



ACHIEVING MEDICINE  
ACCESS EQUITY  
IN AOTEAROA  
NEW ZEALAND  
TOWARDS A THEORY OF CHANGE

PHARMAC  
TE PĀTAKA WHAIORANGA

# ACKNOWLEDGEMENTS

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While this paper has been a collective effort, particular recognition must be given to Sandhaya (Sandy) Bhawan (Principal Adviser, Access Equity) as lead author. Sandy is a Registered Pharmacist and a Fellow of the Pharmaceutical Society of NZ.

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Ma tou rourou, ma toku rourou ka ora ai te iwi – with your contribution and our contribution we will make progress.

# INTRODUCTION: SARAH FITT CHIEF EXECUTIVE

PHARMAC has set a bold goal to eliminate inequities in access to medicines by 2025. We did this as not all New Zealanders are achieving 'best health outcomes' from medicines that we fund.

We deliberately chose to be bold, as we know that change is needed.

We know that Māori have significant barriers to accessing and utilising the funded medicines that are available, as do Pacific peoples. Deprivation and rurality are likely to be important factors too.

Māori continue to receive medicines at lower rates, than non-Māori, despite their health need being higher - contributing to greater inequities in health<sup>1</sup>.

This gap in access to medicines is seen in long term conditions like diabetes, heart disease, and respiratory conditions like asthma.

This means that Māori don't experience the benefits from the health system in the same way as non-Māori and this simply has to change. Every person in New Zealand needs to access funded medicines, as early and as easily as possible.

But we can't achieve change alone - it requires committed collaboration across the whole health system.

Not only are we working across the sector but also looking at what we can do differently, and applying an equity lens across all of our work. We also need to become a tenacious influencer that nudges other decision and policy makers in the direction of improving health equity, one of the Government's four priorities for health.

I encourage you to read this document alongside Te Whaioranga, our Māori Responsiveness Strategy, which sets out how PHARMAC responds

to the needs of Māori in relation to medicines, especially within the context of Te Tiriti o Waitangi<sup>2</sup>.

This paper is intended to prompt discussion, we welcome and encourage feedback. Please get in touch with us at [accessequity@pharmac.govt.nz](mailto:accessequity@pharmac.govt.nz)

## He Tono-A Request

### "Tera te haeata takiri ana mai i runga o Hikurangi

"There yonder breaks the dawn on the peak of Hikurangi

### Ara whaiuru, whaiuru, whaiuru

Now seek entry, seek access, seek passage

### Ara whaiato, whaiato, whaiato

Now seek collaboration, seek combination, seek togetherness

### I ara rā tini! I ara rā tini! Arara rī

There, a culmination for the multitude

### Te Pātaka Whaioranga!

The Storehouse of Wellbeing!

### Kia mau. Kia mataara."

Be alert. Be vigilant."



SARAH FITT,  
CHIEF EXECUTIVE

# DOCUMENT PURPOSE

This paper represents PHARMAC's working definition of medicine access equity – a necessary foundation as we work to close the gaps in medicines access. We have examined the evidence about the drivers that facilitate access to funded medicines, and why some population groups experience more inequitable access to medicines than others. We have used this to build a theory of change, on which we welcome discussion. It will be PHARMAC's touchstone as we establish our work programme and seek to drive collaboration with key decision and policy makers in the wider health sector.

The document is in three parts. Part one sets out concepts, definitions and discussion on health equity and medicine access equity. Part two focuses on factors that can facilitate access to health care and medicines and part three concludes by setting out the scope of PHARMAC's intended work programme to eliminate inequities in access to medicines.

PHARMAC is committed to achieving medicine access equity and sees this mahi as an integral part of the wider work of the health sector towards achieving health equity in New Zealand.



# SUMMARY

Adapting from the World Health Organization (WHO) definition of equity and health equity:

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## PHARMAC defines medicine access equity as

The absence of avoidable, unfair or remediable differences in funded medicine access among groups of people, whether those groups are defined socially, economically, demographically or geographically or by other means of stratification.

