Biointelect

Horizon Scanning in the New Zealand Health System

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Acknowledgements

Input was sought and received from a broad range of stakeholder groups across the New Zealand healthcare system in the development of this report, including subject matter experts/key opinion leaders, patient advocates, Māori and Pasifika health representatives, academia, government ministries and agencies, industry, and medical professionals.

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Executive Summary

In recent years, New Zealand has committed to healthcare system reforms aimed at improving access to medical interventions and services ('technologies'), while working towards greater efficiency and better and more equitable population health outcomes. In this context and keeping pace with both evolving population health needs and the speed of technological advancements, it is time to discuss the role of horizon scanning in New Zealand.

The health and wellbeing of New Zealanders is paramount to a thriving society. It underpins economic vitality, social wellbeing, and overall quality of life. At the heart of this is a functioning, efficient and responsive healthcare system that is not only equipped to meet current population health needs but is agile in adapting to evolving needs and advancements in medical knowledge and new technologies.

Horizon scanning is a process or system which seeks to systematically and proactively identify current, new and emerging health technologies with the potential to significantly impact patients, other stakeholders and the operations of the healthcare system. Internationally, horizon scanning is a growing practice, with widespread recognition of its potential to drive better strategic planning and to support decision making processes.

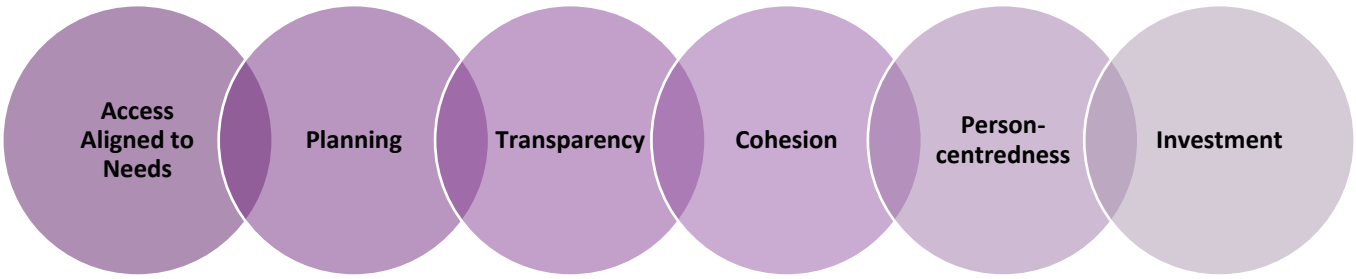
New Zealand has the opportunity to benefit from a global pipeline of potentially transformative medical technologies. These advances will shape the ways in which diseases are diagnosed, treated, and managed. These advances span the range of health technologies, including diagnostics, therapeutics, medical devices, and vaccines. Not only can they lead to potential step changes in patient health outcomes, but they will also affect existing models of care and service delivery.

Emerging technologies may challenge traditional pathways of therapeutic development, from the clinical trial stage through to regulatory approval, health technology assessment (HTA), reimbursement and implementation in the healthcare system, with resourcing impacts that must be managed within processes and budgets. Early awareness that enables forward planning is therefore key to ensuring timely patient access.

There is an opportunity to establish a coordinated, multi-stakeholder horizon scanning system with the overarching goal of enabling strategic planning and stakeholder engagement around the adoption of health technologies in New Zealand. Existing horizon scanning activities that are already being undertaken informally by some key parties in the New Zealand healthcare system provide a solid foundation. However, these are tending to operate in 'silos', are not whole-of-system focused, and are not benefiting from the involvement of all relevant stakeholders.

A broad range of stakeholders consulted for this report emphasised the value of information that could be gathered through a more systematic approach to horizon scanning, grounded in six core themes and principles (Figure 1).

Figure 1 Six core themes and principles for horizon scanning



Vision for Horizon Scanning in New Zealand

New Zealand should be ambitious in the design of a coordinated horizon scanning system that features broad stakeholder representation.

Overarching goals

Three goals underpin the operation of a coordinated horizon scanning system for the New Zealand healthcare sector (Figure 2).

Figure 2 Overarching goals of horizon scanning in New Zealand

Scope

Horizon scanning should provide for a broad scope, capturing potentially all types of health-related technologies based on their ability to disrupt the healthcare system. This may include primary care, models of care, existing and future community health needs and social trends. It is important to link horizon scanning with strategic planning activities, including service planning and funding, to ensure that the information gathered is utilised effectively.

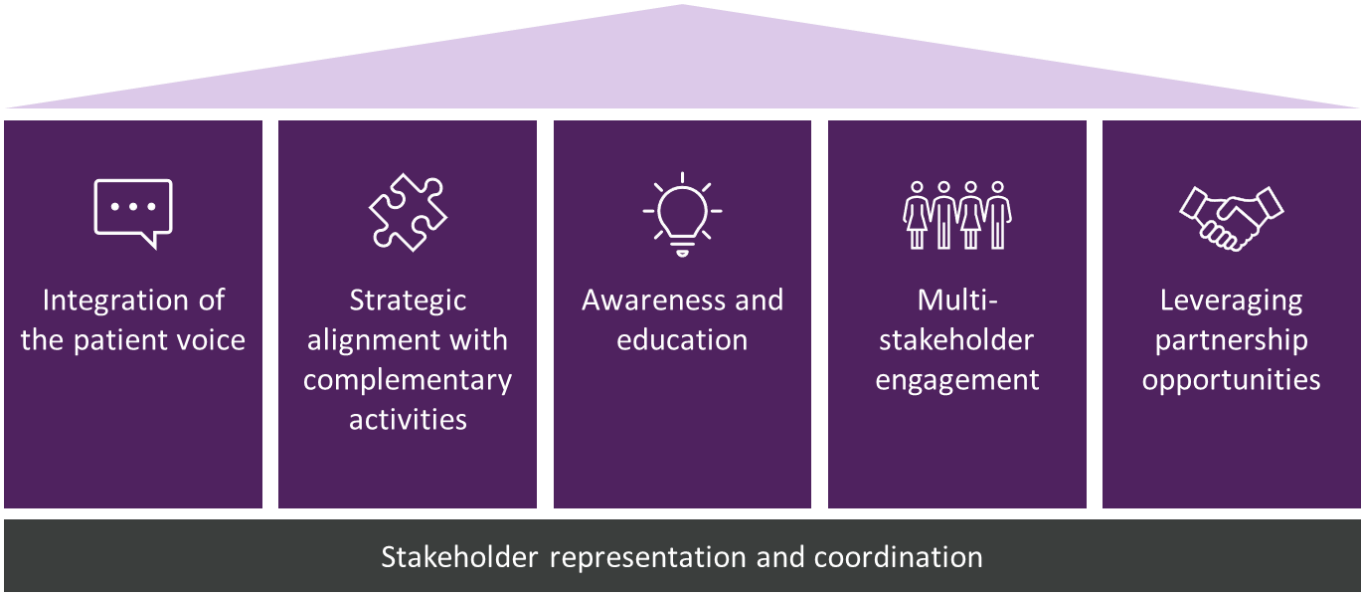
Timeframes

A time horizon of at least five years into the future is required. Horizon scanning timeframes should be aligned to other relevant decision processes, such as healthcare system policy, planning and investment cycles, budget application and management periods, as well as the development pathways for new technologies.

Positioning

Consultation with a broad range of stakeholders from across the healthcare system is required, including government, decision makers, patients, local community representatives, clinicians, industry, and researchers. To drive coordination and ensure successful achievement of outcomes, the system should have distinct ownership, which may mean it is government driven with engagement from providers supporting communities of health need including Māori and Pasifika peoples, rural communities, LGBTQIA+ communities, and people with disabilities.

Figure 3 Proposed pillars of New Zealand horizon scanning system



Recommendations: Next Steps

This report aims to initiate a discussion on the potential for horizon scanning to contribute to the advancement of New Zealand's healthcare system, to meet the future needs of all New Zealanders. The proposed next steps aim to continue this work:

1. **Government**, in collaboration with key stakeholders, should develop options for horizon scanning in New Zealand, considering the factors laid out in the *Vision for Horizon Scanning in New Zealand*. This may include:
    a. Mapping the horizon scanning activities already being undertaken by various stakeholders in New Zealand.
    b. Reviewing horizon scanning initiatives in other countries, including Australia, the United Kingdom (UK) and Canada, as well as other relevant sources of data and information such as United States (USA) Food & Drug Administration (FDA) applications, to identify opportunities to leverage existing data.
2. **Government,** in collaboration with key stakeholders, should develop a single source of easy to access and interpret information as the output from horizon scanning for patients, their representatives and other healthcare system stakeholders.
3. **Industry** has an important role to play in providing information about pipeline and development programs and the implementation requirements of new technologies. It is critical to engage with government on an approach to horizon scanning in New Zealand that is efficient and fit-for-purpose.

In an age of innovation and rapid technological advancement, it is crucial that the healthcare system continuously evolves, meets the needs of the population in a timely way, and is accessible and sustainable. Horizon scanning can offer information that will enable better forward planning and transparency.

It is a tool, but not a cure-all. Information must then be effectively utilised in planning and decision-making processes.

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Abbreviations & Acronyms

Acronym	Description
ACE	Agency for Care Effectiveness
AMR	Antimicrobial resistance
AI	Artificial intelligence
ANZHSN	Australia and New Zealand Horizon Scanning Network
CADTH	Canadian Agency for Drugs and Technologies in Health
CAR-T	Chimeric Antigen Receptor -T cell therapy
COVID-19	Corona virus
DAC	Drug Advisory Committee (Singapore)
DHB	District Health Board
DNA	Deoxyribonucleic acid
DoHAC	Department of Health and Aged Care (Australia)
FDA	Food and Drug Administration (USA)
GPS	Government Policy Statement
HealthPACT	Health Policy Advisory Committee on Technology
HTA	Health Technology Assessment
LGBTQIA+	Lesbian, Gay, Bisexual, Transgender, Intersex, Queer/questioning, Asexual
LTIB	Long Term Insights Briefing
MA	Medicines Australia
MoH	Ministry of Health (NZ)
mRNA	Messenger RNA
MTAC	Medical Technology Advisory Committee (Singapore)
NGO	Non-Government Organisation
NGS	Next Generation Sequencing
NHC	National Health Committee
NIHRIO	National Institute for Health and Care Research Innovation Observatory
NHS	National Health Service
NICE	National Institute for Health and Care Excellence
NZ	New Zealand
OECD	Organisation for Economic Co-operation and Development
PCORI	Patient-Centred Outcomes Research Institute
PHARMAC	Pharmaceutical Management Agency
PTAC	Pharmacology & Therapeutic Advisory Committee
RDAC	Rare Disorders Advisory Committee
SMA	Spinal Muscular Atrophy
TGA	Therapeutic Goods Administration (Australia)
USA	United States of America
UK	United Kingdom

Acronym	Description
VOICE	Valuing Our Intellectual Capacity and Experience
WGS	Whole Generation Sequencing

Introduction

The importance of providing for New Zealand's healthy future

Ensuring the health and wellbeing of New Zealand's population is critical to supporting its continued growth and prosperity. Accordingly, the policy environment must enable the health of New Zealanders to flourish, both now and into the future.

In recent times, New Zealand's healthcare system has experienced significant changes. These include:

- New health policy settings and priorities.
- Structural, organisational, and planning changes designed to improve service resourcing and delivery.
- Changes to healthcare intervention funding including decision making processes, as well as reviews of these processes.
- An increased emphasis on providing for equity of resourcing, access to the healthcare system and health outcomes.
- Enabling the participation of stakeholders, as relevant, across all aspects of the healthcare system.

Importantly, these changes have been actively geared towards providing for the ongoing, long-term health, the 'pae ora' of all New Zealand's people, with Health New Zealand (Te Whatu Ora) established on 1 July 2022 as the key government agency charged with management responsibility for the delivery of health services nationally.

At the same time, the fundamental health needs of New Zealand society have changed. Over time, as population life expectancy has improved, the burden of disease has shifted towards chronic and non-communicable conditions. Scientific advances are identifying rare and genetic bases for these conditions. Medical innovation globally continues to evolve, with an increasing array of interventions, including medicines, diagnostics, procedures, models of care, telehealth and digital health being investigated and translated to improve patient care. Precision medicine has the potential to transform healthcare, save lives and significantly improve outcomes for patients. Artificial Intelligence (AI) is an emergent and powerful technology with the potential to accelerate these advances.

As medical technologies become more complex, and treatments become more targeted, strategic planning and coordination across the healthcare system is increasingly important. Diffusion of these technologies across the New Zealand healthcare system is a complex challenge. It challenges traditional funding models, assessment processes and service delivery.

Healthcare system planning, operations and funding decision making processes must be informed by a systematic, structured approach to ensuring that the needs of the New Zealand population can be provided for in a timely, forward-looking manner and ensuring the continued long-term health of its people.

Purpose of this report

Horizon scanning

Horizon scanning is a process or system which seeks to systematically and proactively identify current, new, and emerging health technologies with the potential to significantly impact patients (e.g., because of the potential to improve health outcomes), other stakeholders and the healthcare system (e.g., due to the ability to impact the process of healthcare delivery). Ultimately, horizon scanning aims to facilitate timely, forward-looking decision making by all stakeholders relevant to the healthcare system. The horizon scanning process may cover a range of

technologies including medicines, medical devices, vaccines, tests, diagnostics, and models of care, and can be approached differently, depending on the needs of the intended audience.

It can be flexible in terms of the time horizon considered and may involve or serve a wide variety of stakeholders and inform different decision-making processes.

Internationally, horizon scanning is an established and growing practice, operating in the UK, Europe, Canada, the USA, and Singapore. Over the last few years, healthcare system reform processes in Australia have led to a national commitment between government and the pharmaceutical industry to conduct an annual horizon scanning forum (1).

The opportunity

Despite the establishment of Health New Zealand (Te Whatu Ora) in 2022 (the largest single employer in New Zealand) with responsibility for improving services and outcomes across all health services, including hospital/specialist services, and primary and community care, New Zealand does not currently have a formalised, coordinated healthcare horizon scanning system.

Given the range of potential uses for the information gathered through horizon scanning, and the scale and scope of Health New Zealand (Te Whatu Ora), there is both an opportunity and a critical need to establish a multi-stakeholder horizon scanning system. This could optimise information available to all stakeholders in a forward-looking manner. In turn, this would enable stakeholders to make informed healthcare planning and delivery decisions that maximise allocative efficiency across the health system.

