight
- enable people across the health and disability sector to optimise the performance of the cancer care system for Māori and other groups facing inequities

- foster innovation and trial, evaluate and expand services that are responsive to the needs of people affected by cancer
- weave an equity focus into all cancer-related services and activities.



## Develop a monitoring framework for the cancer plan that includes an explicit focus on equity

The monitoring framework for this plan, and the data, analytics and insights that underpin it, are critical in achieving survival equity. The monitoring framework will allow us to monitor progress, support research into actions that can potentially address inequities and evaluate new and existing programmes and services. It will require:

- data sets that contain multidimensional and granular information, since it is critical that we are able to disaggregate along population group lines
- analytical outputs that show trends over time, identify equity gaps and are able to consider data from a patient's perspective.



## Develop and implement people- and family/whānau-centred care guidelines

Family/whānau-centred care places whānau at the centre of policies and services. It has an emphasis on collective rather than individual thinking. Family/whānau-centred care is culturally grounded and holistic. It places whānau at the centre of decision-making and empowers them to lift their wellbeing. Family/whānau-centred care encourages collaboration and integration across all of health.

Whānau Ora is an example of family/whānau-centred policy and approaches in action. Whānau Ora recognises the strengths and abilities that exist within whānau. It aims to support and develop opportunities that fulfil potential through the seven Whānau Ora outcomes, so whānau are:

- self-managing and empowered leaders
- living healthy lifestyles
- participating fully in society
- confidently participating in Te Ao Māori
- economically secure and successfully involved in wealth creation
- cohesive, resilient and nurturing
- responsible stewards of the natural and living environments.

We will work with other Whānau Ora partners and providers, to understand whānau needs and aspirations. Whānau Ora is currently working with the Ministry on research to identify how family/whānau-centred approaches used in the health sector are successful in supporting whānau to achieve long-term, sustainable health outcomes and improve overall wellbeing.

Evidence shows that when families/whānau are more involved in a person's health care, decisions are better, health and health outcomes improve and resources are allocated more efficiently. Allowing people and families/whānau stronger voices in their own care will help people live better and make the health system equitable and more effective.



## Address all forms of racism and discrimination

Develop a cancer leadership and governance framework, and a cancer health workforce that actively addresses all forms of racism and discrimination



## Develop a cancer leadership and governance framework, and a cancer health workforce, that actively addresses all forms of racism and discrimination

A critical element in addressing racism and discrimination is the creation of a workforce that is culturally competent, responsive and well placed to deliver family/whānau-centred care that meets the needs of people affected by cancer, enabling the cultural safety of them and their family/whānau.

One key way to achieving such responsiveness is to increase the diversity of the workforce, preferably to a point where it reflects the diversity of the people it serves. To this end, this plan will support initiatives that:

- encourage Māori and Pacific peoples to choose health as a career
- create culturally responsive practices for and with Māori (hauora Māori competencies) and Pacific peoples across the workforce.

To achieve equity, leadership needs to be present and effective all the way through the system. In terms of equity, effective leaders should:

- have a clear vision for equity
- create meaningful partnerships, including with community leaders and providers
- manage the risks of perceived special treatment and champion explicit messages concerning fairness and the use of particular resources and approaches
- ensure action is meaningful and aligned with that of other agencies, and not tokenism.



# Outcome 3: New Zealanders have fewer cancers – Te huanga 3: He iti iho te mate pukupuku

Prevention of cancer could be the biggest contributor to improving overall cancer outcomes, as well as achieving equity. It is estimated that around 40 percent of health loss from cancers is potentially preventable (Centers for Disease Control and Prevention 2014). New Zealanders can be better supported to reduce their risk of developing some cancers. However, not all cancers can be prevented by changing the modifiable risk factors.

Tobacco smoking, obesity, alcohol consumption, poor nutrition, occupational risks, physical inactivity, chronic infection and harmful ultra-violet radiation (UVR) exposure are the leading preventable and modifiable risk factors for cancers. Generally, New Zealanders have a low awareness of cancer risks beyond smoking and sun exposure.

The modifiable risk factors are shaped by the socioeconomic, political and physical environments and are an important consideration for prevention. Working to address modifiable risk factors will have a powerful impact on population health and reduce health inequities (Ministry of Health 2018d).

There are behaviours that reduce the risk of cancer; these behaviours also improve health and wellbeing and reduce the risk of many other chronic conditions, including heart disease, type 2 diabetes, stroke, some musculo-skeletal disorders and chronic respiratory diseases.

## New Zealanders have fewer cancers



### Smokefree by 2025

Finalise and deliver a Smokefree 2025 Action Plan

- Pass legislation to ban smoking in vehicles carrying children

- Implement guidance for stop-smoking services to better support young Māori women to stop smoking

- Promote vaping to support smokers to switch and introduce legislation to ensure vaping is regulated appropriately



### Encourage and support healthy living

Create supportive food environments across a range of settings, with schools as an initial priority

- Take a coordinated intersectoral approach to increase New Zealanders' levels of physical activity

- Consider additional population approaches to achieve and maintain a healthy weight

- Implement approaches to minimise harm from alcohol



### Prevent cancers related to infection

Improve the detection and management of hepatitis B and C

- Increase uptake of HPV vaccination

- Develop a strategy to address *H. pylori* infection in priority populations

- Reduce HIV transmission and ensure people maintain treatment



### Reduce the incidence and impact of avoidable skin cancer caused by UVR

Enhance prevention campaigns, including promotion through a range of settings

- Consider regulating primary sunscreens as a therapeutic product



### Reduce exposure to work-related carcinogens (to be led by WorkSafe)

Develop a work-related cancer programme as part of the cancer action plan



## Smokefree by 2025

**Finalise and deliver a Smokefree 2025 Action Plan**

•  
**Pass legislation to ban smoking in vehicles carrying children**

•  
**Implement guidance for stop-smoking services to better support young Māori women to stop smoking**

•  
**Promote vaping to support smokers to switch and introduce legislation to ensure vaping is regulated appropriately**

Tobacco smoking causes a significant level of health loss through preventable disease and premature death in New Zealand. It contributes to over 80 percent of lung cancer and is also a contributory risk factor in a number of other cancers.

New Zealand has a long history of introducing initiatives to reduce smoking rates. The tobacco control programme is made up of a range of initiatives, including prohibiting sales to under-18-year-olds, restricting advertising and product display, requiring standardised packaging, creating smokefree areas, taxing tobacco, the use of social marketing and offering stop-smoking services and subsidised stop-smoking medicines.

31.3% of Māori and 20% of Pacific peoples smoke daily

People living in the most deprived areas are almost three times as likely to smoke daily

The collective impact of these initiatives has reduced smoking rates and tobacco consumption over the last decade. The rate of daily smoking for adults has decreased from 18 percent in 2006/07 to 13.1 percent in 2017/18. However, disparities in smoking rates still exist.

Rural areas have a higher proportion of smokers than urban areas

Despite the declining rates in daily smokers, our Smokefree 2025 goal will be challenging to achieve. To achieve it, we need to foster a supportive environment in which young New Zealanders choose to be smokefree and smokers are supported to stop.



## Finalise and deliver a Smokefree 2025 Action Plan

In 2019, the Government agreed to develop a Smokefree 2025 Action Plan that will reflect a comprehensive supportive approach to encourage people not to start smoking and support those who are smoking to stop. The Ministry is working with the health sector to prepare advice on a range of options for possible inclusion in a plan to accelerate progress towards a smoke-free New Zealand.

The Smokefree 2025 Action Plan is likely to reflect the Government's focus on wellbeing, and take a life-course approach. It will build on existing successful interventions, and identify what other measures will best help us achieve a smokefree New Zealand by 2025.