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**Medicine access equity** means that everyone should have a fair opportunity to *access funded medicines* to attain their full health potential, and that no one should be disadvantaged from achieving this potential. In this context, some groups may require additional support to access funded medicines than others.

The causes of health inequities are complex, and solutions do not lie solely with the funding of medicines, or within the health system.

We know that there are barriers to equity at multiple levels including:

- access barriers to health care (e.g. delayed access, costs, transport, family structure, expectations, beliefs)
- structural barriers such as how care is organised (e.g. accessing appointments, wait times, after hours advice and access, completing referrals)
- the ability of providers to address a person's needs (e.g. cultural safety and competency, health literacy, knowledge and skills, adherence)

We have developed a theory of change to achieve equitable access to medicines. It identifies five primary drivers that facilitate medicine access:

- **medicine availability** – how PHARMAC makes and implements funding decisions so that everyone who is eligible can access funded medicines
- **medicine accessibility** – ensuring people don't face challenges getting to see a prescriber or to the pharmacy
- **medicine affordability** – reducing cost barriers for priority populations so that people can afford funded medicines

- **medicine acceptability** – the ability of health services to create trust, so patients are informed and engaged enough to accept the medicines they've been prescribed
- **medicine appropriateness** – the adequacy and quality of prescribing to ensure equitable health outcomes.

Each of these primary drivers has several related secondary (or contributing) drivers.

PHARMAC will seek to understand the impact of drivers that facilitate access to funded medicines in primary care for populations known to be facing health inequities and design effective interventions in partnership with the sector. Initial priority will be given to our Te Tiriti partner, Māori, who are well evidenced to experience health inequities. Other populations who experience health inequities include Pacific peoples, those experiencing socioeconomic deprivation, those from former refugee backgrounds, and those residing in rural/isolated locations.

We intend to focus on primary care medicines in the first instance, to align with the Government's four main priorities for the health sector generally, of which primary care is one. The approach will help inform ideas for change, which can be tested to see if they lead to improvements at both a national and local level.

We will also develop a medicine access equity outcomes framework to measure progress.

## SUMMARY OF SCOPE

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1	<b>What is our aim?</b>	To eliminate inequities in access to medicines by 2025.
2	<b>Why are we doing this work?</b>	<p>Not all New Zealanders are achieving ‘best health outcomes’ from medicines funded by PHARMAC, and are missing out on the opportunity to improve their health through use of medicines.</p> <p>The social determinants of health and structural system-level barriers lead to the inequitable distribution of health status between different population groups. Health inequities are unfair, and can and should be eliminated. One of the ways in which health inequities manifest is through gaps in access to healthcare, including medicines.</p> <p>We know that there are differences in the use of medicines by some population groups, particularly when looked at by ethnicity. Research shows significant differences in the way Māori receive medicine, in comparison to other New Zealanders. When the burden of disease is considered, there’s a significant amount of medicine that Māori are not getting. This is also likely for Pacific peoples and other population groups experiencing inequities.</p>
3	<b>What do we mean by medicine access equity?</b>	<p>Adapting from the World Health Organization (WHO) definition of equity and health equity, PHARMAC defines <b>medicine access equity</b> as:</p> <p>“The absence of avoidable, unfair or remediable differences in funded medicine access among groups of people, whether those groups are defined socially, economically, demographically or geographically or by other means of stratification.”</p> <p><b>Medicine access equity</b> means that everyone should have a fair opportunity to access funded medicines to attain their full health potential, and that no one should be disadvantaged from achieving this potential. In this context, unequal inputs are required to attain a fair opportunity to access funded medicines.</p>

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#### What do we mean by 'access'?