Report purpose

This report introduces the concept of healthcare system horizon scanning and puts forward the case for establishing a holistic horizon scanning function in New Zealand, 'shining a light' on how horizon scanning can benefit the New Zealand healthcare system, patients, and broader New Zealand society. Having outlined horizon scanning's potential, the report proposes key principles any New Zealand horizon scanning function should be based on.

The report closes by outlining potential next steps that could be taken towards the development of a horizon scanning function.

Additional requirements

A related consideration for the adoption of a formalised horizon scanning process in the New Zealand health system, is reform of New Zealand's current regulatory framework for medicines. As of March 2024, the *Medicines Act 1981*, long considered out of date by both Government officials and industry, is the primary instrument for the regulation of medicines in New Zealand.

To date, previous attempts to develop risk-proportionate, future-focused legislation as a replacement for the Medicines Act have not succeeded. Most recently, the repeal during the current Parliamentary term of the yet to be implemented *Therapeutic Products Act 2023* has been announced (2).

However, for New Zealand patients and the health system to benefit from innovative therapeutic technologies, fit-for-purpose legislation and regulation is necessary to enable legal access to this innovation whilst ensuring the safety, quality and efficacy of therapeutic products that are available.

Methodology

This report has been developed as follows:

- Research and review of international literature and practical horizon scanning case studies to describe the horizon scanning function, its objectives, operation, and potential benefits.
- Desktop research on the New Zealand healthcare system including recent events and reforms related to policy, structure, organisation, key stakeholders, and operations, as well as key current objectives, challenges, and opportunities. In doing so, key characteristics and circumstances unique to New Zealand have been identified.
- Interviews with a broad range of key New Zealand healthcare system stakeholders were conducted, including representatives from patient organisations, Māori representatives, New Zealand Government Ministry staff, independent government agencies, researchers, academics, and healthcare industry representatives. These interviews sought feedback on:
    - The potential benefits of a horizon scanning function for the New Zealand healthcare system and society overall;
    - Primary objectives of horizon scanning;
    - Advice on priorities and scope;
    - Barriers and challenges;
    - Potential roles of stakeholders in any horizon scanning function; and
    - Key principles that any horizon scanning function in New Zealand should be based on.

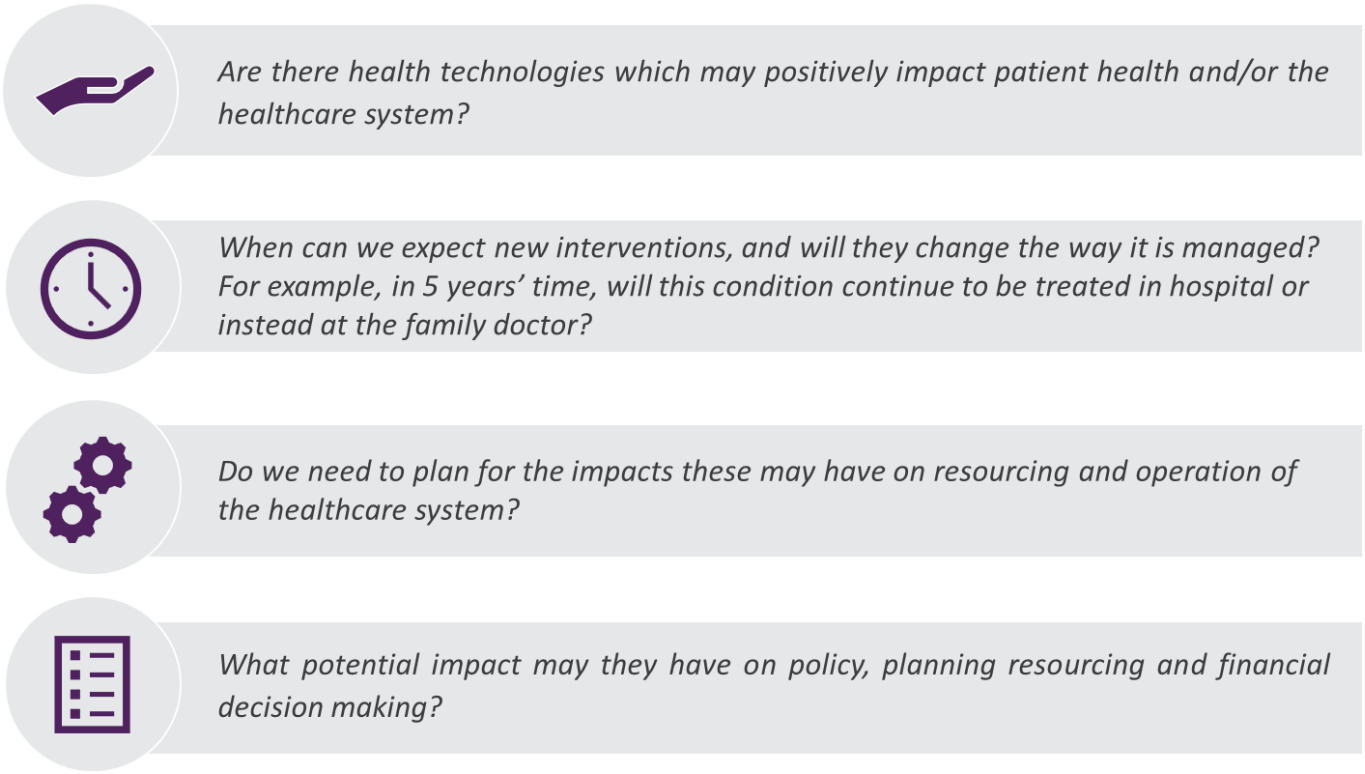
Following interviews with stakeholders, insights were analysed and synthesised, along with research and insights, into a final report. This included the development of proposed horizon scanning principles and actionable next steps. Stakeholders were provided the opportunity to confirm the feedback and outcomes synthesised in this report.

Overview of Horizon Scanning

What is Horizon Scanning?

Horizon scanning refers to the process of systematically identifying and evaluating currently available or emerging health technologies to identify their potential impact on healthcare systems and stakeholders. It can help policymakers, payers and healthcare providers identify those technologies that may have a positive impact on the healthcare system and patients, as well as to prepare the healthcare system for potentially disruptive technologies (3). It can inform key healthcare system decisions (Figure 4).

Figure 4 How horizon scanning can help answer key healthcare system decision making questions



Defining characteristics

Horizon scanning processes can be designed to differ based on different purpose, scope, timeframes and time horizon, and positioning (3, 4), as well as formality, as outlined below.

Purpose

The ultimate purpose of horizon scanning can vary based on relevant stakeholders involved in its development and those targeted by its implementation, and decisions regarding the degree of its impact on operations and decision making. This purpose can range from creating fundamental awareness of emerging trends, all the way to underpinning key healthcare system decision making.

Figure 5 Potential uses of healthcare system horizon scanning

Scope

This reflects the types of technologies captured in the horizon scanning process. This may include medicines, medical devices, vaccines, services, and models of care. It may be scoped to consider more 'current' medical interventions and practice, or more innovative or system disruptive interventions (e.g., cell and gene therapy products).

In doing so, it may focus on interventions for example, with new mechanisms of action, and give less consideration to 'me too' interventions. As such scope interacts with consideration of timeframes and time horizon of scanning activities.

Scope can be influenced by the materiality of policy, planning, operations, or decision making intended to be informed or facilitated.

Formality

Approaches to horizon scanning can range from informal stakeholder specific initiatives, through to formalised and coordinated cross-stakeholder systems.

The approach undertaken can differ depending on the objectives of horizon scanning, the intended scope, the use(s) of horizon scanning, the materiality of decisions informed by horizon scanning, and the number of stakeholders involved and affected by the horizon scanning process.

A more formal process may be appropriate when considering a greater role for horizon scanning in decision making, for more material decisions.

The formality in turn will influence processes and methods prescribed for horizon scanning operation, resourcing and budgeting and reporting and communication of outcomes.

Figure 6 Potential spectrum of horizon scanning: informal & discrete to formalised & comprehensive

Timeframes and time horizon

The time horizon refers to how far forward into the future horizon scanning considers (i.e., how long before the technology 'arrives') and will in part be aligned with the objectives of horizon scanning. It will also dictate:

- Which technologies are captured for consideration;
- Their degree of maturity (e.g., a medicine at early-phase trial stage);
- The degree of information available regarding the intervention (form, use, therapeutic objectives etc.); and
- The certainty of information available regarding the intervention (e.g., targeted patient groups, place in clinical management, potential efficacy, safety profile, value for money etc.).

Referencing international practices, such planning can be short term (i.e., up to five years), or longer-term (i.e., greater than five years and possibly ten years). Timeframes can reference the period during which the horizon scanning process happens and/or its frequency.

For example, longer-term horizon scanning may reflect longer, more infrequent, but more in-depth and robust processes with more generalised assessments of coming trends; nearer-term processes may be more frequent and reflect more targeted and specific analyses designed to address more immediate and specific questions (e.g., coming budgetary impacts and short-term decision making).

Timeframes can reflect the intended use, including by the horizon scanning operator. For example, a funding decision maker may use horizon scanning to inform their short-term budgeting and decision making (e.g., 3 years). A healthcare system operator may incorporate horizon scanning to plan longer-term operational planning and resourcing, necessitating longer-term horizons (e.g., 5 to 10 years).

Positioning

Positioning refers to the location of the horizon scanning function. For example, it could reside within a government department, agency, or decision maker, or could even be conducted by an independent body.

Horizon scanning can be conducted by a broad range of stakeholders with varying objectives. Positioning is therefore likely to reflect the desired purpose and consequently include relevant decision makers and stakeholders potentially impacted by future technologies.

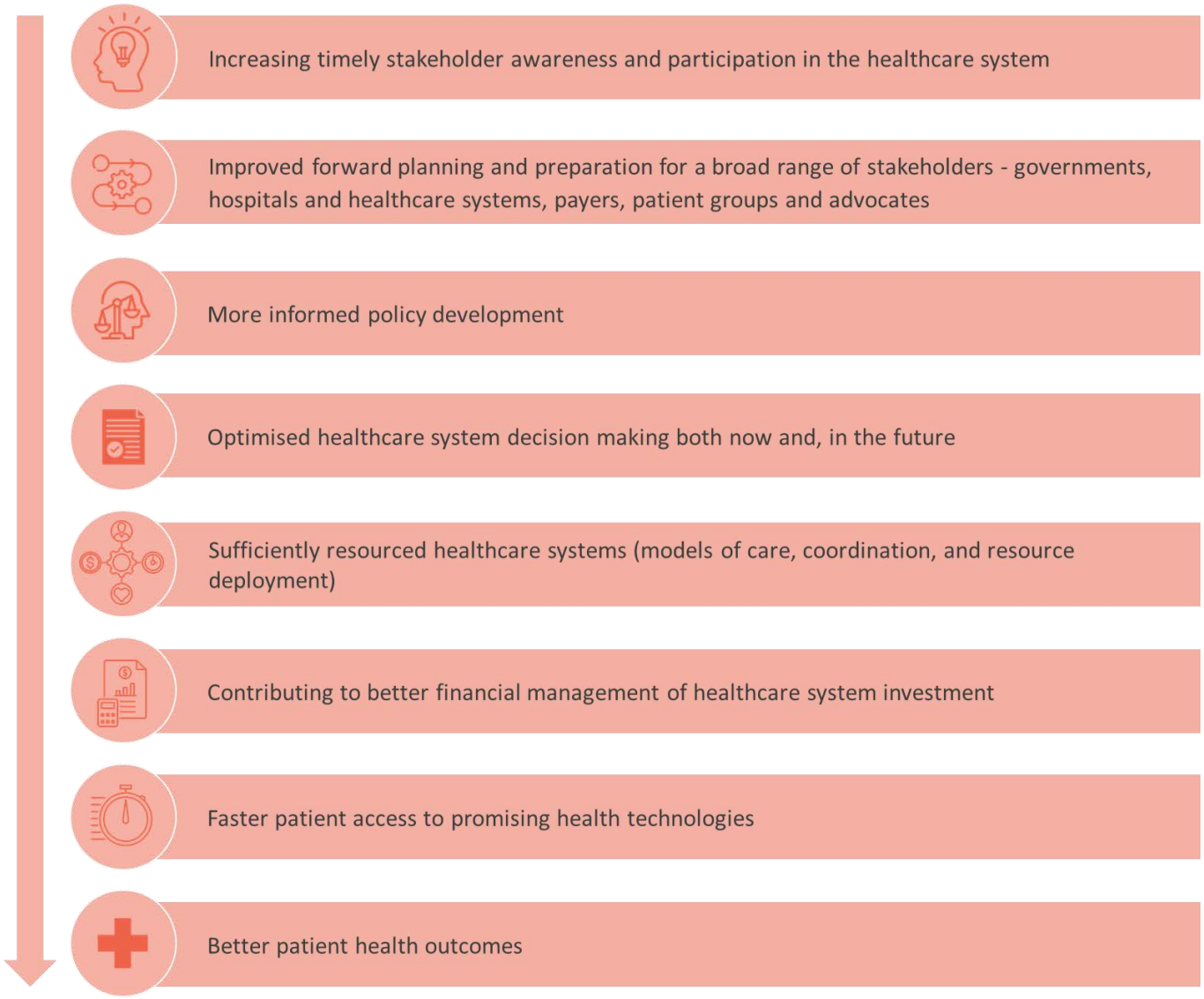
It may also reflect the availability of resourcing (including staff and funding) and capacity (skills sets) to conduct horizon scanning.

The outputs of horizon scanning can be used by a broad range of stakeholders, with reporting tailored to meet the needs of the decision makers and impacted parties. The developers of the horizon scanning and/or the intended end-users typically dictate the final information presented and how this is subsequently disseminated.

Benefits of Horizon Scanning

By proactively identifying emerging trends and innovations, horizon scanning can optimise information available to all stakeholders, in a timely, forward-looking manner, with benefits throughout the healthcare system. As can be seen, these benefits build on each other, starting with all relevant stakeholders being informed ahead of time of needs and potential options. Ultimately, horizon scanning enables more informed policy development, planning, better access to medical technologies and improved patient outcomes.