While the plan is being developed, a range of initiatives are already under way.



### **Pass legislation to ban smoking in vehicles carrying children**

The Smoke-free Environments (prohibiting smoking in motor vehicles carrying children) Amendment Bill has had its first reading in Parliament, and has been referred to the Health Select Committee.



### **Implement guidance for stop-smoking services to better support young Māori women to stop smoking**

Following phases one and two of the Māori women's smoking project, the Ministry has been working with stop-smoking services, evaluation and clinical experts to co-design good practice guidance in this area (Ministry of Health 2018a). This guidance will be included in the service specifications of stop-smoking services from July 2019, and will enable better engagement and outcomes with the priority population of young Māori women.



### **Promote vaping to support smokers to switch and introduce legislation to ensure vaping is regulated appropriately**

The Smoke-free Environments (vaping) Amendment Bill is expected to be tabled in Parliament before being sent to the Select Committee for consideration in 2019 and includes provisions supporting smokers to stop.

The Ministry of Health and the Health Promotion Agency (HPA) are developing and delivering a public education campaign on vaping.



## Encourage and support healthy living

### Create supportive food environments across a range of settings, with schools as an initial priority

Take a coordinated intersectoral approach to increase New Zealanders' levels of physical activity

Consider additional population approaches to achieve and maintain a healthy weight

Implement approaches to minimise harm from alcohol



## Create supportive food environments across a range of settings, with schools as an initial priority

New Zealand has high rates of people who are overweight or obese. Attaining and maintaining a healthy weight, along with healthy eating and physical activity, is important for wellbeing, including through reducing the risk of cancers such as bowel, post-menopausal breast, kidney and endometrial cancers, and many other chronic conditions.

Healthy eating and physical activity in childhood support improved learning outcomes, healthy growth, healthy weight and development. The Ministry is working with the Ministry of Education and Sport NZ on Healthy Active Learning, a new joint agency initiative to better support children to make positive and informed choices about food and physical activity.

The Ministry is updating food policy advice for education settings, creating toolkits and supporting the creation of nutrition health promotion roles in Public Health Units to work with early learning services, schools and kura to adopt and implement healthy food and water (and plain milk) only policies.

Other work includes implementing the Ministry's evidence-based population health advice on healthy eating and physical activity, the Eating and Activity Guidelines and clinical guidelines for adult and child weight management, which are accompanied by supporting resources for the public (Ministry of Health 2018c).



## Take a coordinated inter-sectoral approach to increase New Zealanders' levels of physical activity

Sport New Zealand and the Ministry are initiating a cross-agency approach to increase people's levels of physical activity (including active play) by making the healthy choice the easy choice. The approach involves collaboration at central government level to prioritise the value of physical activity across government agencies.

As part of the joint agency Healthy Active Learning initiative, Sport NZ will partner with regional sports trusts to provide a workforce to work with 40 percent of all Year 1 to 8 primary and intermediate schools and kura. This workforce will help create active school environments by working alongside school leaders and teachers to enhance the provision of play, sport and physical education, and to create better connections with physical activity providers in their local communities.



## Consider additional population approaches to achieve and maintain a healthy weight

There is strong evidence that greater body fat increases the risk of cancers of the oesophagus (adenocarcinoma), pancreas, liver, colorectum, breast (postmenopausal), kidney and endometrium. As people generally gain weight gradually, regular monitoring of weight provides the best opportunity to address this risk; in this way, health providers can identify excess weight gain trends early and, through appropriate advice and support, prevent further weight gain.

The *Clinical Guidelines for Weight Management in New Zealand Adults* (Ministry of Health 2017b) and the *Clinical Guidelines for Weight Management in New Zealand Children and Young People* (Ministry of Health 2016a) present a four-stage pathway designed to facilitate clinical decision-making for prevention, early identification, investigation, management and support in this area. The guidelines are supported by public resources, and include advice on sleep, nutrition and physical activity.



## Implement approaches to minimise harm from alcohol

Alcohol can increase the risk of certain types of cancers. International evidence suggests that the more alcohol a person consumes, the higher their risk of developing alcohol-related cancers (WHO International Agency for Research on Cancer 1998). In 2007, alcohol was estimated to account for 4 percent of all cancer deaths in people under 80 years of age in New Zealand (Connor et al 2017).

Combining alcohol and smoking may result in an even higher risk of mouth and throat cancers (Cancer Council of Australia 2015). Alcohol may also contribute to weight gain, as it is high in calories; excess body weight and obesity increases the risk of a number of cancers.

In 2017/18, 25% of adults aged 15 years or more who drank alcohol in the past year had a potentially hazardous drinking pattern. Men (33%) are more likely to drink hazardously than women (17%). Māori (40%) and those living in deprived areas (32%) are more likely to drink hazardously than non-Māori and those living in less deprived areas (Ministry of Health 2017a).

International evidence suggests that reducing the accessibility of alcohol and the amount of alcohol advertising are among the most effective ways to reduce harm from alcohol, including the risk of cancer. We also need mechanisms to increase awareness of the risks of alcohol; for example, effective warning labels, community education initiatives and social marketing campaigns. Such mechanisms can support people to make more informed choices about alcohol consumption.



## Prevent cancers related to infection

### Improve the detection and management of hepatitis B and C

- Increase uptake of HPV vaccination

- Develop a strategy to address *H. pylori* infection in priority populations

- Reduce HIV transmission and ensure people maintain treatment

Viruses and bacteria can cause cancer, or increase the risk of cancer forming. Protection against these infectious diseases and monitoring of people with these conditions to enable early detection of cancer are important in reducing the risk. Certain treatments and vaccines are aimed at addressing these infections and preventing associated cancers.



## Improve the detection and management of hepatitis B and C

Hepatitis B and C are viral infections that can be transmitted via blood (for example, by sharing needles or through blood transfusions) and body fluids and cause inflammation of the liver. They are the leading causes of liver cancer in New Zealand, and hepatitis C is the leading reason for liver transplantation.

As of 31 December 2018, hepatitis B immunisation coverage for 12 month-olds was 92%

An estimated 110,000 people in New Zealand have chronic hepatitis B, many of whom may be unaware they have the disease, due to the latent nature of the virus. Hepatitis B has no cure, although an effective vaccine is available. Free vaccination is offered to people under 18 years of age, and to the household contacts and sexual partners of people infected with hepatitis B. In addition, a national programme provides follow-up for people with the virus and includes active surveillance, liaison with primary and secondary care, in addition to dietary and lifestyle advice.

In 2014, 50,000 New Zealanders were estimated to have hepatitis C (Gane et al 2014). Since then, approximately 6,500 New Zealanders with hepatitis C have been cured, through either clinical trials or PHARMAC-funded treatment.

In February 2019, PHARMAC funded a direct-acting antiviral called Maviret, which is able to treat all genotypes of hepatitis C and is expected to cure 99 percent of patients treated. Over 2,200 people with hepatitis C have started on the new treatment in the past six months. Much of this prescribing is undertaken by GPs and other community based prescribers. Hepatitis C tests are also being made available in some needle exchange services, community alcohol and drug services, opioid treatment services and pharmacies taking part in pilot programmes.

New Zealand's Needle and Syringe Exchange Programme is another prevention initiative that focuses on reducing the transmission of blood-borne viruses between people who inject drugs by providing free sterile injection equipment in exchange for the return of used injection equipment.

New Zealand is one of 194 countries that adopted the World Health Organization's (WHO's) *Global Health Sector Strategy on Viral Hepatitis* in 2016; this has the overarching goal to eliminate viral hepatitis as a public health threat by 2030 (World Health Organisation 2016).