In order for the best health outcomes to be equitably obtained from medicines, a narrow definition of access focusing on whether a medicine is able to be prescribed is insufficient. We are taking a wider definition which takes into account the following aspects:

- **Availability** – relates to whether the medicine has been deemed safe by a regulatory body, is publicly funded and there is adequate supply.
- **Utilisation** – concerned with the extent to which a population gains access to and uses available medicines optimally.
- **Outcomes** – about the quality, relevance and effectiveness of prescribing and dispensing.

Access in this context can refer to the first time someone is prescribed a medicine as well as ongoing access for long-term conditions.

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#### What is our focus?

The scope of this work focuses on medicines that are already publicly funded. Unfunded medicines are out of scope. However, PHARMAC will be examining its decision-making processes and systems for investing in medicines ensuring that future funding decisions do not contribute to inequities for priority populations.

We will focus on conditions that are significantly amenable to medicines as a treatment mode. This includes medicines for either the prevention, treatment and/or management of: asthma, diabetes, gout, hypertension (high blood pressure), primary and secondary prevention of a cardiovascular event.

In line with the Government's priorities, we will focus on the primary care setting. Over time, we will look to improve equity of access to medicines in secondary care and for funded vaccines.

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#### Which populations?

Initial priority will be given to our Treaty partner, Māori, who are well evidenced to experience health inequities. Other priority populations will include:

- Pacific peoples
- those living in high socioeconomic deprivation
- those residing in rural and isolated areas
- people from former refugee backgrounds.

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#### What are the key enablers of medicine access equity?

The primary drivers for change to eliminate inequities in access to medicines we have identified are:

1. **availability** – how PHARMAC makes and implements funding decisions so that everyone who is eligible can access funded medicines;
2. **affordability** – reducing cost barriers for priority populations so that people can afford funded medicines;
3. **accessibility** – ensuring people don't face challenges getting to see a prescriber or to the pharmacy;
4. **acceptability** – the ability of health services to create trust, so patients are informed and engaged enough to accept the medicines they've been prescribed; and
5. **appropriateness** – the adequacy and quality of prescribing to ensure equitable health outcomes.

Each of these have several secondary drivers that contribute to them. While PHARMAC does not have direct control over a number of these contributory drivers, it can and will use its role and influence to collaborate with the wider sector to achieve its goal of eliminating inequities in access to medicines by 2025.

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ACHIEVING MEDICINE ACCESS EQUITY  
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# PART ONE

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# STRATEGIC CONTEXT

PHARMAC's statutory objective under the New Zealand Public Health and Disability Act 2000 is to:



Secure for eligible people in need of pharmaceuticals, the best health outcomes that are reasonably achievable from pharmaceutical treatment and from within the amount of funding provided. ”

The Act's purpose statement also sets out a range of overarching objectives for publicly-funded health organisations that fall within its umbrella, including PHARMAC. Of particular relevance is the objective to 'reduce health disparities by improving the health outcomes of Māori and other population groups' [section 3(b)].

In addition, as an agency of the Crown, PHARMAC acknowledges the special relationship that exists between the Crown and Māori. Te Tiriti o Waitangi identifies, articulates and guarantees rights for Māori, the indigenous people of Aotearoa. The articles of the Treaty of Waitangi have been reflected in three key principles – partnership, protection and participation. PHARMAC is committed to upholding the articles expressed through the principles of the Treaty of Waitangi.

PHARMAC sees these principles expressed as:

- **Partnership** – forging and maintaining enduring relationships with whānau, hapū and iwi. PHARMAC has established enduring relationships with Whānau Ora providers/collectives throughout the country and has utilised these partnerships to seed fund annual

services and determine and inform Hauora Arotahi (areas of health focus for Māori). It also partners with professional groups for the pharmacy, medical and nursing workforces and offers scholarships, sponsorships and annual clinicians wānanga.

- **Protection** – ensuring Māori have the same access to medicines as non-Māori and receive at least the same level of health outcomes through advancing tino rangatiratanga with whānau as described in Pou 1 of PHARMAC's Te Whaioranga (Māori Responsiveness Strategy).
- **Participation** – respecting and trusting each other's ability and knowledge about how best to do the work to achieve shared outcomes.