Figure 7 The wide-ranging benefits of horizon scanning



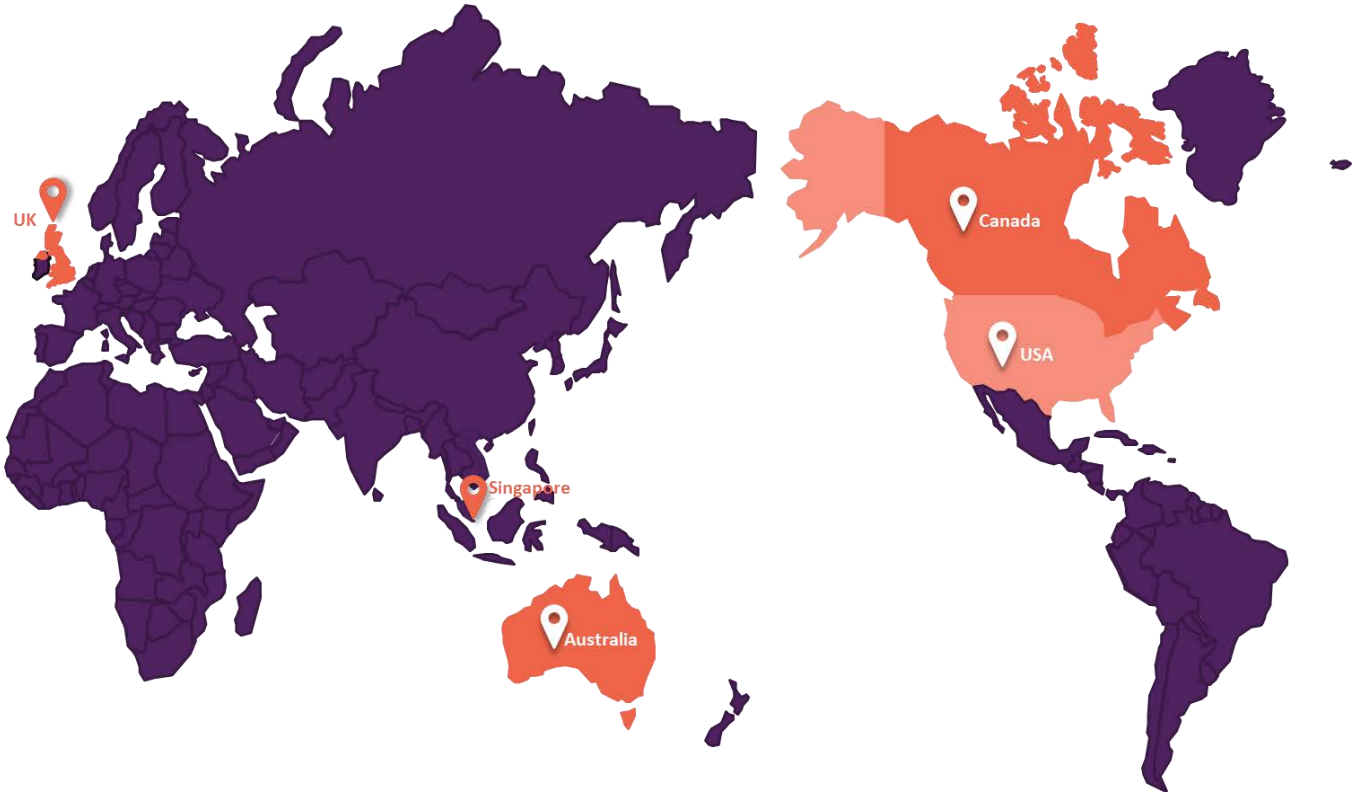
International Examples of Horizon Scanning

Internationally, horizon scanning is an established practice in different forms across many countries including Canada, the USA, the UK and in several European countries. In Australia, following a national review of the HTA system, there is growing momentum towards a renewed national horizon scanning function (1).

International examples of horizon scanning range from informal or ad hoc scanning of the landscape through to more formalised, well-established processes integrated into key healthcare system decision making.

The following international examples provide a snapshot of the varying approaches taken, with key factors including ultimate purpose, stakeholders involved and impacted, the horizon scanning process and organisations leading the process.

Figure 8 International examples: Australia, Canada, UK, USA, and Singapore



Horizon Scanning for the United Kingdom

In the UK, horizon scanning has been in place for over 20 years (4), primarily as a means of informing the National Health Service (NHS) of upcoming technologies, to enable budget and service planning. Horizon scanning is considered the first step in the 'technology appraisal' (HTA) process for new therapeutic products and is described as 'industry's gateway to NICE' ((the National Institute for Health and Care Excellence) (5), responsible for HTA appraisals for the NHS). The National Institute for Health and Care Research Innovation Observatory (NIHRIO) is an independent body based at Newcastle University (UK) that is contracted to conduct horizon scanning and gather information on emerging health technologies that are expected to have a significant impact for patients or healthcare services. Horizon scanning has two main roles (5):

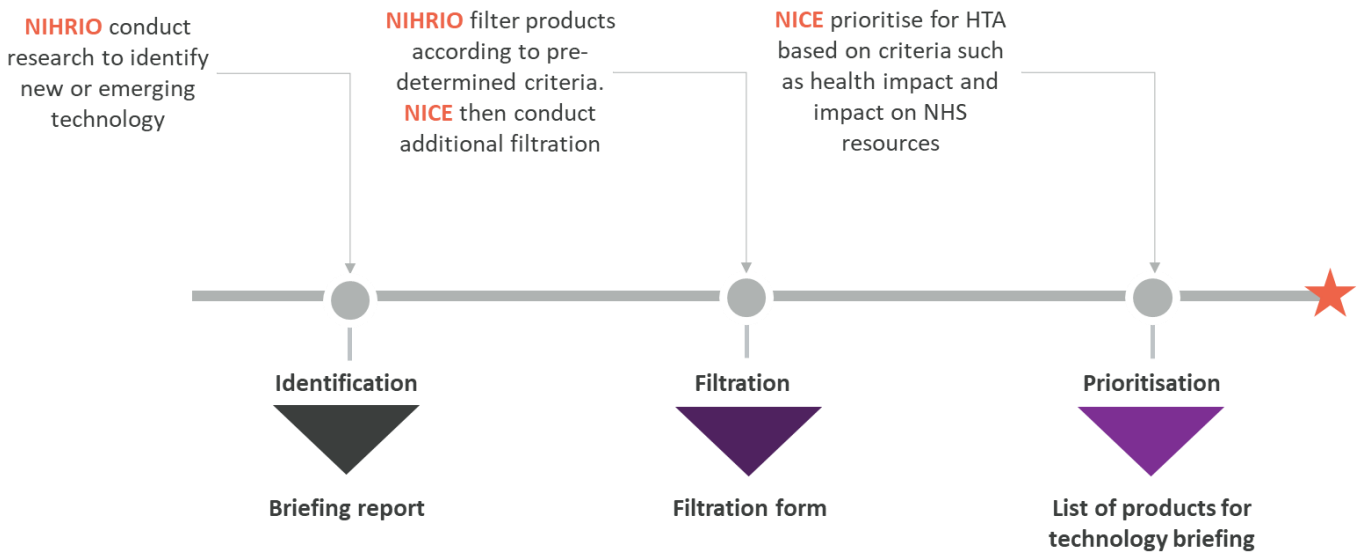
- For NICE, "t*o identify, filter, monitor and produce technology briefings for all innovative technologies that meet the NICE criteria and are within 5 years of an estimated UK license date*". NICE then undertakes

additional filtration and subsequent prioritisation for HTA based on criteria including health benefit significance, variation in use and added value.

- For the NHS England's *Accelerated Access Collaborative*, to conduct proactive scanning and produce bespoke reports about new technologies that are being considered for investment and adoption.

The NIHRIO collects information from industry, data systems which scan for open and confidential data sources, trial registries, scientific literature, and regulatory agencies (4).

Figure 9 Overview of UK horizon scanning process: NIHRIO and NICE



Source: NIHRIO, 2021. NIHR Innovation Observatory. Who we are and what we do. NIHR Innovation Observatory. Available at: https://www.io.nihr.ac.uk/what-we-do/
Abbreviations: 'NICE', National Institute for Health & Care Excellence; 'NIHRIO', National Health Institute for Health and Care Research Innovation Observatory

NIHRIO and NICE increasingly recognise that a broader range of stakeholders, including patients and members of the general public, have the potential to meaningfully contribute to the horizon scanning process, and utilise the outputs to inform their activities. Presently, the NIHRIO and NICE are seeking to strengthen patient input, by implementing the following initiatives (5):

- A patient and public involvement arm throughout the HTA process (NICE).
- Seeking input from patients and patient advocacy groups to help the NIHRIO understand patient and carer perspectives to support priority setting.
- Knowledge exchange workshops with patients and caregivers to help inform them of the research landscape.
- The development of reports and outputs for patient dissemination.
- Partnership with Valuing Our Intellectual Capacity and Experience (VOICE).

The NIHRIO have also implemented the *Imagine Series*, a series of workshops conducted with stakeholders including patients, caregivers, clinicians, and healthcare providers. These workshops typically target a specific disease or therapeutic area, with the goal to identify gaps in research and the evidence base. The outputs are subsequently used by NIHRIO to shape their horizon scanning research (5).

Horizon Scanning in the USA

Unlike the UK system, in the US the Government-established Patient-Centred Outcomes Research Institute (PCORI) horizon scanning system has been designed primarily to inform patients and caregivers of therapeutic advancements.

The PCORI Health Care Horizon Scanning System (HCHSS) provides a systematic process to identify and monitor technologies and innovations in health care that are in PCORI's priority areas of interest and creates an inventory of interventions with the highest potential for disruption.

PCORI conduct horizon scanning in a number of targeted focus areas including Alzheimer's disease and dementia, cancer, cardiovascular disease, COVID-19, mental and behavioural health, and rare diseases (6).

Figure 10 PCORI horizon scanning

Source: Patient-Centred Outcomes Research Institute (PCORI), 2019. PCORI health care horizon scanning system. Available at: https://www.pcori.org/impact/evidence-synthesis/pcori-health-care-horizon-scanning-system

Horizon Scanning in Canada

The Canadian Agency for Drugs and Technologies in Health (CADTH) is Canada's independent, not-for-profit organisation funded by Canada's federal, provincial, and territorial governments with key functions including (7):

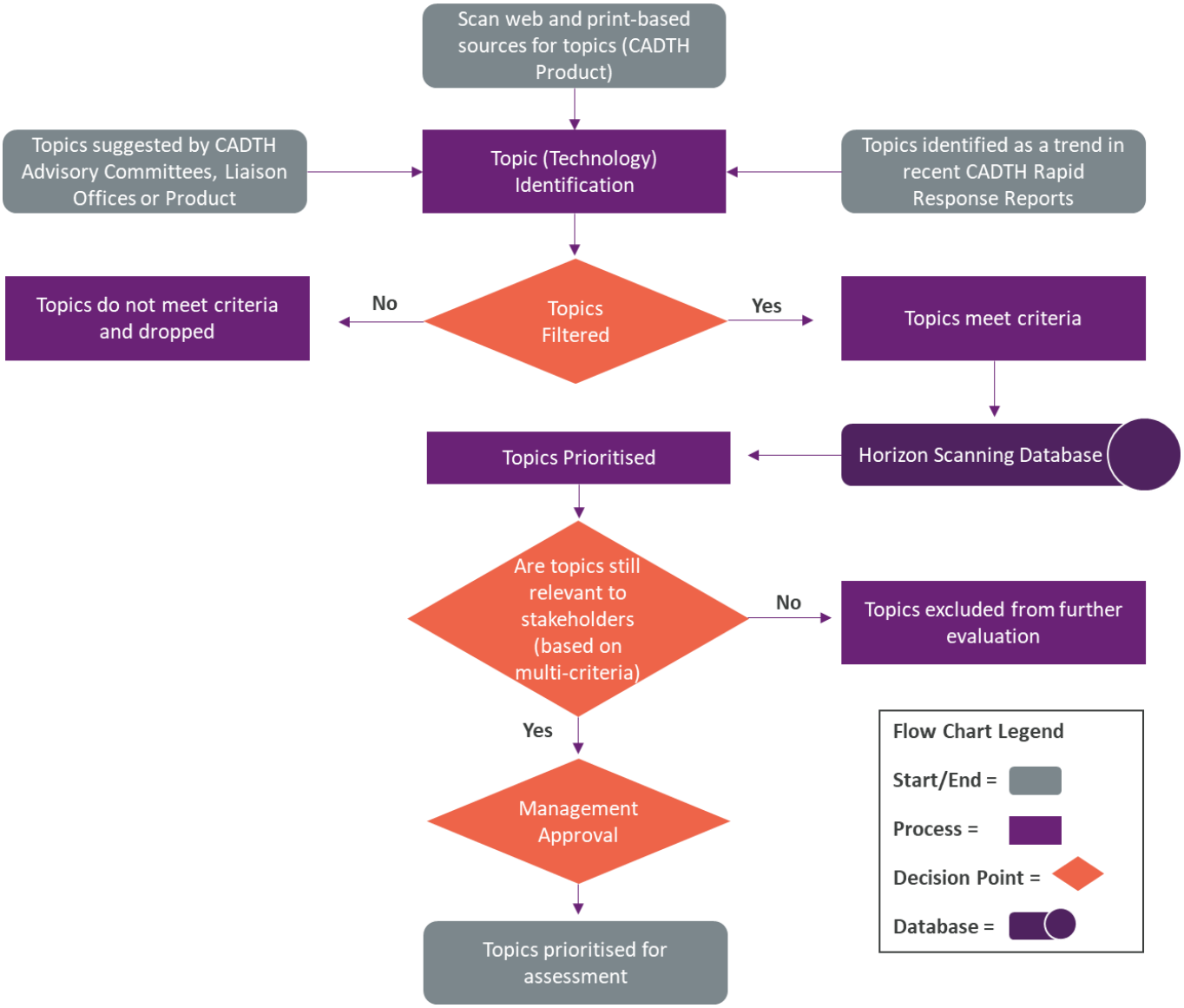
- Helping health care decision-makers keep pace with technological change;
- Reviewing and making recommendations on new and existing health technologies; and
- Undertaking comprehensive HTAs that leverage the full depth and power of today's evidence-rich environment.