In response, the Ministry has worked in collaboration with a cross-sector working group to develop a National Hepatitis C Action Plan. Sector review of the draft plan is underway and implementation planning has commenced. Following analysis of feedback and final changes, the Ministry will seek approval to publish a finalised plan by the end of 2019 (Ministry of Health 2019c).

A three month national 'Get Hep C Tested' campaign has also been delivered to encourage people who are most at risk of getting hepatitis C to get tested by contacting their GP or other health professional.



## Increase uptake of HPV vaccination

HPV is the most common sexually transmitted infection. There are many different types of HPV, some of which can cause health problems including genital warts, cervical cancers and precancerous cervical lesions.

The first line of defence against HPV-related cancers is to prevent infection through immunisation and early detection of precancerous cervical lesions (see high quality population screening section for details on the Cervical Screening Programme).

HPV immunisation began in New Zealand in 2008 for teenage girls, and was extended to include teenage boys in 2017. Over 300,000 New Zealanders have been immunised against HPV.

In New Zealand, the HPV immunisation overall coverage in 2018 for girls born in 2004 was 68% (66% for Māori, 78% for Pacific people, 76% for Asian people and 65% for other ethnic groups)

The availability of vaccines that protect against the most important strains of the HPV virus and the removal of precancerous lesions from the cervix means that cervical cancer is preventable. It is likely to be the first cancer to be effectively eliminated. This goal is within reach in New Zealand through a comprehensive cervical cancer prevention programme, which includes primary prevention (through HPV immunisation) and secondary prevention (through screening and early treatment).





## Develop a strategy to address *H. pylori* infection in priority populations

*H. pylori* is a type of bacteria that can live in the stomach and can cause ulcers. For some people, it can cause stomach cancer. Many people contract *H. pylori* in childhood. The risk factors are:

- living in a home with many other people
- lack of clean water
- low socioeconomic status.

Currently there is no coordinated programme to detect and manage people with this infection; however, there is the potential to introduce an *H. pylori* 'detect and treat' programme.

New Zealand's rate of *H. pylori* infection is lower than in many other developed countries; the average rate is 19%. By ethnicity, the rate is 35% for Māori, 30% for Pacific peoples, 24% for Asian people, 19% for Indian people and 8% for New Zealand Europeans.



## Reduce HIV transmission and ensure people maintain treatment

Human Immunodeficiency Virus (HIV) damages the immune system. It is spread through unprotected sex and contact with infected blood. New HIV diagnoses are continuing to decline for a second year since a concerning peak in 2016, in which the numbers were the highest in New Zealand history.

People infected with HIV have a substantially higher risk of some types of cancer compared with uninfected people of the same age. The Ministry is currently working on the Sexual and Reproductive Health Action Plan, which will address reducing transmission of sexually transmitted infections, including HIV, particularly in priority populations.



## Reduce the incidence and impact of avoidable skin cancer caused by UVR

Enhance prevention campaigns, including promotion through a range of settings

Consider regulating primary sunscreens as a therapeutic product



### Enhance prevention campaigns, including health promotion through a range of settings

New Zealand has relatively high UVR levels compared with other countries. Youth have been identified as a priority population, as evidence shows they are at greater risk of sunburn (overexposure to UVR).

Over the years, New Zealand has implemented a number of environmental and social methods to reduce the public's exposure to UVR, such as banning sunbed operations for under-18-year-olds. The Cancer Society of New Zealand, the HPA and local councils have taken the lead in such initiatives.

Evidence suggests that the best way to reduce New Zealand's skin cancers rates are primary prevention and early diagnosis. The HPA and the Melanoma Network of New Zealand developed the New Zealand Skin Cancer Primary Prevention and Early Detection Strategy 2017 to 2022 to help inform programmes and activities that can reduce the incidence and impact of skin cancer in New Zealand (Health Promotion Agency and Melanoma Network of New Zealand 2017).

Youth were sunburned at a higher rate than adults aged 55 years and over (Health Promotion Agency 2016).

The rate of people who were sunburned in the last year was 15% for people aged 18–54 years in 2016, compared with 22% in 2013.

The rate of youth who got sunburned decreased from 20% to 17% over the same three years.



### Consider regulating primary sunscreens as a therapeutic product

Sunscreens are currently considered to be a cosmetic and are regulated under the Hazardous Substances and New Organisms Act, under its Cosmetics Group Standard. These standards are set by the Environmental Protection Authority to manage any risks associated with the product or its ingredients.

Claims for UV protection are covered by the Fair Trading Act. In New Zealand sunscreen is also covered by a voluntary standard (a joint Australian and New Zealand standard AS/NZS 2604:2012). Longer term, consideration will be given regarding the inclusion of primary sunscreens (ie, those with a SPF of 4 or more) in the proposed Therapeutic Products Bill.

This will ensure New Zealanders have access to quality products. When combined with other sun smart measures such as wearing sunhats and implementing sunshade in public spaces, it will give optimal protection from the sun.



## Reduce exposure to work-related carcinogens (to be led by WorkSafe)

Develop a work-related cancer programme as part of the cancer plan



## Develop a work-related cancer programme as part of the cancer action plan

Work-related cancer causes an estimated 400 deaths per year in New Zealand; an estimated 8,200 disability-adjusted life years (DALYs) are lost annually from cancers caused by work. This represents 19 percent of all work-related disease. Based on modelling, lung, mesothelioma and breast cancers comprise 91 percent of the reported work-related cancer disease burden (WorkSafe 2019).

WorkSafe New Zealand is the country's primary workplace health and safety regulator. It is currently implementing a programme to address ill-health and deaths arising from work-related carcinogens.

# Outcome 4: New Zealanders have better cancer survival – Te huanga 4: He hiki ake i te oranga

Surviving many cancers is dependent on early diagnosis and an overall system that is well coordinated, focused on improving outcomes and information-rich, and that can respond in a timely, effective and appropriate way. The health system must treat people as a whole, and not just the illness.

By ensuring New Zealanders receive people- or family/whānau-centred cancer care that is appropriately timed and of high quality across the cancer continuum, we can lift our survival rates.

We need a cultural shift in the way we deliver health services, to better reflect the needs and values of our community and deliver modern and consistent care. We need to raise awareness of cancer among our families/whānau and communities, to ensure they make the best decisions they can about their health.

Primary health care is the hub of the system and has an ongoing role to play in early detection, management of chronic conditions and comorbidities as well as supporting people to live well with and beyond cancer.

Cancer care will continue to be pressured by the rising number of people with cancer, increasing age and comorbidity, technology and new drugs, increasing specialisation and increasing awareness of and demand for supportive care.