Under PHARMAC's management, the range and number of funded medicines and medical devices and the number of people receiving them have increased. Although PHARMAC has been successful at ensuring medicines are available to all eligible New Zealanders, we need to work with the rest of the health system to ensure medicines are prescribed, accessed and utilised equitably so that all people can achieve the best health outcomes.

# PHARMAC'S STRATEGY

PHARMAC's Statement of Intent 2017/18 - 2020/21 includes three 'bold goals' to achieve its vision of being critical to the health system's delivery of better health for New Zealanders. Central to these is a bold goal to tackle inequities in access to funded medicines. Equity issues are also at the heart of two of PHARMAC's existing current strategies: Te Whaioranga, our Māori Responsiveness Strategy, and our Pacific Responsiveness Strategy.

As shown in Figure 1 below, we see inequitable access to medicines as an outcome which is a subset of inequitable access to health care generally. Those experiencing health inequities also tend to experience inequitable access to health care; both are often a result of broader inequities that exist in the social determinants of health, which in turn have arisen as a result of the structural inequities (e.g. colonisation). The figure reflects systemic inequities at these various levels and is not intended to ascribe any fault to those experiencing these inequities.

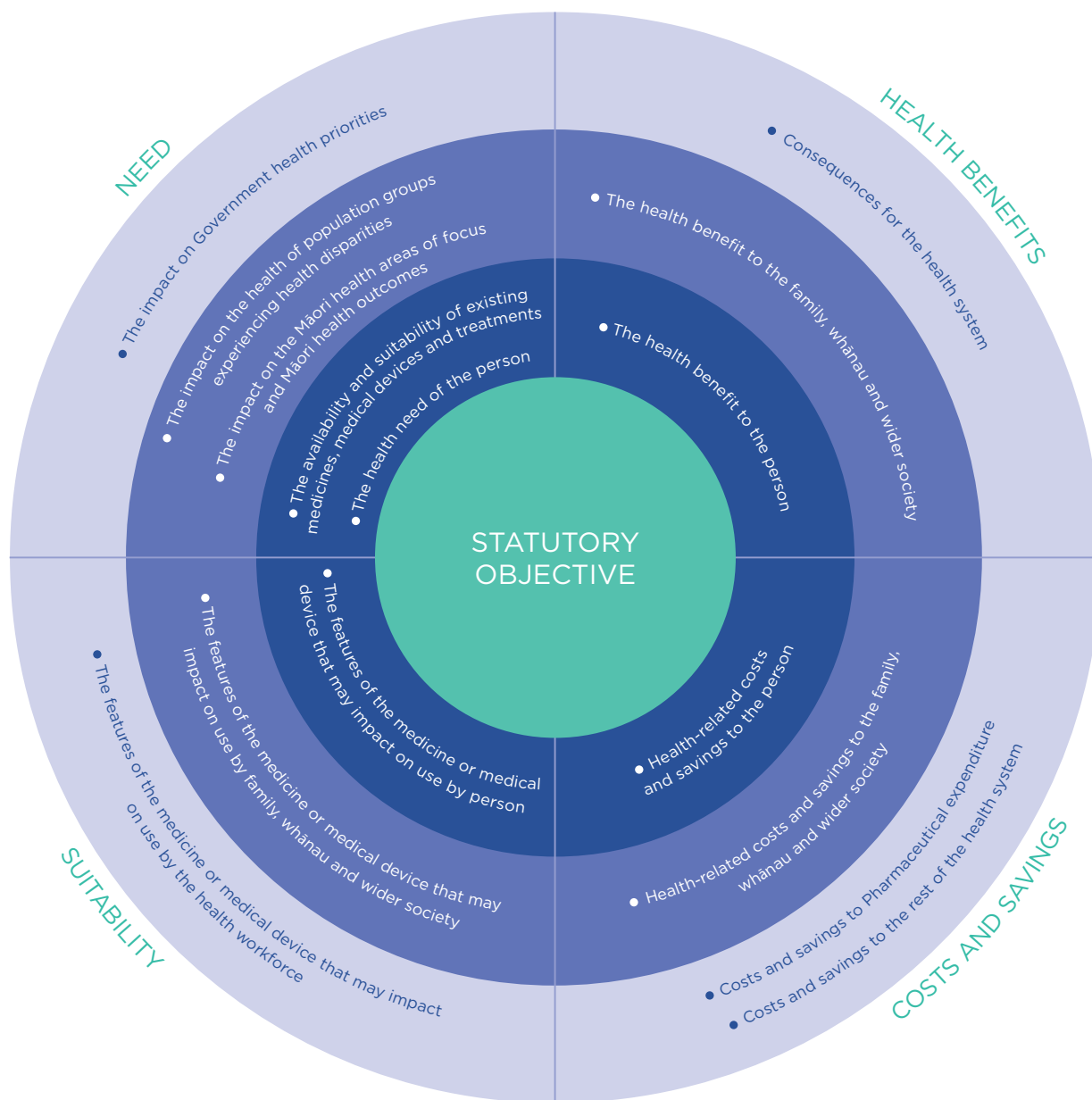


Figure 1 Conceptual relationship between health inequity and inequitable access to medicines ●