The CADTH horizon scanning program identifies new and emerging health technologies likely to have a significant impact on the Canadian healthcare system, regularly scanning health information sources to identify new, noteworthy health care technologies. Health care professionals and other decision-makers, including patients and industry, also identify important new and emerging technologies (8).

These include devices, procedures, diagnostics, and other health interventions within one to three years from being licensed in Canada or those which have had initial use in Canada. There is no formal horizon scanning conducted for medicines. CADTH identifies topics by scanning several sources and filtering against established criteria, with topics prioritised reflecting relevance to CADTH stakeholders (8).

CADTH's horizon scanning function should be noted in the context that its advisory role within the Canadian healthcare system is non-binding, i.e., it's findings (e.g. HTA, reimbursement recommendations, horizon scanning), are not binding on respective payer or government authorities.

Figure 11 CADTH horizon scanning topic selection process



Source: Canada's Drug and Health Technology Agency (CADTH), 2022. CADTH Health Technology Management Program. Horizon Scanning Products and Services Processes. https://www.cadth.ca/sites/default/files/pdf/HS_Consolidated_Process_Final.pdf

Abbreviations: 'CADTH', Canadian Agency for Drugs and Technologies in Health

Horizon Scanning in Singapore

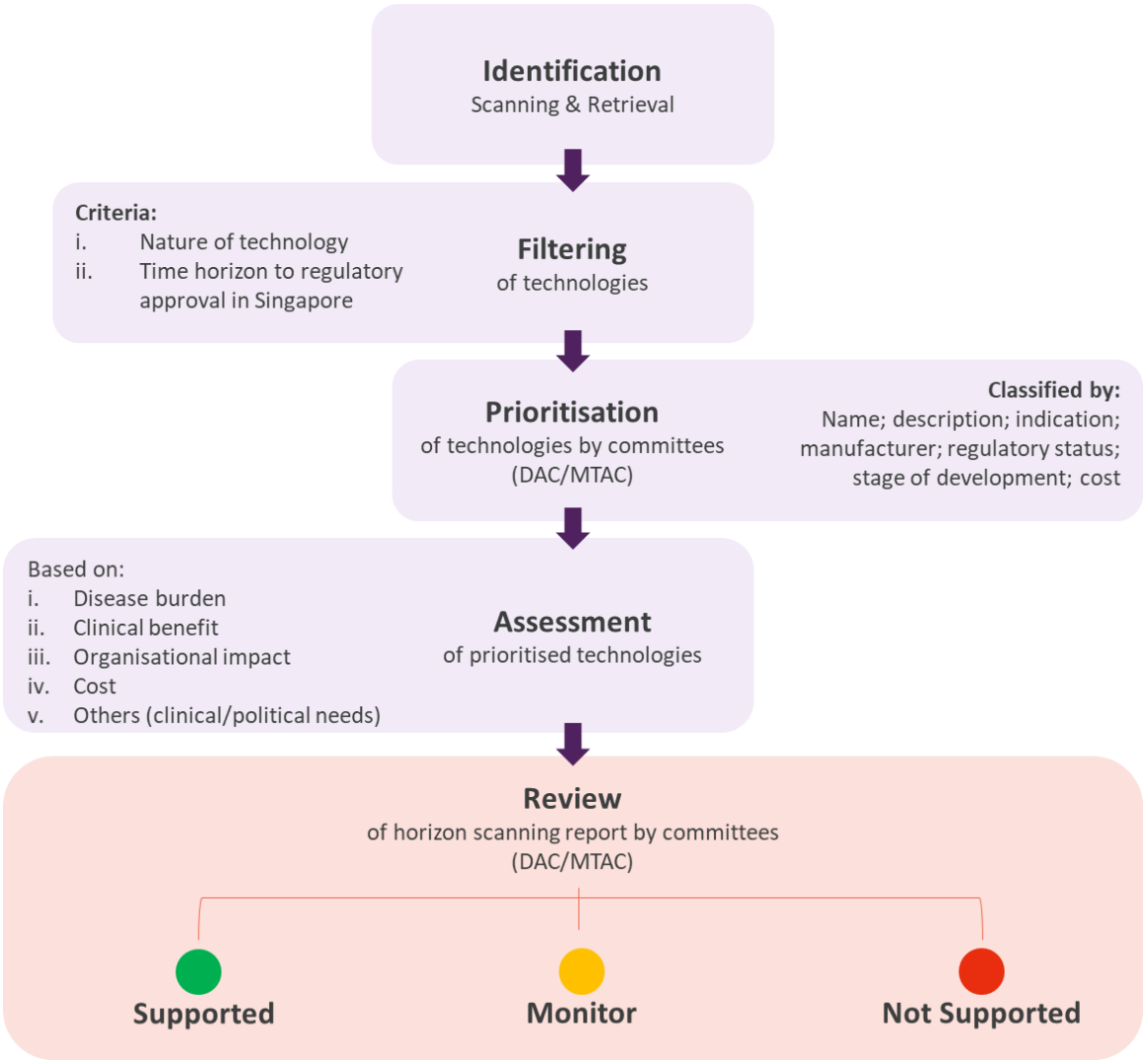
Singapore's national HTA agency, the Agency for Care Effectiveness (ACE), conducts horizon scanning to provide early alerts on new and emerging health technologies with potential for significant impact on the healthcare system. ACE's scope includes medical devices, diagnostics, medical services, and procedures (9).

In doing so, **it seeks to better prepare healthcare system planning and resource allocation, furthering the uptake of innovative and effective technologies**.

Generally, horizon scanning reports developed evaluate the technology's patient population, burden of disease, clinical need, current developmental stage, potential clinical setting, and positioning, benefits relative to currently available alternatives, and potential financial and organisational impact. ACEs Medical Technology Advisory Committee (MTAC) can potentially recommend a prioritised technology to be introduced into the healthcare

system. In contrast to HTA evaluations, MTAC's recommendation do not translate into a subsidy decision (10) ACE's horizon scanning process is summarised in Figure 12

Figure 12 The Agency for Care Effectiveness horizon scanning process



Source: Agency for Care Effectiveness, 2021. Horizon Scanning Methods and Process Guide. Available at: https://www.ace-hta.gov.sg/docs/default-source/process-methods/ace-hs-methods-and-process-guide-(sep-2021).pdf

Abbreviations: 'DAC', Drug Advisory Committee; 'MTAC', Medical Technology Advisory Committee

Horizon Scanning in Australia

Australia's *HTA Policy and Methods Review* (HTA Review) scheduled to run across 2023 and 2024 is comprehensively examining HTA methods and policies and possible implications of adopting changes in the Australian HTA landscape. The HTA Review has also commissioned an expert paper on horizon scanning which will inform its final recommendations (11).

The *2022 to 2027 Strategic Agreement* between the Commonwealth of Australia and Medicines Australia (MA; the peak medicines industry representative body) includes commitment to conduct an annual national horizon scanning forum (1). In December 2022, MA convened the inaugural horizon scanning forum, *Medicines of Tomorrow*, at the National Science Academy in Canberra. The landmark event brought together stakeholders from across the Commonwealth Government (including the Federal Minister for Health), State and Territory Governments, the medicines industry, life sciences companies, researchers, clinicians, and patient organisations.

The forum sought to identify major advances in healthcare in the next three to five years. Key themes emerging from the forum were (12):

1. The undeniable need for horizon scanning.
2. The need for meaningful co-design of fit-for-purpose horizon scanning.
3. Preparedness and planning for tomorrow are critical.

MA has worked with the Department of Health and Aged Care (DoHAC) and other key stakeholders to ensure the momentum and enthusiasm for Australian horizon scanning is realised. In March 2024, the second annual forum was held (12).

New Zealand Healthcare System

Overview

Structure

New Zealand's health system is primarily public, government-funded, with government-appointed entities, including independent crown agencies, predominantly overseeing the sector. The Government sets the budget and benefit package. Until July 2022, New Zealand's central Ministry of Health (MoH) had overall responsibility for the health and disability system, with a role as funder, monitor, purchaser, and regulator of health and disability services (13).

Historically, it has had a regionally administered delivery system with 20 District Health Boards (DHBs) responsible for planning, purchasing, and providing health services at the local level. DHBs funded healthcare services for their geographical areas and primary health care provided through Primary Health Organisations and had responsibility for hospital, community, public health, assessment, treatment, and rehabilitation services.

Over the last 20 years, there has been a strong emphasis in DHBs operations in ensuring cost controls and improving operational efficiencies (13). This emphasis has recently been continued by the aggregation of DHBs into one central agency, Health New Zealand (Te Whatu Ora), with it assuming responsibility for a centralised system (see *Recent Reforms* for further details).

Since 1993, the Pharmaceutical Management Agency (PHARMAC) has managed the New Zealand Pharmaceutical Schedule, making medicine funding decisions, based on a fixed budget model (14,15). Funding applications can be submitted by companies and other parties, including specialist groups and patient advocates, as well as by PHARMAC's own clinical advisory committees (16).

However, PHARMAC's designation as a New Zealand Government Crown Agency, coupled with its statutory objective to maximise the health outcomes of New Zealanders within a given budget (17,18), has to date effectively seen its decision making conducted independently of the broader health system and central government ministries. PHARMAC decision making is defined by internal decision-making processes, including its Prioritisation Process, which confidentially ranks funding priorities subject to budget availability (19).

New Zealand Health Care Challenges

Compared to the rest of the word, New Zealanders generally enjoy high quality health outcomes. Current life expectancy is approximately 83.5 years for women and 80 years for men, ranking New Zealand in the top bracket of comparable OECD nations (20). However, **New Zealand faces several key challenges reflecting an ageing population, healthcare system access and outcome need issues, resource constraints and delays in access to medical technologies** (13, 21).

Figure 13 Key challenges in New Zealand healthcare system: a collective need

Recent Events and Reforms

Over the past decade or so, New Zealand's healthcare system has evolved with changing governance and responsibilities and restructuring. In part, this has reflected a need to address existing challenges with efforts designed to improve access, efficiency, and better address the population's health needs. In outlining these circumstances, it can be seen that the present environment provides the opportunity and the need for discussion about the role horizon scanning can play in helping to realise current and future healthcare system objectives.

2012-present: Growing PHARMAC role

In the last 10 years, PHARMAC's role in the New Zealand healthcare system has expanded to include making funding decisions, contracting and procurement for not only community medicines, but hospital medicines, cancer medicines, vaccines (including COVID-19 vaccines), rare diseases, and medical devices (16). This has seen an increasing proportion of decision making (including health budget responsibility) under the umbrella of PHARMAC's independent decision making and procurement model.

At the same time, there have been continued concerns about New Zealand's comparative access to current and existing medicines and other medical technologies. According to a 2023 *Access to Medicines Report* between January 2011 and June 2023:

- Australia publicly funded more than two and a half times as many clinically relevant modern medicines as New Zealand funded during this period (187 vs. 69);
- The average wait time for the public funding of new modern medicines in New Zealand was 769 days during this period, compared to 468 days in Australia;
- In total, there are 131 modern medicines available through public funding for Australian patients that are not available to New Zealand patients through the New Zealand public health system (22).

Similarly, for cancer, one of the leading causes of death in New Zealand, the nation experiences significant delays and low levels of overall access to therapies, relative to comparable nations (22). This is particularly relevant as the disease profile of New Zealand has changed, and as increasing numbers of new innovative medicines and therapies with the potential to be increasingly targeted to benefit patients, have become available.

2018: Health and Disability System Review

In May 2018, the *New Zealand Government Health and Disability Review* was launched to review achievement of core equity and sustainability goals for the New Zealand healthcare system and recommend steps to ensure more sustainable equitable outcomes going forwards (23). It should be noted that neither medicines nor the role of PHARMAC were included the review scope.

Final recommendations were delivered in March 2020 and included reducing the number of DHBs by half over a five-year period and the establishment of a central authority, Health New Zealand (Te Whatu Ora) to lead health services delivery, with the creation of the Māori Health Authority (Te Aka Whai Ora) to sit alongside the MoH and Health New Zealand, being a principal advisor on all hauora Māori issues (23).

2021-23: Independent PHARMAC Review

In response to concerns regarding PHARMAC's ability to meet its legislative obligations and keep pace with a changing environment, in March 2021, PHARMAC's operation was independently reviewed. The Review focused on (24):

- How well PHARMAC performs against its current objectives of maximising health outcomes for New Zealand under a fixed-budget model.
- Whether PHARMAC's scope of responsibilities should change.
- The growing area of rare disorders and how well people with rare disorders are served.
- How New Zealand can manage the increasing demand for new cancer treatments.
- Whether PHARMAC's operating model role remained fit for purpose, including equity considerations.

The Review findings released in March 2023 noted a "*need for better system level horizon scanning to look for emerging trends domestically and overseas that might warrant funding.*" **Further, a future New Zealand health system should be guided by key strategy and policies informed by comprehensive horizon scanning across the spectrum of medical interventions and contributed to by stakeholders across the New Zealand healthcare system, including PHARMAC**. This included a need for rare medicines horizon scanning (25). In its response to the Review, PHARMAC agreed to prioritise the work of the Rare Disorders Advisory Committee (RDAC) and proactively seek funding applications from suppliers (26).

2022-2024: Interim Government Policy Statement on Health 2022-2024

The Interim Government Policy Statement on Health (Statement) set out the incumbent Government priorities over a two-year period. The Statement is the public statement of what Government expects the health system to deliver and achieve over the next two years, and how success will be measured, monitored, and reported (27). It sets out the direction of health system reforms over a two-year period, so the Government can be held to account on progress and performance. It is designed to deliver on Pae Ora (Healthy Futures), with a focus on addressing inequity in access to healthcare system resources and other disparities across New Zealand (27). The Statement sets priorities for the whole of the publicly funded health sector and sets clear parameters for the interim New Zealand Health Plan, outlining how the different entities that make up the publicly funded health sector will deliver on the Government's priorities (27).