In 2011/12, the calculated price of registered cancers was \$880 million, compared with \$511 million in 2008/09. Of this investment in 2011/12, colorectal cancer contributed the most costs (14.7%), followed by breast (14.4%), prostate, lung, non-Hodgkin lymphoma and leukaemia (each contributing 5–7%)

## New Zealanders have better cancer survival



### Increase early detection of cancers

Develop programmes to increase public awareness of possible signs and symptoms of cancer

Consider implementing national early detection programmes for priority cancers

Develop tools and pathways to facilitate cancer diagnosis for primary and community health

Provide services to support people with an increased risk of cancer through identification and monitoring



### High quality population screening

Enable equitable participation for existing national cancer screening programmes through targeted investment for priority populations

Progressively increase the age of eligibility for breast screening from 70 to 74 years

Explore introduction of HPV screening test for cervical screening

Consider implementing HPV self-testing

**Build and implement the NSS for bowel screening and other cancer screening programmes**

**Progress implementation of the National Bowel Screening Programme**

**Actively monitor evidence for new targeted screening programmes for priority populations**



### Improve cancer diagnosis and treatment outcomes

Develop fast-tracked diagnostic pathways for priority cancers

**Implement quality improvement indicators and initiatives to support access to quality cancer treatment**

Nationally agree on the scope and distribution of specialist cancer and cancer surgical services

**Invest in workforce, technology and treatment capacity for radiation oncology**

Collect detailed data to identify and address inequities and inefficiencies in systemic anti-cancer therapy (SACT)

**Undertake earlier assessment of new medicine applications**

**Develop options for early access to new medicines**

Ensure more transparent funding decisions by PHARMAC

Acknowledge the use of traditional and/or complementary therapies as part of care planning

Proactively assess, treat and manage patients with comorbidities



### Living well with and beyond cancer

Develop care plans to meet the holistic needs of patients and families/whānau, including advance care plans

Develop cancer surveillance guidelines

Support early access to palliative and end-of-life care

Implement phase II actions from the national travel assistance policy review

Consider options for kaupapa Māori and Māori-led programmes for family/whānau affected by cancer



## Increase early detection of cancers

Develop programmes to increase public awareness of possible signs and symptoms of cancer

Consider implementing national early detection programmes for priority cancers

Develop tools and pathways to facilitate cancer diagnosis for primary and community health

Provide services to support people with an increased risk of cancer through identification and monitoring

We need to better support our families/whānau and communities to receive timely, appropriate care and have the information they need to make the best decisions they can about their health. Early detection means recognising the possible signs and symptoms of cancer at the earliest possible stage and ensuring people get potential symptoms checked. Early detection enables treatment to be more effective and potentially less complex.

Access to primary health is at the heart of an effective, equitable public health system. This is particularly important for people with cancer, where early detection and appropriate intervention is effective in improving outcomes.

In 2017/18, approximately 15 percent of New Zealanders experienced barriers to accessing primary health, for reasons including the cost of appointments and prescriptions, and non-financial barriers such as time off work, carer obligations and lack of transport.

A number of initiatives have aimed to reduce such barriers to accessing primary health, including extending cheaper primary health visits to greater proportions of the population. Additionally, children under 14 years old now receive free visits to primary health.

However, inequities persist:

- access to general practice for Māori is worse compared with access for non-Māori
- Māori are less likely than non-Māori to be diagnosed at earlier stages of the disease for several types of cancer
- Māori and Pacific peoples having a lower five-year chance of survival for most cancers than non-Māori and non-Pacific peoples; some of this disparity in outcome can be explained by stage of disease at diagnosis

Survival at one and five years following treatment is much higher if the cancer is detected at an early stage. For example, colorectal cancer one-year survival if detected early (ie, at stage one) is 97.7%, but falls to 43.9% if detected late (ie, at stage four). Lung cancer follows the same pattern: one-year survival is 87.3% for stage-one disease, but only 18.7% for stage four (Hawkes 2019).

- people living in more socioeconomically deprived areas are less likely to have their cancer detected early, compared with people living in less deprived areas
- Māori and Pacific peoples having higher rates of being diagnosed with cancer via an emergency department.



## Develop programmes to increase public awareness of possible signs and symptoms of cancer

We need to provide greater support and education to New Zealanders, to give them the ability to make the best health decisions for themselves and their family/whānau. We need to provide people with the knowledge, skills and confidence to use cancer health information (such as information on early cancer signs and symptoms) effectively. We need stronger engagement between the primary health sector and the community, to facilitate earlier diagnosis of cancer.

To promote cancer information, we need a multi-layered programme involving actions at grass-roots levels, partnering with primary health organisations, non-governmental organisations (NGOs) and Māori and Pacific health workers and providers to ensure a community approach.

NGOs play an important role in supporting the actions of this plan, and promoting the public awareness of signs and symptoms of cancer, because they work closely with people and whānau in community settings.



## Consider implementing national early detection programmes for priority cancers

We need to develop national early detection programmes for priority cancers. The National Lung Cancer Working Group is developing an integrated approach to early detection through a designated programme with four components:

- a public awareness campaign
- education for health professionals
- improved clinical pathways
- monitoring to evaluate effectiveness.

We will consider this approach for other cancers.



## Develop tools and pathways to facilitate cancer diagnosis for primary and community health

We need to support primary and community health services to effectively manage patients who present with cancer-related concerns. A strong and robust knowledge base is central to ensuring that such services make the best decisions in consultation with individual patients. Services require the best available tools to assess patients' symptoms accurately and identify those who require more urgent investigation.

Primary and community health services face challenges regarding access to diagnostic tests. A survey of New Zealand primary health physicians showed that direct diagnostic tests in New Zealand were limited, and took more time than they do in most other International Cancer Benchmarking Partnership jurisdictions (Htun et al 2017).





## Provide services to support people with an increased risk of cancer through identification and monitoring

New Zealanders need access to familial cancer services, including screening of at-risk family/whānau members. As an example, the New Zealand Familial Gastrointestinal Cancer Service provides support to help identify and manage people with inherited gastrointestinal cancer. An equivalent service does not exist for women who have inherited the breast cancer (BRCA) gene mutation and are at high risk of developing breast and ovarian cancer. We will undertake work to consider establishing such a service.



## High quality population screening

Enable equitable participation for existing national cancer screening programmes through targeted investment for priority populations

Progressively increase the age of eligibility for breast screening from 70 to 74 years

Explore introduction of HPV screening test for cervical screening

Consider implementing HPV self-testing

**Build and implement the NSS for bowel screening and other cancer screening programmes**

**Progress implementation of the National Bowel Screening Programme**

**Actively monitor evidence for new targeted screening programmes for priority populations**

Organised population screening programmes play an important role in helping prevent and detect cancers at earlier, more treatable stages.

National screening programmes are in place for breast and cervical cancers, and national screening for bowel cancer is being rolled out progressively across New Zealand. These programmes are for large groups of the population who appear well and do not have symptoms. Screening looks for early signs that a cancer may develop or is already present. The cervical and bowel screening programmes also act as prevention programmes, because they detect and facilitate the removal of precancerous lesions that might develop into cancer.



## Enable equitable participation for existing national cancer screening programmes through targeted investment for priority populations

There is variation in the uptake of New Zealand's three programmes across different population groups, which has widened existing health inequities and contributed to reduced survival rates. Barriers to accessing screening services lead to unfair differences in screening participation and inequitable outcomes.

The screening programmes will work towards achieving equitable participation through a focus on priority populations (Māori, Pacific peoples and low socioeconomic groups), through primary health and through targeted outreach activities. We will develop a plan to assist primary health organisations to support their patients to participate in screening.

Current examples of ways to increase participation in screening among Māori and Pacific people include targeted active follow-up on invitations; tailored health promotion; primary health involvement in promoting participation; and engagement with community groups, churches and marae.



## Progressively increase the age of eligibility for breast screening from 70 to 74 years

BreastScreen Aotearoa provides mammogram screening for breast cancer in women aged 45–69 years. The programme has resulted in a reduction of approximately 30 percent in breast cancer mortality for women. Recent evidence shows there may be a mortality benefit to providing regular organised breast screening to women aged 70–74 years for breast cancer.

The breast cancer mortality benefit is currently less for Māori women, because they have lower participation coverage. Alongside progressively increasing the age for breast screening, work will continue to achieving equity for all population groups in the existing age range, particularly for Māori women.

In 2017 and 2018, participation in BreastScreen Aotearoa for women aged 45–69 years was 65.7% for Māori and 72.6% for non-Māori. The coverage target is 70%.