# PHARMAC'S FACTORS FOR CONSIDERATION

Reducing health inequity contributes to PHARMAC's statutory objective and functions of achieving best health outcomes from funded pharmaceutical treatment. Equity considerations feature in the Factors for Consideration (FFC), which PHARMAC uses to make medicine funding decisions, and its Implementation Programmes, which promote the responsible use of funded

medicines. Figure 2 below, represents the four different dimensions that PHARMAC generally considers when making funding decisions (need, health benefits, cost and savings, and suitability), and the three levels of impact considered (to the person; to the person's family, whānau and wider society; and to the broader health system).



**STATUTORY OBJECTIVE:** Does the proposal or decision help PHARMAC to secure for eligible people in need of pharmaceuticals the best health outcomes that are reasonably achievable from pharmaceutical treatment and from within the amount of funding provided?

● Health system    ● Family, whānau and wider society    ● Person receiving the medicine or medical device

# EQUALITY VERSUS EQUITY

## PHARMAC recognises that health equality is different from health equity.

Health equality is 'sameness'. Health equity "better recognises that people differ in their ability to attain or maintain health" and that consequently "equitable outcomes in health may require different (i.e. unequal) inputs to achieve the same result"<sup>3</sup>. PHARMAC recognises that to achieve equal outcomes, unequal input is required and that this requirement is the application of equity.