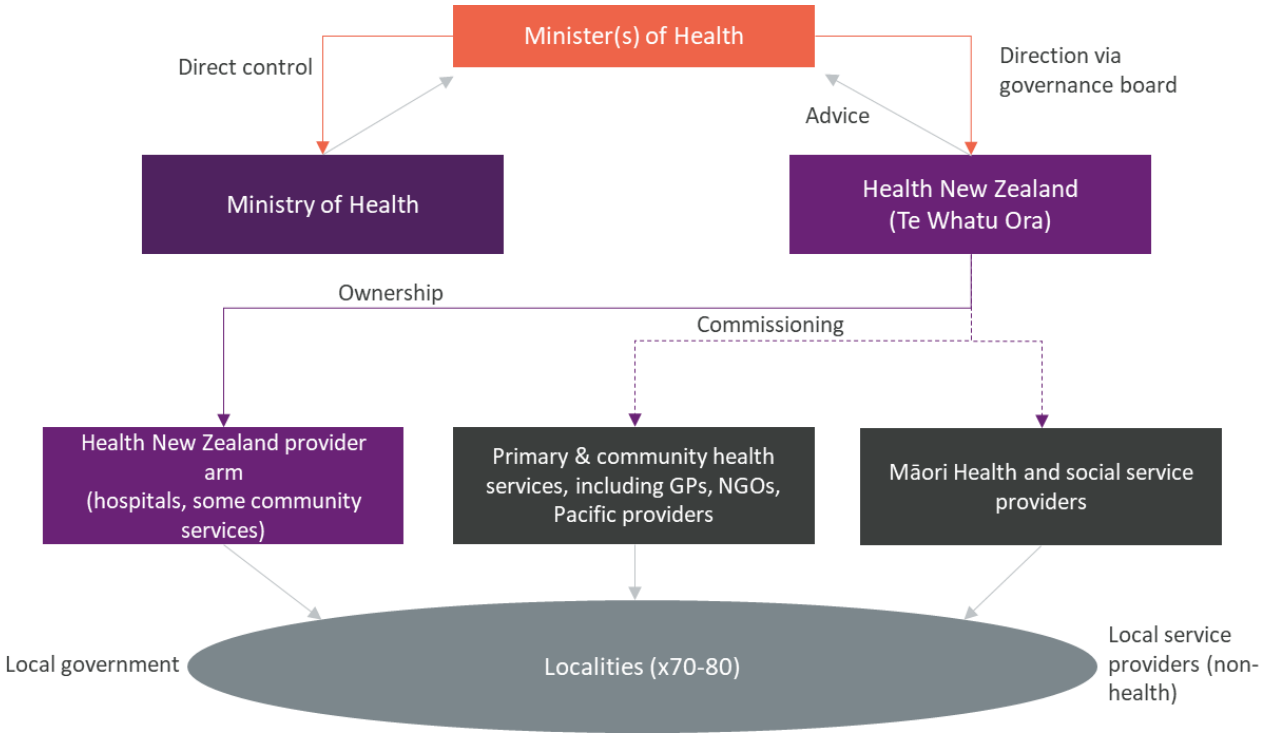
To this end, Health New Zealand (Te Whatu Ora) and the former Māori Health Authority (Te Aka Whai Ora) were intended to play central roles. The Interim New Zealand Health Plan is designed to set the groundwork required for the transition to a national health system that provides for the needs of all New Zealanders by (28):

- Creating one system of care to deliver services people need
- Supporting more equitable health outcomes
- Developing collaborative working arrangements across the healthcare system

2022 and 2024: Restructures of the New Zealand healthcare system

In 2022, Health New Zealand (Te Whatu Ora) was formed by the merging of the existing 20 DHB structure. It manages all health services, including hospital and specialist services, and primary and community care. Hospital and specialist services are planned nationally with a focus on, addressing inconsistencies in resource availability in the healthcare system across New Zealand and achieving equity (29). The Māori Health Authority (Te Aka Whai Ora), an independent New Zealand government statutory entity, was also created and tasked with managing Māori health policies, services, and outcomes and input into system planning and resourcing (30). In February 2024, the New Zealand Government announced it was disestablishing the Māori Health Authority (Te Aka Whai Ora), with the agency to discontinue by June 2024 and its functions absorbed by the national health system (31).

Figure 14 **Structure of New Zealand health system following 2022 and 2024 restructures**



Source: Biointelect adaptation from Tenbensel, et.al., 2023. The 2022 restructure of Aotearoa New Zealand's health system: Will it succeed in advancing equity where others have failed? Health policy 134 (2023) 104828.

Note: On 27 February 2024, the New Zealand Government introduced a bill into Parliament for the disestablishment of the Māori Health Authority (https://www.parliament.nz/en/pb/hansard-debates/rhr/combined/HansDeb_20240227_20240227_32)
Abbreviations: 'GP', general practitioner; 'NGO', non-government organisation

2023: New Zealand Health Strategy - Pae Ora

The Strategy is focused on achieving 'Pae Ora', i.e., healthy futures for all New Zealanders. The strategy has two overarching long-term goals to achieve health equity and to improve health outcomes for all New Zealanders (32). The Strategy features priorities and ambitions to "chart a course to a healthier future for all." This includes ensuring preparedness for future shocks and the best use of resources to manage demand for health services and affordability of the system over the long-term (32).

Horizon Scanning in New Zealand

Recent History

New Zealand has a history of horizon scanning, including with Australia. The Australia and New Zealand Horizon Scanning Network (ANZHSN) was the primary national horizon scanning body in Australia. ANZHSN was established in 2003 and was overseen by the Health Policy Advisory Committee on Technology (HealthPACT), which had representation from each of the Australian states and territories, and the New Zealand DHBs (33).

HealthPACT's priority was improving the performance of public hospital systems. The ANZHSN provided advance notice to policy makers on new and emerging technologies that may have positive or negative consequences on the Australian and New Zealand health systems including devices, diagnostics, procedures, or health programs. Horizon scanning activities were done by the National Horizon Scanning Unit (33).

Topics for consideration came from clinicians who suggested early-stage technologies. Systematic data scanning was performed for the first eight years of the program. However, in 2017 HealthPACT was disbanded and funding for national horizon scanning activities ceased (33).

More locally, the National Health Committee (NHC), which disbanded in 2016, was an independent statutory body charged with prioritising new and existing health technologies and making recommendations to the Minister of Health (34). The NHC developed a number of publications exploring the potential impact of new technologies on future healthcare (33).

Current activity

Long Term Insights Briefing

The *Public Service Act* (2020) requires all government departments to produce a Long-Term Insights Briefing (LTIB) every three years. LTIBs aim to improve public sector thinking around opportunities and challenges and put these into the public domain for discussion and debate (35).

In August 2023, the Ministry of Health (MoH) published its inaugural LTIB on precision health, entitled, '*Long-term Insights Briefing - Precision health: Exploring opportunities and challenges to predict, prevent, diagnose, and treat health needs more precisely in Aotearoa New Zealand*.' (36).

The briefing was tabled in New Zealand parliament and explores precision health opportunities and challenges referencing genomics and AI. In writing the brief, it was hoped that it would be the, '*start of a broader conversation about precision health in Aotearoa New Zealand that will need to take place across communities, iwi, academic institutions, private sector, and government in the coming years.'* (36).

In particular, the briefing notes the '***significant potential for precision health technologies to help us in working towards achieving pae ora | healthy futures for all New Zealanders'***, including more equitable health outcomes and system efficiency (36). In presenting the case for precision medicine, the paper (36):

- Introduces the concept and how it fits the reforming healthcare system;
- Associated benefits and risks;
- Potential required changes to the healthcare system;
- A potential pathway for precision medicine, inclusive of system preparation and planning.

Importantly, the brief presents an exemplar for an ongoing horizon scanning process, identifying several areas of change to the health system precision medicine would necessitate, associated decision-making processes, required infrastructure, challenges, and risks (36).

Figure 15 New Zealand Government Long-term Insights Briefing – Precision Health

Source: Ministry of Health, 2023. Precision health: exploring opportunities and challenges to predict, prevent, diagnose, and treat health needs more precisely in Aotearoa New Zealand. Available at: https://www.health.govt.nz/publication/precision-health-exploring-opportunities-and-challenges-predict-prevent-diagnose-and-treat-health

PHARMAC horizon scanning activities in response to the Independent Review

Category Planning

The Review's Final Report noted that "*PHARMAC has recently started a formalised process it calls category planning, which consists of taking an in-depth periodic look at each of its therapeutic groups (essentially classes of a disease or condition) and what developments lie ahead*." (25). However, the PHARMAC website does not describe this process and it would appear to be largely an internal process focused on optimising budgeting decisions, with no external publication of outputs or resulting outcomes of this process.

Rare Disorders Advisory Committee (RDAC)

In response to the Review findings released in March 2023, PHARMAC agreed to prioritise engagement with its RDAC and proactively seek new funding applications from suppliers (26).

Published minutes of the March 2023 RDAC meeting indicate that it is conducting horizon scanning, with minutes noting horizon scanning efforts, newly available clinical trial data for treatments, identification of the high level of unmet health need for people with specified rare conditions in New Zealand, that newer treatments were on the horizon and members would like to review these treatments at a future meeting once funding proposals had been received (37). In November 2023, PHARMAC made a public call for funding applications for medicines for rare disorders from pharmaceutical suppliers (38).

However, such actions reflect a short-term horizon and arguably reflect a very controlled form of horizon scanning. It remains unclear the extent of broader stakeholder involvement, how these activities would ultimately impact PHARMAC decision making, or impact on broader stakeholder awareness of such technologies.

HTA Collaboration Arrangement: PHARMAC

In July 2023, PHARMAC announced that it had joined the HTA Collaboration Arrangement between NICE, CADTH, the Australian Government DoHAC (together with the Pharmaceutical Benefits Advisory Committee and the Medical Services Advisory Committee), Health Improvement Scotland (including the Scottish Medicines Consortium and the Scottish Health Technologies Group), Health Technology Wales (hosted by Velindre University NHS Trust), the All Wales Therapeutics and Toxicology Centre, the Institut national d'excellence en santé et en services sociaux. However, the Arrangement is unclear as to how horizon scanning would be facilitated (39).

Implications for New Zealand going forward

Historically, New Zealand's healthcare system has been largely decentralised, with a focus on local planning and healthcare delivery, and cost containment. Similarly, availability of medicines and other technologies have been available via PHARMAC decisions which have emphasised maximising health outcomes within a given budget.

Events and reforms over the last decade or so demonstrate priority being placed on ensuring the health needs of all New Zealanders are recognised, with appropriate planning and resources to ensure these needs can be met both now and in the long-run. 'Pae ora' (healthy futures) has been indicative of this policy direction.

During this time, New Zealand's relatively lower and less timely access to new and innovative medical technologies, particularly medicines, has gained increasing attention. This has happened as an increasing scope of medical technology funding decision making has come under the remit of PHARMAC'S fixed budget model.

Further, the review of PHARMAC operations identified a need for more proactive consideration of coming medical technologies trends to inform funding decision making. Central to this was a multi-party stakeholder system of horizon scanning.

While historically there has been horizon scanning activities at a national level, more recently there has been an absence of formal national horizon scanning activity in New Zealand for several years. Current horizon scanning activities in New Zealand are fragmented, potentially duplicated, not necessarily systematic, or ongoing, have singular focus, are often conducted without broader stakeholder collaboration, and may not necessarily actively feed into or impact decision making.

However, these efforts demonstrate some positive elements. For example, the LTIB on precision medicines, although a one-off paper, robustly defines the issue, and provides a clear exemplar of how a horizon scanning process could be operationalised.

These factors demonstrate there is a clear need to take a more systematic, holistic, and transparent approach to horizon scanning that would:

- **Provide for informed stakeholder participation in healthcare decision making processes;**
- **Support planning and resource activities on a forward-looking basis;**
- **Facilitate long-term health care system policy goals and planned reforms;**
- **Enable the population to benefit from access to existing and new medical technologies based on clearly identified needs.**

Healthcare Innovation and New Zealand Needs

Recent Advancements and Healthcare Innovations

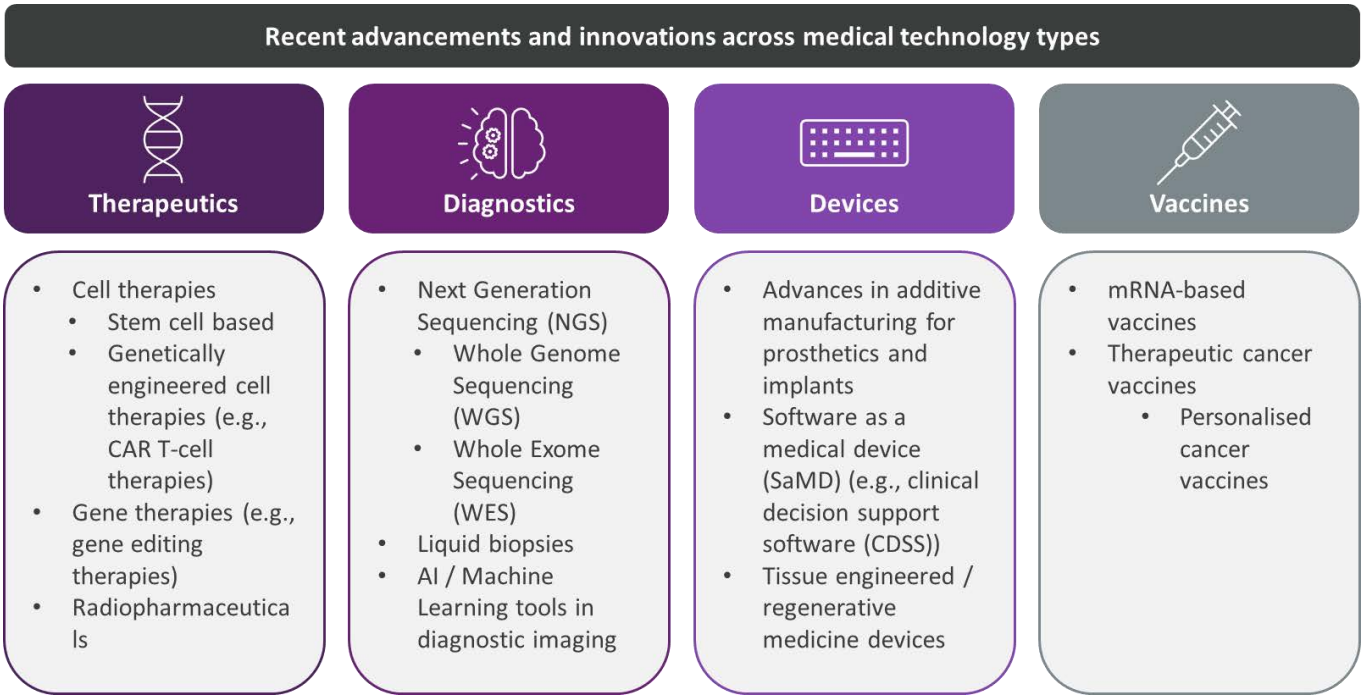
Globally, the healthcare landscape is rapidly evolving, with transformational technologies and innovations impacting the way we diagnose, treat, and manage disease. These technologies are creating significant positive disruption, not only to the way we treat certain conditions, but also to development pathways, regulatory processes, HTA and the healthcare services responsible for delivering them.