## Explore introduction of HPV screening for the cervical screening programme

The National Cervical Screening Programme is available to all women in New Zealand between 20 and 70 years old. The screening test checks for abnormal cell changes to the cervix, thereby reducing the risk of women developing cervical cancer.

Since the introduction of the programme, the incidence of cervical cancer in New Zealand has decreased by approximately 50 percent, and mortality has decreased by 60 percent. Māori women are almost twice as likely to get cervical cancer, and almost three times as likely to die from it compared with non-Māori women.

Subject to additional funding, the Ministry is considering replacing the current cytology test in the screening programme with the HPV test which prevents, through earlier detection of precancerous abnormalities, more cases of cervical cancer.

From 2016 to 2018, participation in the National Cervical Screening Programme for women aged 20–69 years was 63.8% for Māori and 71.5% for non-Māori. The coverage target is 80%



## Consider implementing HPV self-testing

The Ministry is also seeking to be able to provide women with the option of self-testing. HPV self-testing can be done on a vaginal sample self-taken by a woman; this has the potential to improve screening coverage. Recent research shows that HPV self-testing could be a more acceptable option to Māori women, who currently have low participation rates in the screening programme (Adcock et al 2019).



## Build and implement the NSS for bowel screening and other cancer screening programmes

The National Screening Solution (NSS) is critical in managing participant pathways, monitoring and evaluating screening programmes and maintaining fail-safe mechanisms along the screening pathway. The NSS is a flexible and extendable IT solution and will support the National Bowel Screening Programme in the first instance. We need to consider extending the NSS for the BreastScreen Aotearoa and the National Cervical Screening Programme; as the current IT systems supporting these programmes are not fit for purpose.



## Progress implementation of the National Bowel Screening Programme

The National Bowel Screening Programme (NBSP) provides faecal immunochemical test screening for bowel cancer and precancerous lesions in people aged 60–74 years free of charge. Bowel screening is expected to provide about a 16 percent reduction in mortality from bowel cancer (Logan et al 2012).

The NBSP is available in Hutt Valley, Wairarapa, Waitemata, Southern, Counties Manukau, Nelson Marlborough, Hawke's Bay and Lakes DHBs. The NBSP will continue to be rolled out gradually across the country. This approach allows DHBs time to prepare for the extra investigations and treatments that flow from a screening programme. When it is available in all areas, the programme will invite about 700,000 people for screening every two years. It is expected to detect around 500 to 700 cancers a year in the early stages of the roll-out.

Achieving equitable outcomes in the bowel screening programme is a priority. While there will be positive health gains for both Māori and non-Māori, the overall health gains from the programme in its current form will be greater for non-Māori. A similar inequity is likely for Pacific peoples. The highest priority recommendation emerging from a hui with Māori health experts was to extend the age range for screening for Māori to 50–74 years of age, based on clinical evidence. Among Māori, 45 percent of colorectal cancers occur by the age of 60, compared with 21 percent among non-Māori.

We have allocated almost \$78 million to get the programme running, and to cover the cost of establishing a National Coordination Centre and four regional centres. The centres started operating late in 2017. The roll-out of the NBSP is expected to be complete by June 2021.



## Actively monitor evidence for new targeted screening programmes for priority populations

The National Screening Advisory Committee (NSAC) periodically reviews the evidence for new population screening programmes, and assesses scientific evidence against established criteria to decide whether a screening programme is recommended.

NSAC will continue to review emerging evidence for the introduction of new targeted screening programmes in New Zealand, in particular for the following three areas.

- **Lung cancer screening**

Lung cancer is a leading cause of death in New Zealand; the highest incidence is among Māori. There is some evidence to support regular screening for people at high risk of lung cancer using low-dose computed tomography (CT). In this regard, we need to further analyse recently completed European research and New Zealand-based research.

- ***H. pylori* screening**

Information on the acceptability, costs and uptake of the available tests for *H. pylori*, and the antibiotic resistance of differing strains, will enable us to consider whether to introduce a *H. pylori* 'detect and treat' programme in New Zealand.

- **Prostate cancer screening**

Routine population-based screening for prostate cancer in all men without symptoms is not recommended in New Zealand at present, because the harms of screening asymptomatic men outweigh the benefits. The NSAC will continue to carry out evidence-based assessments as new research becomes available.

The Ministry developed an online tool called Kupe to facilitate informed and shared decision-making between men, their families/whānau and their primary health practitioners about prostate screening. The Ministry will review and update Kupe to ensure it gives balanced information on the harms and benefits of prostate screening.



## Improve cancer diagnosis and treatment outcomes

Develop fast-tracked diagnostic pathways for priority cancers

**Implement quality improvement indicators and initiatives to support access to quality cancer treatment**

Nationally agree on the scope and distribution of specialist cancer and cancer surgical services

**Invest in workforce, technology and treatment capacity for radiation oncology**

Collect detailed data to identify and address inequities and inefficiencies in systemic anti-cancer therapy (SACT)

**Undertake earlier assessment of new medicine applications**

**Develop options for early access to new medicines**

Ensure more transparent funding decisions by PHARMAC

Acknowledge the use of traditional and/or complementary therapies as part of care planning

Proactively assess, treat and manage patients with comorbidities

Treatment of cancer is complex, and varies by tumour type and stage at diagnosis, as well as the age of the person undergoing treatment, their general health status and the presence of comorbidities.

New Zealanders should have equitable access to timely, high-quality cancer treatment. In this regard, we have made good progress in some areas, but still need improvement in others, particularly in terms of achieving equity and national consistency.



## Develop fast-tracked diagnostic pathways for priority cancers

Delays in cancer diagnosis may occur throughout the diagnostic pathway, primary health and secondary care. Delays may be detrimental, leading to advanced stage at diagnosis and poorer survival. We need to develop improvement initiatives to speed up access to diagnosis; monitoring the timeliness of the pathway from primary health through to diagnosis can help us to identify delays and address them.



## Implement quality improvement indicators and initiatives to support access to quality cancer treatment

Over the coming years, the demographic changes in our population will bring an increasing demand for cancer therapies; more people than ever will require access to high-quality cancer treatments and services that ensure the best possible outcomes.

Cancer treatment providers are increasingly adopting personalised, targeted therapies, based on the results of molecular testing in certain tumour types. Where appropriate, it is important that New Zealand considers the implementation of evidence-based molecular testing technologies, particularly when the results of such testing have implications for defined treatment options.

We have established a project to collect stage data (classifying disease extent) and improve the existing collection of clinically (non-pathological) and pathologically diagnosed cancer data at a national level from 1 July 2020, through Ministry collection processes.

### Standards of care

Tumour-specific standards of care describe the level of service a person with cancer should have access to, and enable us to identify and address significant variations in care. New Zealand currently has tumour-specific standards for 11 cancers.

As a priority, we will complete online standards of care for people affected by cancer. Health providers are responsible for meeting the standards of care.

When implemented, the standards of care will function as a quality improvement tool, driving nationally consistent, equitable care. In addition, we will update existing tumour-specific standards to ensure consistency with the overall standards of care.

### Develop quality performance indicators

Addressing variation in the quality of cancer services is pivotal to delivering quality improvements. We can best achieve this through consensus and clear indicators for what good cancer care looks like. The Ministry is leading a process of quality improvement by developing quality performance indicators (QPIs) for the specific cancer types. There is a high level of clinical engagement with and support for this work. The programme supports national consistency in the standard of care provided to people with cancer.

The first set of QPIs is for diagnosing and treating bowel cancer. The Ministry published the *Bowel Cancer Quality Improvement Report*, presenting the first results for bowel cancer, in March 2019 (Ministry of Health 2019b). The development of QPIs for other tumours, based on this first set, is under way. By early 2020, prostate, lung and neuro-endocrine tumour QPIs will be published.

## Patient experience

In New Zealand, people affected by cancer should expect high-quality care that is delivered in a way that works for them. They should feel part of the decision-making process, and that their emotional, psychological, spiritual and social needs are met and respected at every stage. How people experience health care is just as important as the treatment they receive.

Patient-reported outcome measures (PROMs) are a validated set of questions completed by patients. They ask for the patient's assessment of how health services and interventions have, over time, affected their quality of life, daily functioning, symptom severity and other dimensions of health that only patients can know. PROMs fill a vital gap in our knowledge about outcomes, in terms of whether health care interventions actually make a difference to people's lives. The Ministry recognises the importance of this work, and will explore the development of a national set of PROMs.

Standards of care, QPIs and patient experience work is a priority. It is important that we develop these tools in a way that enables a high level of engagement by both respondents and health professionals, and ensures the voices of Māori and priority populations are heard.

## Children, adolescents and young adults with cancer

In New Zealand, existing plans and strategies prioritise cancer services for children, adolescents and young adults. The National Child Cancer Network (NCCN) and the Adolescent and Young Adult (AYA) Cancer Network play a part in these plans and strategies, bringing together a range of stakeholders, including children, adolescents and young adults affected by cancer, their families/whānau, cancer service providers and NGOs, to develop and deliver appropriate programmes of work. These programmes include work on standards of care, person and family/whānau experiences, shared-care models and identifying and addressing inequities.

There is much to learn about how services are developed with and provided to these patient groups, especially in relation to improving survival rates and eliminating inequities. The plan does not describe the existing initiatives led by the NCCN and AYA networks; however, the majority of the priorities described in the plan will also benefit these patient groups. Any new initiatives aiming to specifically improve outcomes and experiences for children, adolescents and young adults affected by cancer must be codesigned with patients and families/whānau. The NCCN and AYA networks are well placed to facilitate this, with appropriate resourcing.



## Nationally agree the scope and distribution of specialist cancer and cancer surgical services

Cancer treatment is increasingly complex, both because of advances in personalised and targeted treatments and because of the growing incidence of comorbid chronic diseases. The safe provision of some cancer treatments requires highly specialist staff, high-volume centres or specific equipment.



We need to strengthen the capacity of the cancer system in New Zealand to deliver high-quality, people- and family/whānau-centred, integrated, multidisciplinary care, with a focus on reducing unwarranted variations. Well-integrated cancer services with robust service links between primary, secondary and tertiary health and referral pathways will help us achieve this.

Where clinically appropriate, services should be planned and delivered at a local level. Where there is evidence that regional or national services produce better outcomes, appropriate pathways should be developed to facilitate this. To ensure nationally consistent optimal outcomes, we need to develop specialised units or 'hubs of excellence'. There may be benefits in some relatively rare cancers being treated at a specialised national unit.

It is important to recognise that, while individuals may need to spend time in a centre of expertise for some highly specialised and/or complex treatment, before that treatment and subsequently, they should receive support locally, through primary and community health and local hospitals. We need to ensure that people receive the benefit of specialist expertise combined with local access. For this system to work, we need to consider improving people's access to transport and accommodation, and developing nationally agreed service provision models to improve treatment outcomes.



## Invest in workforce, technology and treatment capacity for radiation oncology

Radiation therapy techniques and delivery technologies continue to develop globally. Adopting more advanced radiotherapy techniques requires investment in software and staff training, within a workforce that already faces significant pressures.

The recent Government announcement to invest in replacement linear accelerators will build on and support service sustainability going forward. As part of this planning, determining locality for both replacement and additional linear accelerators will be considered where viable. The Ministry and wider health sector will prioritise workforce, technology and treatment.

We will review and update the 2017–2021 National Radiation Oncology Plan to ensure radiation oncology services are future proofed and sustainable. This review will also look at future investment priorities for additional linear accelerators, including where these are best located and the services required to support the additions, given projected future demand.

The New Zealand Radiation Oncology Collection was developed by the Radiation Oncology Working Group in partnership with the Ministry. It is a national collection of public and private radiation oncology treatment data used by the Ministry, DHBs, regional cancer networks and treatment centres for clinical benchmarking, health equity analysis, understanding and reducing variation and capacity planning.



## Collect detailed data to identify and address inequities and inefficiencies in SACT

The phrase 'systemic anti-cancer therapy' (SACT) refers to a group of drug-based cancer treatments, comprising chemotherapy agents alongside targeted therapies, immunotherapy, hormones and supportive care medicines to reduce side-effects.

The SACT New Zealand project, launched in late 2018, will develop a detailed database of information on patients receiving SACT across New Zealand, to identify and reduce variation, enhance equity of access and support resource planning. Phase 1 of this project requires the development of national data and regimen definitions, to create a solid foundation for the subsequent capture of meaningful and comparable data at the national level. We will undertake this as a priority action.



## Undertake earlier assessment of new medicine applications

From January 2020, PHARMAC proposes to assess funding applications for new cancer medicines in parallel with Medsafe's safety assessment process (rather than waiting until Medsafe has approved the medicine). The aim is to reduce the overall time for new cancer medicines to be assessed by Medsafe and PHARMAC, and so shorten the time it takes for a cancer medicine to reach PHARMAC's list of options for potential funding.

While this change will speed up the assessment process, it will not necessarily result in more cancer medicines being funded.



## Develop options for early access to new medicines

As a priority, the Government has agreed to a work programme with the Ministry to work with PHARMAC to explore options and provide advice on how to address the complex challenges of enabling earlier access to new cancer medicines.



## Ensure more transparent funding decisions by PHARMAC

As a priority, PHARMAC is committed to making its funding decisions faster, clearer and simpler. To this end, it is currently:

- clarifying the stage of all applications in the decision-making process, and the basis of its decisions to fund
- working to publish recommendations from its expert clinical advisors earlier
- providing people with more clarity about applications that do not result in the medicine being funded
- looking to close funding applications no longer being actively considered
- launching a new online application system (PHARMconnect) in August 2019 to simplify the process of making and tracking funding applications.



## Acknowledge the use of traditional and/or complementary therapies as part of care planning

Rongoā Māori (the Māori traditional healing system) is informed by a body of knowledge that has, at its core, the enhancement of Māori wellbeing. Providing safe and quality rongoā care to patients is paramount to the wellbeing of Māori communities. Traditional healing has been long used by Pacific peoples to help in their recovery. It involves taking a holistic approach to treating the person, where their mental, emotional, physical and spiritual wellbeing are looked after together, rather than as separate parts.

Complementary therapies may be used together with conventional evidenced-based systemic treatments to support and enhance a person's quality of life, help control side effects such as pain and fatigue and improve wellbeing. However, some may not be recommended during treatment for cancer, as they could interfere with treatment and/or worsen side effects.

Further research is needed into the use and disclosure of traditional and complementary therapies, and developing guidance to support health professionals working with patients who choose to use traditional and complementary therapies.



## Proactively assess, treat and manage patients with comorbidities

Comorbidity (eg, diabetes or cardiovascular disease) is common among people affected by cancer and, as our population ages, is becoming even more so. Comorbidity has a major impact on people affected by cancer and health services. It is also a driver of inequities, and is unevenly distributed within populations, particularly for Māori and Pacific peoples and those from low socioeconomic groups. We need to undertake more work within primary health settings to proactively manage the comorbidities of people with cancer.