Appropriate and timely access to new technologies is a key component of ensuring healthy futures for all New Zealanders. Key stakeholders who are involved in the planning, approval, funding, and delivery of health technologies need to understand which potentially transformative technologies are coming.

Transformational Technologies

Medical technologies can be generally classed into four different categories: therapeutics, vaccines, devices, and diagnostics. In recent years, the medical technology sector has seen a remarkable array of advancements and new technologies, spanning a diverse range of applications. Several of these technological innovation categories are outlined in Figure 16. We highlight two of these categories, advanced therapeutics, and diagnostics, to demonstrate the potential array of medical interventions already existing and coming in the future, which could have a positive transformative impact on the New Zealand healthcare system and patients.

Figure 16 Transformational medical technologies

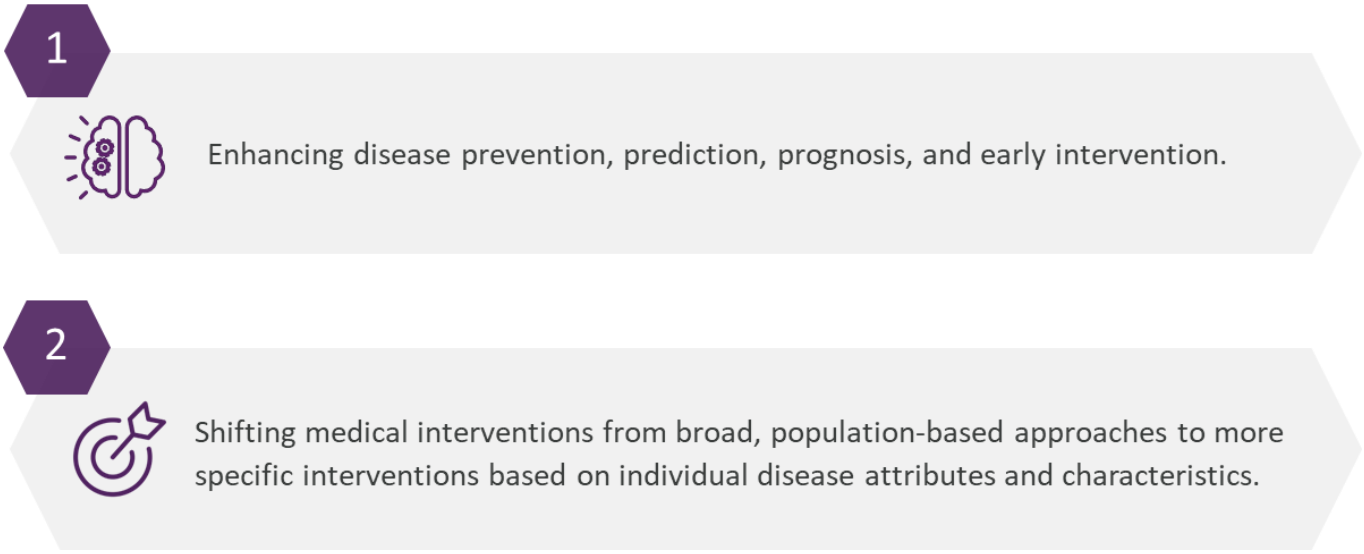


Abbreviations: 'AI', Artificial Intelligence; 'CAR-T', chimeric antigen receptor T-cell; 'mRNA', messenger RNA

Advanced therapeutics

Advanced therapeutics offer opportunities for earlier, enhanced diagnosis, prognosis, and treatments across a range of disease areas. Over the coming decades, 'omic technologies will be increasingly integrated into clinical practice, with the potential to transform the delivery of healthcare in two key ways (Figure 17).

Figure 17 The increasing role of 'omic medical technologies in the future medical landscape



This transformation is expected to cover the full care pathway, from diagnosis and early intervention, through to personalised treatments and follow up care, improving both the quality and efficiency of healthcare services and significantly improving patient outcomes.

Evolutions in precision medicine and genomics has proven particularly transformative in oncology (e.g., CAR-T cell therapies and gene therapies), where targeted therapies have revolutionised the clinical management of various cancers and significantly improved patient outcomes.

Diagnostics

Similarly, recent advances in diagnostic technologies such as molecular profiling and liquid biopsies have been particularly transformative in the screening, detection, and diagnosis of cancer. Molecular diagnostics and platforms such as whole genome sequencing (WGS) that analyse a patient's genome and/or proteome will likely be a critical factor in the rise of personalised medicine, and companion diagnostics for novel treatments.

Increased use of genomics will be an important component of the shift towards preventing and understanding individual patient's risk for a range of diseases. For example, molecular profiling is now an important consideration in the treatment and management of non-small cell lung cancer, creating opportunities to use targeted therapies and personalised treatments.

Liquid biopsies are a relatively recent innovation that have been mostly adopted within oncology, with early research in lung, breast, and prostate cancers. Liquid biopsies analyse bodily fluids such as blood, sweat and saliva, for cancer biomarkers such as DNA, circulating tumour DNA, and circulating tumour cells.

These tests are being developed for a range of uses, including early screening and tumour detection, monitoring of tumour progression, as well as treatment selection and response to treatment. For patients, liquid biopsies provide a non-invasive alternative to traditional biopsy methods allowing for convenience and tolerability.

Bioinformatics and analytics are crucial for the analysis and interpretation of large and/or complex datasets that are generated by diagnostic technologies such as WGS. Advances in AI and machine learning will continue to support efficiencies and scale in the analysis and interpretation of datasets.

New Zealand Specific Needs

New Zealand often lags behind other countries in medical technology adoption and implementation, with New Zealand remaining at the bottom of the OECD when comparing the public funding of medicines with other countries. This highlights that New Zealanders are often without funded access to many medicines that are part of standard treatment regimes in other international jurisdictions (40).

Precision health and advanced therapeutics are being increasingly used in both individual and population health interventions. A number of examples where delayed access is experienced in New Zealand compared to other countries includes:

- **Elexacaftor/tezacaftor/ivacaftor (Trikafta®) – a combination therapy that treats the underlying cause of cystic fibrosis.** Trikafta was funded in Australia in March 2022, it was not funded in New Zealand until April 2023 (41).
- **Newborn screening (heel prick test) for Spinal Muscular Atrophy (SMA).** Newborn screening for SMA is already occurring in a number of countries worldwide, such as Australia. Despite having an established newborn screening program, genetic testing for SMA is not yet available in New Zealand, with SMA only diagnosed clinically once symptoms have begun (42).
- **Nab-paclitaxel (Abraxane®) – a medicine indicated for the treatment of breast cancer.** Abraxane is Medsafe registered, however it is not publicly funded in New Zealand. Abraxane is however funded by a number of countries globally.
- **Epinephrine (EpiPen®) for those with severe allergies.** Patient advocacy organisation, Allergy New Zealand, had been lobbying for PHARMAC to fund EpiPens for 15 years until February 2023, when EpiPens became fully funded by PHARMAC on prescription for eligible New Zealanders (43).

Implications for New Zealand going forward

As identified earlier, the New Zealand healthcare system and the health of its people will continue to face challenges going forward related to system planning and resourcing, the changing burden of disease profile and being able to meet the healthcare needs of all New Zealanders.

Ensuring timely access to medicines and other technologies is a critical part of addressing these challenges. It is clear from both recent studies that New Zealand's focus should be on both ensuring access to ***existing*** medical technologies but also ***new*** technologies.

It is therefore critical that consideration is given as to how healthcare system planning, decision making, and operation can be optimised to ensure more timely access so that current and future health needs of the New Zealand population are able to be met.

New Zealand stakeholder consultation

The previous sections demonstrate that internationally a broad array of horizon scanning approaches are used, contributing invaluably to the operation of HTA and healthcare systems. Further, desk research on the New Zealand healthcare system demonstrates that there is a large opportunity for coordinated horizon scanning to contribute to system goals and meet current and future New Zealand health needs.

To supplement desk research, Biointelect sought relevant New Zealand healthcare system stakeholder input on the need for, and value of, horizon scanning in New Zealand. In doing so, we sought to identify how it may support the achievement of identified healthcare system objectives and goals, address healthcare system challenges and ultimately, enhance New Zealander's health outcomes now, and in the long term.

Process

Biointelect sought feedback from a broad range of stakeholder groups across New Zealand including patient organisations, Māori and Pasifika representatives, New Zealand Government Ministry staff, independent government agencies, medical professionals, researchers, academics, and healthcare industry representatives.

In late 2023, Biointelect conducted several small interview panels with responding stakeholders. To focus discussions, interviewees were provided with 'discussion stimuli' which defined the concept of healthcare system horizon scanning, cited international examples of horizon scanning practice and provided key prompts around which stakeholder feedback was sought on matters that would need to be considered for any horizon scanning process in New Zealand (Figure 18).

Following interviews with stakeholders, insights were analysed and synthesised. Stakeholders were provided the opportunity to confirm their feedback and any quotes provided during the interview panels.

Figure 18 Stakeholder interview panel targeted prompts

1. **What do you see as the main benefits of having a horizon scanning process in New Zealand (e.g., thinking about New Zealand health system set up, priorities, policies and goals)?**

2. **What should be the primary objective(s) of a horizon scanning system in the New Zealand healthcare system (e.g., what could horizon scanning deliver to contribute to the above)?**

3. **Are there barriers in the New Zealand healthcare system that could impact the success of horizon scanning or prevent potential benefits from being realised?**

4. **What is an appropriate scope (what parts of the system/technologies) and horizon (timeframe) for horizon scanning in the New Zealand healthcare system?**

5. **As a key stakeholder in the New Zealand healthcare system, what role do you see your organisation or yourself playing in a horizon scanning system?**

Stakeholder Insights

Stakeholders who participated in the interview panels agreed that there was value in, and a need for, the operation of more formal and comprehensive horizon scanning approach in New Zealand. Stakeholder feedback provided in response to target prompts, saw several key themes emerge regarding desirable qualitative characteristics for New Zealand healthcare system functioning, operation and decision making. In highlighting these, stakeholders noted where and how horizon scanning could play a critical role in addressing these and supporting the achievement of broader healthcare system goals and priorities.

Figure 19 outlines the key themes and principles for horizon scanning that were established through stakeholder consultation.

Figure 19 Overview of key themes from stakeholder consultations

Theme 1: Access aligned to needs

Access based on need

Ensuring all individuals and population groups can access health services and technologies as needed is an essential component in creating equitable health outcomes. **Stakeholders highlighted that a coordinated approach to horizon scanning could act as an important input into healthcare system planning** which in turn could work to address the following:

- Creating more consistent, access to both existing and emerging technologies and/or procedures, aligned to needs.
- Equity of health outcomes across different socioeconomic and demographic groups, including Māori and Pasifika communities, individuals with disabilities and those with low income.
- Indigenous health issues and outcomes.

Horizon scanning can help stakeholders identify and understand new technologies that are becoming available and appropriately invest in those that best support individual and population needs. Establishing a horizon scanning system with these objectives in mind, will support a needs-driven approach to new technology adoption and the rollout of health services. This can support a goal of ensuring that those who need health services and particular therapeutics and technologies can access these.

"Horizon scanning could be a fantastic opportunity for New Zealand to be a 'leading light' in addressing inequities in a nation's indigenous health outcomes." – New Zealand Māori health representative

Theme 2: Planning

Horizon scanning has the potential to support proactive whole of system planning

Stakeholders indicated that the New Zealand health system has historically been reactive, as opposed to proactive. **Noting the increasing ability for emerging medicines and technologies to treat the underlying cause of disease and therefore alter existing models of care, stakeholders highlighted the importance of using tools such as horizon scanning to support proactive health system planning.** This could include updating models of care and service delivery (such as in the hospital versus at outpatient clinics or at home).

Stakeholders consulted during the consultation processes noted the operation of various degrees of horizon scanning or information gathering across the healthcare system in respective healthcare organisations, government agencies, patient groups and by funders. However, it was emphasised that ultimately these are largely operating in 'silos', with limited or no cohesion and unclear impact on ultimate decision making.

It was considered horizon scanning should have a central role informing government strategy, policy and funding decisions and could therefore have considerable value for organisations across the healthcare system ranging from the MoH to PHARMAC.

A horizon scanning process would identify key 'gaps' in healthcare system outcomes, resources and interventions. For example, identifying early-stage trials of therapies which may address particular diseases or health outcome priorities can help decision and policy makers plan their processes and allocate resources.

Enhance security of supply

A secure supply of therapeutics and health technologies is critical to population health. The importance of supply security, particularly for geographically isolated countries like New Zealand and Australia, was recently exemplified through the COVID-19 pandemic. Navigating supply security is critical considering potential natural disaster events, world supply constraints and discontinuation. It is therefore critical for government and government bodies to keep

up to date and aware of available alternatives with a plan to access these in a timely manner should an event occur that puts supply security at risk.

Commercially, it was noted that the presence of pharmaceutical company global affiliates in New Zealand going forward (particularly in the context of emerging medical technologies) would be supported by the operation of a holistic horizon scanning function where companies can proactively present their upcoming therapeutic horizons.

Early identification of new technologies

Early identification of emerging health technologies, particularly precision medicine (i.e. cell and gene therapies and Next Generation Sequencing) and early planning for the rollout of these is imperative in the modern health system, where the health technology landscape is rapidly evolving.

In August 2023, the MoH launched its LTIB on precision health (Precision health: exploring opportunities and challenges to predict, prevent and diagnose, and treat health needs more precisely in Aotearoa New Zealand) (38). **This existing work of the Ministry should be furthered, with commitments made to review the precision health space more systematically and consider system readiness, and plan for the introduction of these technologies.**

An example cited was the advent of new technology such as gene therapy, citing the need for planning resource allocation across the healthcare system.

> *"If we have emerging medical technology such as a gene therapy, this will mean considering resource planning across the entire healthcare system. By planning well in advance for their emergence, such funding decisions and their system implications don't suddenly become a 'political hot potato'" – Former PHARMAC employee*

Similarly, a patient organisation representative noted the value of horizon scanning in ensuring New Zealand is prepared to meet its population's health needs well into the future.

> *"If we don't utilise horizon scanning, we tend to get myopic and focus on short-term problems and short-term solutions." – New Zealand patient organisation representative*

Theme 3: Transparency

Transparent operation of the health system is important as it fosters trust, enables informed decision making by patients and healthcare professionals, and promotes accountability in the delivery of care, uptake of new technology and allocation of resources. **Stakeholders commonly agreed that a coordinated, multi-stakeholder horizon scanning process could contribute to transparent operation of the healthcare system across each stage of the continuum from initial planning to final outcomes and decision making.** This would mean transparency across the following processes and activities:

- Budget allocation and investment decisions;
- Resource allocation;
- New technology prioritisation; and
- Health services rollout.

By providing for horizon scanning, alignment between the environment, healthcare system actions taken, and ultimate healthcare system policies, investment and outcomes can occur. A global example cited by stakeholders was the operation of Singapore's national HTA agency, ACE. ACE uses horizon scanning as an internal workflow management and resource allocation tool, ultimately to provide timely informed advice about ultimate healthcare system resource allocation planning.

The ACE Horizon Scanning System aims to identify, filter, and prioritise new and emerging health technologies, or new uses of existing interventions, to assess their potential impact on health or the healthcare system, allowing for better preparedness of the healthcare system by providing advance notice to policymakers and healthcare providers to aid in planning for healthcare resources allocation.

"Proactive use of horizon scanning can enhance transparency and engagement between funders and other stakeholders. This can ultimately lead to relationships that are more productive and where funders are not suddenly 'pressured' to 'pony up' (i.e., fund an intervention in response to concerted actions)." – Former PHARMAC employee

Theme 4: Cohesion

Cohesion across the health system

Cohesion was highlighted as an important feature of an efficient health system that offers solutions to patient need. Stakeholders noted that information gathering and horizon scanning activities in New Zealand are currently siloed with limited collaboration and cohesion among key organisations and stakeholders. This creates duplication and limits the ability for a whole of system perspective to address health needs and implement health policy objectives in the most efficient and sustainable manner possible.

Cohesion and collaboration among cross-functional stakeholders such as government, decision-making agencies, patient representatives, researchers, and industry should therefore be a core feature of a coordinated horizon scanning system. Further to this, horizon scanning has the potential to reduce silos and create consistency in the information utilised and relied upon to make health system decisions. Information sharing through horizon scanning has the ability to build cohesion across different organisations and components of the healthcare system.

Reduced duplication and streamlining

Some stakeholders argued that there are many areas of duplication and time delays in the New Zealand healthcare system, in part due to a lack of collaboration among key organisations and historical processes of key decision-making agencies. **Stakeholders suggested that a coordinated horizon scanning system could help mitigate this by fostering collaboration between organisations and agencies to streamline key activities and decision making.**

It was also suggested that more targeted collaboration with international partners such as Australia and Singapore could streamline the decision-making process for New Zealand agencies by reviewing and leveraging the evidence-based decisions made by international agencies.

Less adversarial healthcare system stakeholder engagement

Stakeholders commonly acknowledged that historically (and to some extent presently), the health system has been characterised by adversarial relations. This has often been due to differing interests between stakeholders, such as patient groups, funders, central government (MoH, Māori Health Authority, Health New Zealand), independent government agencies (e.g., PHARMAC); specific population groups (e.g., Māori, Pasifika) and product developers (e.g., pharmaceutical companies).

Stakeholders acknowledged that this is a natural function of opposing interests, reinforced by fundamental operational frameworks, for example, legislative requirements for organisations to conduct their decision making at 'arm's length' or due to the specific objectives of an organisation. However, they noted this did not necessarily need to extend to the manner of stakeholder interactions, with it felt that horizon scanning could form a stepping stone to more collaborative, less adversarial engagement across the healthcare system.

By integrating the shared knowledge base gathered through horizon scanning into service planning and funding decision making processes, horizon scanning could be a mechanism by which greater collaboration between respective stakeholders could be initiated, with greater long-term benefits.

"Horizon scanning can be an olive branch, to help us move away from the current adversarial nature of stakeholder interactions." – Former PHARMAC employee

Theme 5: Person Centredness

Putting people at the centre of the health system, including the decisions that shape it is crucial to building a health system that delivers better access, responsiveness to needs and efficiency.

Patient Focus

Stakeholders emphasised a stronger patient-centred approach in decision-making within New Zealand's healthcare system, advocating for this focus to begin at the research stage and extend to the adoption of new technologies. They suggested that patient-centredness should be a fundamental principle in determining research priorities and advocating for studies tailored to the unique needs of the New Zealand population. This approach would facilitate the development and implementation of technologies and services that more effectively align with specific health needs of the community.

Furthermore, it is essential to pay special attention to the needs and prevalent diseases among diverse population groups, including Māori and Pasifika communities, rural communities, LGBTQIA+ communities, and people with disabilities and those of differing socio-economic demographics, to promote equitable healthcare advancements for all needs across New Zealand's society.

Theme 6: Investment

A core focus on 'budget' and 'cost containment' has been predominant at a whole of health system level, based in legislation, in the operational model of agencies such as PHARMAC, and in government policies and strategies.

While this has been required given the need to achieve objectives of efficiency and sustainability, this can result in overlooking patient and system needs. Cumulatively over time, this can lead to detrimental population health outcomes as the level of investment required to ensure population health evolves over time.

While ensuring value for money is still an appropriate principle of decision making, establishing a coordinated horizon scanning process centred around the notion of identifying health need and impact on health systems, can ensure a re-orientation of the decision-making mindset away from a more budget-focused approach, towards one of seeking to meeting needs, as outlined in Figure 20.

Figure 20 Overview of the process for investment decision-making, utilising horizon scanning

Bringing together different stakeholder groups for horizon scanning can facilitate the process of 'making the case' for investments in new therapies, technologies, and models of care. For example, this process could be utilised to identify and reference overseas jurisdictions such as Australia, Singapore, the US, the UK (and potentially other OECD countries) which may have already made evidence-based decisions to approve and implement particular technologies.

Facilitate less conservative decision making and timely access

There is an opportunity for horizon scanning to support addressing New Zealand's current standing in terms of access to existing and new technologies. As health innovations emerge at an accelerating pace, the ability to efficiently identify, approve and plan for the adoption of new health technologies is becoming increasingly important.

A common view held by stakeholders was unreasonable delays in funding decision making (e.g., by PHARMAC). Stakeholders noted that New Zealand often lagged behind other countries in access to 'existing' therapies, as well as 'new' innovative interventions and that there was a perceived drop in the level of spending in 'real terms'.

Particularly in areas of medicine such as low volume, high-cost gene therapies, where evidence is more likely to be immature or uncertain, there is a high need for a decision-making environment that is highly informed of potential benefits and opportunities afforded by new interventions. In addition, the need to access and leverage an

international evidence base, as well as to utilise global decisions as precedents is becoming increasingly essential in making informed, system-wide decisions regarding the adoption of new technologies and the delivery of services.

A number of patient organisation representatives highlighted the lobbying work that is often completed by patient representatives to advocate for the funding of new technologies or wider rollout of services. There is an opportunity for horizon scanning to contribute to building a more systematic approach to new investment, with less reliance on such disease specific approaches.

The Case for Horizon Scanning

Why Horizon Scanning in New Zealand

Desk research and stakeholder feedback identify the case for horizon scanning can be broadly categorised into *process* and *outcome* benefits.

1. **Process benefits**: contribute to timely, forward looking, transparent planning and decision-making processes.
2. **Outcome benefits**: contribute to improving health outcomes of New Zealanders and optimised decision making, including healthcare system efficiency and effectiveness benefits.

A coordinated horizon scanning mechanism can contribute to transparent operation of the healthcare system. Ultimately, horizon scanning has the potential to improve forward planning and preparation to ensure decisions are made in the most informed way possible. It does this by providing for the most complete set of information regarding healthcare system and health needs in a timely manner.

In doing so, the New Zealand healthcare system can position itself to optimise decision making, resource allocations and health outcomes, allowing patient access to healthcare interventions in a timely manner and optimising the efficiency and effectiveness of decisions made, including with respect to healthcare expenditures.

Potential for horizon scanning in New Zealand

Filling a gap in the healthcare system

Stakeholders noted that the absence of comprehensive horizon scanning in New Zealand is currently a significant gap in the healthcare system. While various organisations are independently undertaking small-scale or specific horizon scanning initiatives, these efforts lack a cohesive, coordinated system to ensure the benefits of horizon scanning are accessible to a broader population. There is therefore no comprehensive, single source of information regarding community health needs and health technologies available and coming which could be contributing to the objectives of healthcare system operations and reforms.

> *"If we are going to be effective and committed to the optimisation of the New Zealand health system, we need to incorporate horizon scanning." – NZ Academic Representative*

Despite the establishment of Health New Zealand (Te Whatu Ora) in 2022 (the largest single employer in New Zealand) with responsibility for improving services and outcomes across all health services, including hospital/specialist services, and primary and community care, New Zealand does not currently have a formalised, coordinated healthcare horizon scanning system.

Given the range of potential uses for the information gathered through horizon scanning, and the scale and scope of Health New Zealand (Te Whatu Ora), there is both an opportunity and a critical need to establish a multi-stakeholder horizon scanning system. This could optimise information available to all stakeholders in a forward-

> *"Horizon scanning is missing as a dedicated unit within the broader New Zealand healthcare system." – NZ Academic Representative*

looking manner. In turn, this would enable stakeholders to make informed healthcare planning and delivery decisions that maximise allocative efficiency across the health system.

Purpose of horizon scanning in New Zealand

Stakeholders commonly held that the primary focus of horizon scanning in New Zealand should relate to **understanding existing and future health needs** to search for relevant technologies and consider their implementation.

Secondly, there is an opportunity for horizon scanning to focus on **new technologies becoming available**. In particular, balancing the great opportunity presented by transformational technologies and the associated challenge of transforming the health system and health service delivery to provide access to these technologies as they become available.

Figure 21 Two key purposes of horizon scanning: need and interventions

Utilising horizon scanning to understand **existing** and future health needs, to search for relevant technologies and consider implementation.

Utilising horizon scanning to identify and plan for **new** technologies becoming available.

New Zealand has the opportunity to use horizon scanning activities to inform existing strategies, such as Pae Ora (Healthy Futures), designed to address identified healthcare system and population needs and help set the direction for a system that is needs focused, accessible, cohesive and people centred.

Recognising the range of new technologies in development and entering the market, stakeholders commonly shared the view that the prioritisation and uptake of technologies should be needs driven and supported by a coordinated horizon scanning process.

For example, this may lead to a greater focus on understanding disease burden and unmet needs in New Zealand and using horizon scanning to identify relevant technologies, whether new or existing, but not yet available in New Zealand, to address those needs. This includes understanding the needs of all members of the New Zealand community to ensure existing inequities are closed, rather than exacerbated.

However, in doing so, stakeholders also highlighted the need for careful consideration in the introduction of new technologies, emphasising that such innovations should not unnecessarily displace effective treatments that are currently in use.

The process of horizon scanning, and the information collected through horizon scanning has the potential to support health system planning and decision making for a range of stakeholders including government, payers, healthcare providers, patient organisations, and industry.

Stakeholders highlighted that the use of novel therapies in New Zealand is currently limited, but with significant potential to support the objectives of Pae Ora (Healthy Futures) for all New Zealanders. This sentiment was similarly

highlighted by the MoH in its LTIB on precision health, which expressed that the use of precision health in New Zealand is currently limited and recommended several key areas where changes will be needed to realise the opportunities offered by precision health whilst mitigating any potential associated risks over the next 10 years and beyond. The first recommendation emphasised the importance of *'developing systems and processes to enable evidence-based decisions about precision health technologies and infrastructure'*, which could be fulfilled by establishing a coordinated horizon scanning system (38).

With the involvement of a cross functional stakeholder group, such a system would systematically identify and evaluate emerging technologies, ensuring that decisions are informed by the needs of New Zealanders and the most current and comprehensive data available in the field of precision health.

A Vision for Horizon Scanning in New Zealand

The Horizon Scanning Opportunity

The New Zealand healthcare sector is presented with a unique opportunity to implement a coordinated, cross-stakeholder horizon scanning system at a time in which the system is conducive to reform.

Delivering upon intended reforms of the healthcare system, could be supported by horizon scanning informing planning and prioritisation.

A robust horizon scanning process also has the ability to support key decision-making bodies by equipping them with information about the current and likely future needs of New Zealanders and technologies in development.

Horizon scanning also provides for establishing support for the introduction of innovative therapies and can support planning, commissioning and delivery of primary and community care services, tertiary services and specialist care networks that deliver and enable patient access to new technologies. The **short-term objectives and outcomes** of horizon scanning highlighted by stakeholders are summarised in Figure 22.

Figure 22 Short term objectives of horizon scanning as identified by stakeholders

Achieving the objectives set out for the health system through the committed reforms and policy changes whilst equipping decision-making bodies with a consistent view of the future health technology landscape can support in achieving the following **long-term objectives and outcomes**:

- A system that meets the needs of all New Zealanders as they need it across their life course.
- All New Zealanders have access to health services.
- Appropriately plan for and match the distribution of health resources and workforce to the needs of New Zealand's diverse populations.

- An efficient and streamlined process for approving and funding medicines and health technologies in New Zealand, to position New Zealand more favourably in terms of speed of access.
- Greater prevention and more precise detection and diagnosis of diseases across all population groups, resulting in better health outcomes and improvements in quality of life.
- Greater equity across all population groups and consequently social and economic benefits.

A Vision for Horizon Scanning in New Zealand

Utilising the insights and perspectives provided by key stakeholders shared throughout this report, this section will provide insights into the vision and recommendations for horizon scanning in New Zealand. Building on previous sections, it will provide an overview of the priorities, principles and requirements that underpin and form a strawman for horizon scanning in New Zealand.