Comorbidity potentially affects the development, stage at diagnosis, treatment and outcomes of people with cancer. Despite the intimate relationship between comorbidity and cancer, there is limited consensus on how to record, interpret or manage comorbidity in the context of cancer. Patients with comorbidity have poorer survival and quality of life, and higher health care costs (Sarfati et al 2016).

We will give consideration to improving the evidence base for patients with comorbidity, further developing clinical tools to assist decision-making, improving integration and coordination of care and developing clinicians' skills in primary health and secondary services.



## Living well with and beyond cancer

Develop care plans to meet the holistic needs of patients and families/whānau, including advance care plans



Develop cancer surveillance guidelines



Support early access to palliative and end-of-life care



Implement phase II actions from the national travel assistance policy review



Consider options for kaupapa Māori and Māori-led programmes for family/whānau affected by cancer

As cancer treatments improve, more people are living with, and beyond, cancer. Support for people affected by cancer is essential to improving overall outcomes from cancer care.

Anecdotally, patients report experiencing a loss of support at the point when their treatment in secondary and tertiary care ends – yet support at this stage is crucial, to ensure the benefits of treatment are maintained and complications are avoided. Fast and appropriate re-entry into secondary care is essential in the event of cancer recurring. Wherever possible, people affected by cancer need to be involved in making choices, including through being offered early access to palliative care and planning for their end-of-life care.

In October 2018, the Cancer Society of New Zealand, in partnership with the Central Cancer Network and the Cancer Nurses College (Cancer Nurses College 2019) developed a cancer survivorship consensus statement for New Zealand. The statement has a strong focus on equity and Te Tiriti o Waitangi, quality of life, care planning, accessing information, follow-up and surveillance, rehabilitation and resilience.

Primary health services play an essential role in supporting people affected by cancer. Primary health providers generally have long-term relationships with people with cancer, from their initial diagnoses through referral, and after their interaction with secondary and tertiary health services.



## Develop care plans to meet the holistic needs of patients and families/whānau, including advance care plans

Survivorship care plans provide a record of a person's diagnosis and the treatment received, potential late and long-term effects arising from the cancer and its treatment, recommended follow-up and strategies to help the person remain well.

They are used to improve communication between people affected by cancer, their primary health providers and secondary health cancer teams.

Advance care planning (ACP) is a process through which people, their families/whānau and health care providers plan for a person's future health care. It is relevant across all stages of the cancer continuum and for all New Zealanders, but is particularly helpful to support the provision of someone's palliative and end-of-life care. We need to increase public and workforce awareness about the use of advance care planning across the health sector, government and community agencies and among older people.

'Kia kōrero/Let's talk advance care planning' is a campaign that encourages people to plan for their future health care. The campaign is part of the ACP programme managed by the Health Quality & Safety Commission and supported by DHBs.



## Develop cancer surveillance guidelines

Follow-up and surveillance for recurrence, late effects and new cancers are components of post-treatment recovery. They can include follow-up appointments with specialists, blood tests or X-rays. We will develop tumour-specific follow-up and surveillance advice alongside development of the standards of care. Follow-up and surveillance activities need to involve primary health expertise, to ensure appropriate shared care arrangements.

Secondary and tertiary hospital cancer services must communicate with primary and community health providers to ensure the transition from hospital care to primary health meets the needs of the individual. We need to ensure follow-up and surveillance that is person-centred, focuses on risk and is supported by a holistic needs assessment and individual care plans.



## Support early access to palliative and end-of-life care

Early access to palliative and end-of-life care is important for people who have life-threatening or limiting conditions. Palliative and end-of-life care needs to be responsive to the changing preferences and priorities of people with advanced illness and their families/whānau.

Palliative care is about enabling someone to live as well as possible within their preferred family/whānau situation. As well as controlling pain and other symptoms, it is about helping individuals and their families/whānau cope with the grief and practical problems of their situation. All health care workers require an appropriate level of knowledge and skill in palliative and end-of-life care.

The priorities of the 2017 *Palliative Care Action Plan* have recently been endorsed by sector leaders, and should be considered as part of this plan (Ministry of Health 2017c).



## Implement phase II actions from the national travel assistance policy review

The National Travel Assistance Scheme is designed to help with transport and accommodation costs for people who need to travel long distances, or often, for specialist hospital treatment. The Ministry has recently reviewed the scheme and commenced a programme to improve it, including through reviewing the national policy to ensure that it is clear and supports best practice.



## Consider options for kaupapa Māori and Māori-led programmes for family/whānau affected by cancer

Kaupapa Māori practices are driven by Māori, and focus on issues of concern to Māori, using methods and practices that recognise tikanga (Māori knowledge). Kaupapa Māori affirms wellness as a collective aspiration. Community-level health interventions, underpinned by kaupapa Māori approaches to design and delivery, have the potential to improve health outcomes for Māori.

Current approaches to cancer prevention and management inadequately address the needs of Māori. The emphasis on the individual ignores the multidimensional role of whānau within Māori communities. We could explore further opportunities for kaupapa Māori programmes for whānau affected by cancer.

# References

Adcock A, Cram F, Lawton B, et al. 2019. Acceptability of self-taken vaginal HPV sample for cervical screening among an under-screened Indigenous population. *Aust NZ J Obstet Gynaecol* 59(2): 301-7.

Allemani C, Matsuda, T, Di C, Veronica; H, Rhea, Mz, Melissa, N, Maja et al. 2018. Global surveillance of trends in cancer survival 2000–14 (CONCORD-3): analysis of individual records for 37 513 025 patients diagnosed with one of 18 cancers from 322 population-based registries in 71 countries. *The Lancet* 391(10125): 1023-75.

Bray F, Ferlay J, Soerjomataram I, et al. 2018. Global cancer statistics 2018: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA: A Cancer Journal for Clinicians* 68(6): 394-424.

Cancer Council of Australia. 2015. *Position statement: Alcohol and cancer risk*. URL: [https://wiki.cancer.org.au/policy/Position\\_statement\\_-\\_Alcohol\\_and\\_cancer](https://wiki.cancer.org.au/policy/Position_statement_-_Alcohol_and_cancer) (accessed 25 July 2019).

Cancer Nurses College. 2019. *Cancer Nurses College*. URL: [https://www.nzno.org.nz/groups/colleges\\_sections/colleges/cancer\\_nurses\\_college](https://www.nzno.org.nz/groups/colleges_sections/colleges/cancer_nurses_college) (accessed 25 July 2019).

Centers for Disease Control and Prevention. 2014. *Up to 40 percent of annual deaths from each of five leading US causes are preventable*. URL: <https://www.cdc.gov/media/releases/2014/p0501-preventable-deaths.html> (accessed 25 July 2019).

Connor J, Kydd R, Maclennan B, et al. 2017. Alcohol-attributable cancer deaths under 80 years of age in New Zealand. *Drug Alcohol Rev* 36(3): 415-23.

Cunningham R, Sarfati D, Stanley J, et al. 2015. Cancer survival in the context of mental illness: a national cohort study. *Gen Hosp Psychiatry* 37(6): 501-6.

Disney G. 2016. New Zealand Census Mortality and Cancer Trends Study Data Explorer. (accessed 25 June 2019).

Gane EJ, Deray G, Liaw YF, et al. 2014. Telbivudine improves renal function in patients with chronic hepatitis B. *Gastroenterology* 146(1): 138-46 e5.

Hawkes N. 2019. Cancer survival data emphasise importance of early diagnosis. *BMJ* 364: l408.

Health Promotion Agency. 2016. *Sun Exposure Survey 2016 Methodology Report*. URL: <https://www.hpa.org.nz/research-library/research-publications/sun-exposure-survey-2016-methodology-report> (accessed 1 August 2019).