Key requirements and principles

Drawing from their extensive experience and knowledge of the New Zealand health system, stakeholders shared a number of requirements, principles, and priorities for a robust horizon scanning system that feeds into health system planning and delivery. Notably, stakeholders emphasised the importance of employing a coordinated, whole of system approach to support the system wide and multi-stakeholder goals of horizon scanning.

Overarching goals

Three key goals should underpin the operation of a coordinated horizon scanning system in New Zealand (Figure 23):

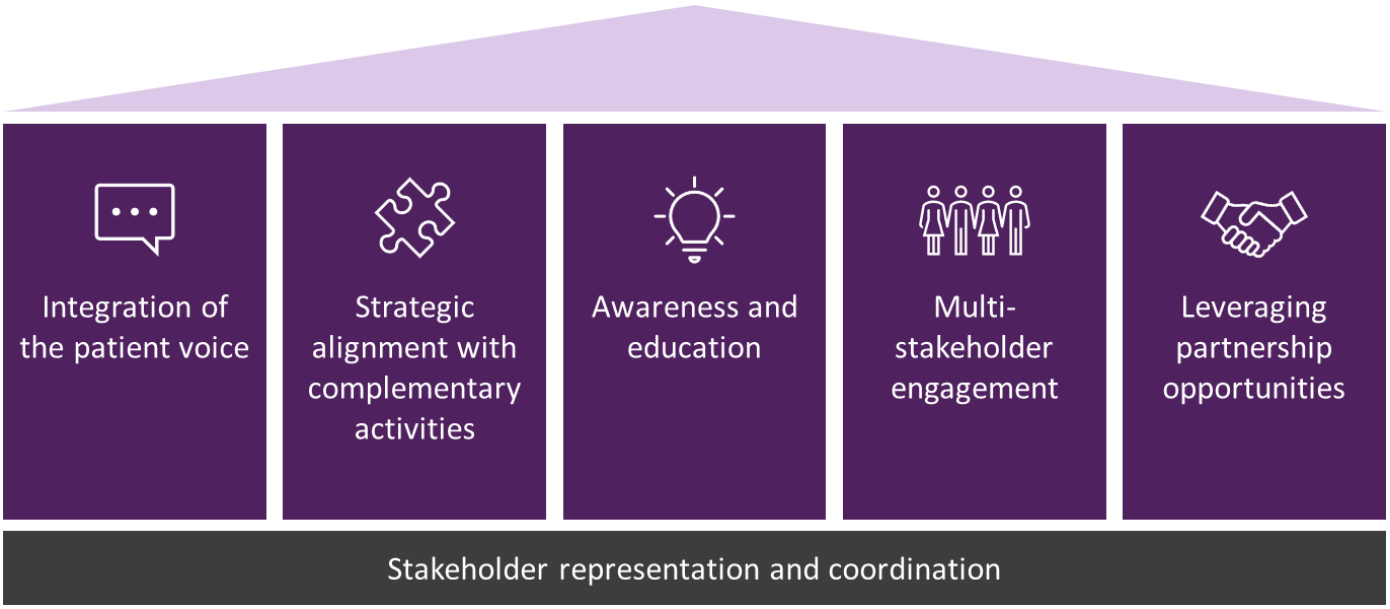
1. Proactive planning;
2. Needs based access; and
3. Transparency and collaboration.

Figure 23 Three Key Goals for New Zealand Horizon Scanning

Five pillars to support a coordinated horizon scanning system

Five pillars have been identified as critical in supporting the establishment and ongoing operation of a coordinated horizon scanning system. These pillars would enhance the effectiveness of the horizon scanning system, ensuring that it is aligned with the broader goals of the healthcare system, achieves widespread stakeholder buy-in, operates with sufficient resources and feeds into system planning and delivery.

Figure 24 Five proposed pillars for a New Zealand horizon scanning system



1. Integration of the patient voice

Integrating the patient voice into health system planning, technology prioritisation and decision making is essential to ensuring the system meets the needs of New Zealanders. As the ultimate recipients of the outputs of the healthcare system, there is an undeniable need to ensure their involvement in any horizon scanning process.

Patient input into the horizon scanning process is vital to ensure alignment between demand for healthcare system and medical technology use and its provisioning.

The valuable insights that patients can provide based on first-hand experience of living with and managing their health condition and mana, is widely recognised, and increasingly being incorporated into international HTA decision making processes.

2. Multi-stakeholder representation and engagement

In addition to the patient, horizon scanning has the potential to support and benefit a range of healthcare system stakeholders. In order for a horizon scanning system to maximise benefits for all, multi-stakeholder involvement is paramount.

With horizon scanning designed to inform the healthcare system of patient needs and impact planning and decision-making prioritisation, it is vital that it is informed by the most complete information set possible. Involvement of all relevant stakeholders promotes the timely capture and dissemination of information regarding health needs, emerging technologies, and priorities across the entire healthcare system. Consequently, all relevant stakeholders can then take appropriate timely action and benefit.

In designing a horizon scanning that has addressing health and healthcare needs at its core, it is essential all relevant stakeholders have the opportunity to be involved. All stakeholders highlighted the need to involve Māori and Pasifika communities and representatives in horizon scanning processes, to ensure there is appropriate representation of their needs. Similarly, interviewed stakeholders noted the need for patients and their representatives, policy makers, planners, funding decision makers and medical technology suppliers to be involved.

Such inclusion allows horizon scanning to contribute to address identified challenges of the nation's healthcare system, by ensuring the needs of all are considered.

An example cited by stakeholders interviewed was the condition of gout. Gout disproportionately effects Māori and Pasifika people, but handheld imaging equipment for timely diagnosis and treatment for gout exists but is not available in New Zealand. There is an opportunity to consider scenarios such as these within a horizon scanning process and develop strategies to alleviate these existing health system issues.

Stakeholders interviewed noted the existence of several horizon scanning activities across the healthcare system. However, these activities are fragmented, potentially duplicated, not necessarily systematic, or ongoing, have singular focus, are often conducted without broader stakeholder collaboration, and may not necessarily actively feed into or impact decision making.

A comprehensive multi-stakeholder system is therefore needed to address these issues, including to ultimately ensure it feeds into and impacts healthcare system decision making.

> *"Without equitable representation, the benefits of horizon scanning would only accrue to those who currently benefit from the healthcare system." – New Zealand Māori representative*

3. Strategic alignment and coordination with existing activities

Crucial to a successful horizon scanning system is its alignment to, and coordination with, healthcare system reforms, priorities, and complementary activities. The New Zealand healthcare system has recently seen a number of strategic reforms and initiatives aimed at improving access, efficiency, and better population health outcomes.

The operations of a horizon scanning system should therefore seek to align with, and support the objectives of, recent reforms and initiatives and policy generally going forward. There is a clear case that horizon scanning is a critical process and input necessary to achieve the goals of these activities.

A number of stakeholders suggested the need to inform other activities through horizon scanning. In particular, the need to establish an agreement to develop a Medicines Strategy informed by a horizon scanning approach, outlining which medicines are funded and how.

> *"Together we are stronger. Everyone is saying the same but from different platforms, when they can come together, they can do better – it's important that everyone is speaking the same language." – New Zealand patient organisation representative*

4. Awareness and Education

There is a need to raise public awareness of horizon scanning to explain the meaning and intent behind horizon scanning. Educating stakeholders on the purpose, benefits and operations of the horizon scanning system can foster their engagement and enable them to understand its value. In turn, well informed and engaged stakeholder

groups are more likely to collaborate, trust, and contribute to the horizon scanning system. This makes it more likely for it to achieve its ultimate objectives.

5. Leveraging partnership opportunities

Horizon scanning has operated in many forms internationally, with momentum growing again in Australia. There are opportunities for New Zealand to partner with strategically aligned jurisdictions to extend such practices to New Zealand's benefit. This goes beyond 'pure' horizon scanning to other areas including technology development, regulatory approvals and funding decision making. International horizon scanning activity can expedite outcomes in New Zealand, to the benefit of many stakeholders including the New Zealand population.

Scope

Technologies and areas of focus

Horizon scanning should capture all types of health-related technologies due to their potential implications on the healthcare system. This includes therapeutics, medicines, vaccines, devices, and diagnostics.

A number of stakeholders also suggested that horizon scanning should capture broader health system services and trends in addition to technologies, as these will similarly impact the healthcare system and/or support the delivery and adoption of other health technologies. **Broader health services that should therefore be considered** (Figure 25).

Figure 25 Broader healthcare system considerations of horizon scanning

In addition, a frequently expressed view was that whilst innovative technologies and new models of care should be of focus, there must also be a focus on addressing current inequities, including those relative to other countries and existing medicines that are approved, but not yet funded and therefore readily accessible in New Zealand. This is inclusive across the healthcare system, from primary care, secondary care, hospitals, and community medicines.

"It would be tone deaf if horizon scanning looked at AI, high end health technologies etc., but ignored the basics as to why we are behind other countries in health outcomes, including the provision of fundamental healthcare resources." – New Zealand Māori representative

Prioritisation

Given the potential breadth and depth of activities and scope of technologies and health services, thought will need to be given to a filtering process and prioritisation criteria. Prioritisation should cascade from population health needs and strategic priorities. **Horizon scanning needs to have a tight focus on how technology or other alternative and complementary interventions might address New Zealand health and healthcare system issues**.

Timeframes

Stakeholders had varying views on the exact timeframe that should be utilised for a horizon scanning process in New Zealand. However, all stakeholders thought a minimum of five years into the future was required.

A number of stakeholders referenced the 10-year timeframe of the LTIB initiative and suggested that horizon scanning should use at least this timeframe to capture innovation. One stakeholder suggested a 20-year timeframe to capture disruptive technologies such as artificial intelligence and genomics.

The timeframe should also consider broader externally driven timeframes. For example, a 10-year horizon is likely to capture Phase 3 products which are likely to launch, while a three-year horizon which is likely to capture FDA approved medicines which New Zealand should be preparing to implement. Of critical importance, the timeframe selected should align with New Zealand healthcare system policy, planning, investment cycles and budget application and management periods (e.g., move of PHARMAC to multi-year budget pathways) (44).

Positioning

Horizon scanning needs to be a collaborative function with multi-stakeholder buy-in and inputs from all relevant stakeholders across the New Zealand healthcare system. In terms of positioning and ownership of a horizon scanning system, stakeholders provided a range of suggestions for consideration.

Multi-stakeholder engagement

There are a number of ways in which a coordinated, multi-stakeholder horizon scanning system could be established and operated in New Zealand. At its core, a horizon scanning system should have adequate representation from a range of communities as well as stakeholders, including patient advocates, healthcare professionals, academics, and key opinion leaders. A robust horizon scanning system should also incorporate mechanisms for review and continuous improvement, to ensure that the processes employed, and prioritisation criteria established continue to adequately support the needs of New Zealanders.

Stakeholders shared that an effective horizon scanning system must include representation from communities of greatest health needs, including Māori and Pasifika peoples, people with disabilities and rural communities. Ensuring the diverse needs and perspectives of these communities are central to its design and implementation, horizon scanning can lead toward shaping a health system that fulfils existing unmet needs and evolving needs.

It was highlighted that failing to involve Māori and Pasifika representation in horizon scanning could lead to outcomes where advantages do not equitably accrue to these stakeholders. As such, one suggestion was that a horizon scanning system be co-led by the (former) Māori Health Authority, to ensure adequate representation and involvement. Stakeholders emphasised that globally, Indigenous-led horizon scanning initiatives are rare, presenting a unique opportunity for New Zealand to lead and set precedent in this domain. However, with subsequent policy changes including the disestablishment of the Māori Health Authority, it is no longer clear that the involvement of this organisation specifically is a viable option, but nonetheless, the need for multi-stakeholder involvement is essential.

Government led

A government driven, formalised horizon scanning process was suggested by several stakeholders, with a number of ideas on the specific government bodies that could lead this. One stakeholder suggested that horizon scanning could **reside under the responsibility of the New Zealand Treasury. This would enable the ability to leverage existing technical expertise to generate necessary metrics and data and to provide some level of political neutrality.**

It was also highlighted that this would enable health system horizon scanning to be incorporated into a whole-of-New-Zealand government policy, planning, and resource allocation system framework. It was separately suggested that the function could be 'lifted out of the healthcare system', with a similar suggestion for horizon scanning to reside under the Department of the Prime Minister and Cabinet. Irrespective of which of these approaches is adopted, **the objective would be to address the current situation of siloed scanning and planning activities occurring across the health system and rather establish a holistic government-led approach to this**.

"The New Zealand Treasury may arguably be the best place to position any comprehensive horizon scanning for the New Zealand healthcare system, with its existing technical capabilities, inclusive of its ability to compile relevant metrics. However, it would need to have a clear healthcare system focus and consider the political, economic and cultural implications of healthcare system decision making." – New Zealand Māori health representative

Concluding Statements

In an age of innovation and rapid technological advancement, and at a time when demographic pressures will increase demands on the health system, it is crucial that the New Zealand healthcare system continuously evolves, to ensure that it remains effective, accessible, and sustainable.

Horizon scanning can offer information to enable better forward planning to meet health needs, and provide greater transparency concerning access to health innovations, thereby fulfilling New Zealanders' expectations of their healthcare system.

A New Zealand healthcare system that is modern and fit-for-purpose is important for public trust and confidence, and an important facet of a productive society.

Horizon scanning is a tool, but not a cure-all. Information must then be effectively used in planning and decision-making processes.

Shining a light on global innovation, and the potential for transformation of healthcare services, is critical to supporting the healthy futures of all New Zealanders, including those whose needs are poorly served by the current system and treatment options.

A horizon scanning system for New Zealand must be coordinated with clear ownership and leadership and it must feature broad stakeholder representation and participation. **In order to ensure the full effect of a horizon scanning system, it is imperative that fit-for-purpose legislation and regulation be enacted to support appropriate access to innovation, whilst ensuring the safety, quality and efficacy of the therapeutic products that are available.**

This Report, developed by Biointelect Pty Ltd (Biointelect) introduces the concept of healthcare system horizon scanning and explores the opportunity for horizon scanning in the New Zealand health system.

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April 2024

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