Health Promotion Agency and Melanoma Network of New Zealand. 2017. *New Zealand Skin Cancer Primary Prevention and Early Detection Strategy 2017 to 2022*. URL: <https://www.sunsmart.org.nz/sites/default/files/documents/FINAL-Strategy-2017-to-2022.PDF> (accessed 29 July 2019).

Hill S, Sarfati D, Robson B, et al. 2013. Indigenous inequalities in cancer: what role for health care? *ANZ journal of surgery* 83(1-2): 36-41.

Htun HW, Elwood JM, Ioannides SJ, et al. 2017. Investigations and referral for suspected cancer in primary care in New Zealand—A survey linked to the International Cancer Benchmarking Partnership. *European Journal of Cancer Care* 26(3): e12634.

Institute of Medicine. 2013. *Delivering High-Quality Cancer Care: Charting a New Course for a System in Crisis*. URL: (accessed 25 July 2019).

Logan RF, Patnick J, Nickerson C, et al. 2012. Outcomes of the Bowel Cancer Screening Programme (BCSP) in England after the first 1 million tests. *Gut* 61(10): 1439-46.

Ministry of Business IaEaMoH. 2017. *New Zealand Health Research Strategy 2017-2027*. URL: <https://www.health.govt.nz/publication/new-zealand-health-research-strategy-2017-2027> (accessed 25 July 2019).

Ministry of Health. 2010. *Unequal Impact II: Māori and Non-Māori Cancer Statistics by Deprivation and Rural-Urban Status, 2002-2006*. URL: <https://www.health.govt.nz/publication/unequalimpact-ii-maori-and-non-maori-cancer-statistics-deprivation-and-rural-urban-status-2002-2006> (accessed 19 July 2019).

Ministry of Health. 2015. *New Zealand Cancer Health Information Strategy*. URL: <https://www.health.govt.nz/publication/new-zealand-cancer-health-information-strategy> (accessed 25 July 2019).

Ministry of Health. 2016a. *Clinical Guidelines for Weight Management in New Zealand Children and Young People*. URL: <https://www.health.govt.nz/publication/clinical-guidelines-weight-management-new-zealand-children-and-young-people> (accessed 25 July 2019).

Ministry of Health. 2016b. *Health Loss in New Zealand 1990-2013: A report from the New Zealand Burden of Diseases, Injuries and Risk Factors Study*. URL: <https://www.health.govt.nz/publication/health-loss-new-zealand-1990-2013> (accessed 25 July 2019).

Ministry of Health. 2017a. *Annual Data Explorer 2016/17: New Zealand Health Survey [Data File]*. URL: <https://minhealthnz.shinyapps.io/nz-health-survey-2016-17-annual-update> (accessed 25 July 2019).

Ministry of Health. 2017b. *Clinical Guidelines for Weight Management in New Zealand Adults*. URL: <https://www.health.govt.nz/publication/clinical-guidelines-weight-management-new-zealand-adults> (accessed 25 July 2019).

Ministry of Health. 2017c. *Palliative Care Action Plan*. URL: <https://www.health.govt.nz/publication/palliative-care-action-plan> (accessed 25 July 2019).

Ministry of Health. 2018a. *Addressing the Challenges of Young Māori Women Who Smoke: A developmental evaluation of the phase two demonstration project. Evaluation Report*. URL: <https://www.health.govt.nz/publication/addressing-challenges-young-maori-women-who-smoke-developmental-evaluation-phase-two-demonstration> (accessed 29 July 2019).

Ministry of Health. 2018b. *Cancer Control Strategy 2003*. URL: (accessed 25 June).

Ministry of Health. 2018c. *Eating and Activity Guidelines*. URL: <https://www.health.govt.nz/our-work/eating-and-activity-guidelines> (accessed 25 July 2019).

Ministry of Health. 2018d. *Health and Independence Report 2017*. URL: <https://www.health.govt.nz/publication/health-and-independence-report-2017> (accessed 25 July 2019).



- Ministry of Health. 2018e. *New cancer registrations 2016*. URL: <https://www.health.govt.nz/publication/new-cancer-registrations-2016> (accessed 25 July 2019).
- Ministry of Health. 2019a. *Achieving Equity*. URL: <https://www.health.govt.nz/about-ministry/what-we-do/work-programme-2018/achieving-equity> (accessed 25 July 2019).
- Ministry of Health. 2019b. *Bowel Cancer Quality Improvement Report 2019*. URL: <https://www.health.govt.nz/publication/bowel-cancer-quality-improvement-report-2019> (accessed 25 July 2019).
- Ministry of Health. 2019c. *Development of a National Hepatitis C Action Plan*. URL: <https://www.health.govt.nz/our-work/diseases-and-conditions/hepatitis-c/development-national-hepatitis-c-action-plan> (accessed 25 July 2019).
- Ministry of Health. 2019d. *He Korowai Oranga: Māori Health Strategy*. URL: [www.health.govt.nz/ourwork/populations/Māori-health/he-korowai-oranga](http://www.health.govt.nz/ourwork/populations/Māori-health/he-korowai-oranga) (accessed 19 July 2019).
- Robson B PG, Cormack, D. 2010. *Unequal Impact II: Māori and Non-Māori Cancer Statistics by Deprivation and Rural-Urban Status, 2002–2006*. URL: <https://www.health.govt.nz/publication/unequal-impact-ii-maori-and-non-maori-cancer-statistics-deprivation-and-rural-urban-status-2002-2006> (accessed 25 June 2019).
- Sarfati D, Koczwara B, Jackson C. 2016. The impact of comorbidity on cancer and its treatment. *CA Cancer J Clin* 66(4): 337-50.
- Smith MA, Edwards S, Canfell K. 2017. Impact of the National Cervical Screening Programme in New Zealand by age: analysis of cervical cancer trends 1985–2013 in all women and in Māori women. *Cancer Causes & Control* 28(12): 1393-404.
- Soeberg M, Blakely T, Sarfati D, Tobias M, Costilla R, Carter K, Atkinson J. 2012. *Cancer Trends: Trends in cancer survival by ethnic and socioeconomic group, New Zealand 1991–2004*. Wellington: University of Otago and Ministry of Health.
- Te Mana Raraunga. 2019. *Our Charter Tūtohunga*. URL: <https://www.temanararaunga.maori.nz/tutohunga> (accessed 25 July 2019).
- Te Puni Kokiri. 2019. *Developing a plan on New Zealand's progress on the United Nations*. ed. Ministry of Māori Development.
- Teng AM, Atkinson J, Disney G, et al. 2016. Ethnic inequalities in cancer incidence and mortality: census-linked cohort studies with 87 million years of person-time follow-up. *BMC Cancer* 16(1): 755.
- WHO International Agency for Research on Cancer. 1998. Alcohol drinking. IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans* 44: 1–378.
- WorkSafe. 2019. *Work-related health estimates*. URL: <https://worksafe.govt.nz/dmsdocument/5540-work-related-health-estimates-report> (accessed 26 August 2019).
- World Health Organisation. 2016. *Global health sector strategy on viral hepatitis 2016–2021*. URL: <https://www.who.int/hepatitis/strategy2016-2021/ghss-hep/en/> (accessed 25 July 2019).
- World Health Organisation. 2019. Metrics: Disability-Adjusted Life Year (DALY). URL: [https://www.who.int/healthinfo/global\\_burden\\_disease/metrics\\_daly/en/](https://www.who.int/healthinfo/global_burden_disease/metrics_daly/en/) (accessed 25 July 2019).