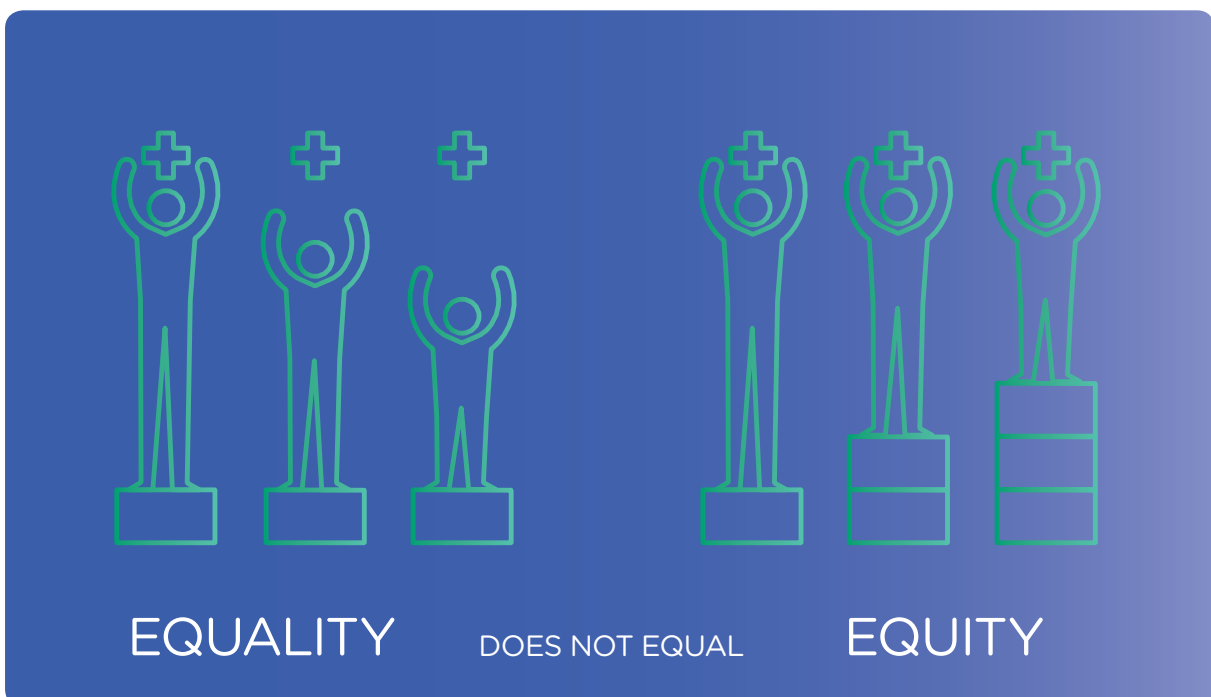
Other organisations have made similar distinctions between equality and equity, observing that equity is an ethical construct that recognises different groups may require different approaches to get the same outcomes.<sup>4</sup> Furthermore, treating everyone the same and a focus on standardisation of services for quality may in fact worsen equity

if it does not allow adaptation of health services for groups that require unequal input and different approaches to get the same outcome.<sup>5</sup>

A tangible example of this difference between equality and equity is presented in PHARMAC's updated report *Variation in Medicines Use by Ethnicity*.<sup>6</sup> In this analysis the age-standardised script rates (medicines dispensed) by ethnicity (Māori to non-Māori) are similar and so look equal, but when the burden of disease (health need) of Māori is factored in, the inequity becomes apparent.

The image below has been used widely to illustrate the difference between equality and equity.<sup>7</sup>

The World Health Organization states that "health equity' or 'equity in health' implies that ideally everyone should have a fair opportunity to attain their full health potential and that no one should be disadvantaged to achieve this potential."<sup>8</sup>



# HEALTH EQUITY AND THE SOCIAL DETERMINANTS OF HEALTH

The social determinants of health are the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. The social determinants of health are important drivers for health inequities – the unfair and avoidable differences in health status seen within and between countries.<sup>9,10</sup> By and large, health inequities are the product of poor housing conditions, unemployment, lack of social support, lower education levels, lower income, and poverty, which in turn are influenced by discrimination and other structural power imbalances. The relationship between racism and health equity is discussed later in this section. Certain population groups are more likely to face these challenges than other groups.<sup>11,12</sup>

Colonisation<sup>13</sup> is known to impact negatively on the status of indigenous people, and in the New Zealand context well-known researchers state that it “is impossible to understand Māori health status or intervene to improve it without

understanding our colonial history”.<sup>14</sup> They describe how colonisation permits the (mis)appropriation and transfer of power and resources from indigenous peoples to the newcomers, and that this process of transfer is enabled by layer upon layer of new systems established to determine how resources are obtained and redistributed, and to whom. These systems in turn construct who will benefit and be privileged.

Figure 3 illustrates the relative impact of the various factors in the determination of health.<sup>15</sup> While this data is from the United States, it is probably not much different for New Zealand. Although smaller in comparison with the other determinants, clinical care is a key factor. Clinical care is about the access to care and the quality of care provided. The way health systems are designed, operated and financed acts as a powerful determinant of health. Health systems have the potential to promote health equity when their design and management of clinical care specifically consider the circumstances and needs of populations.

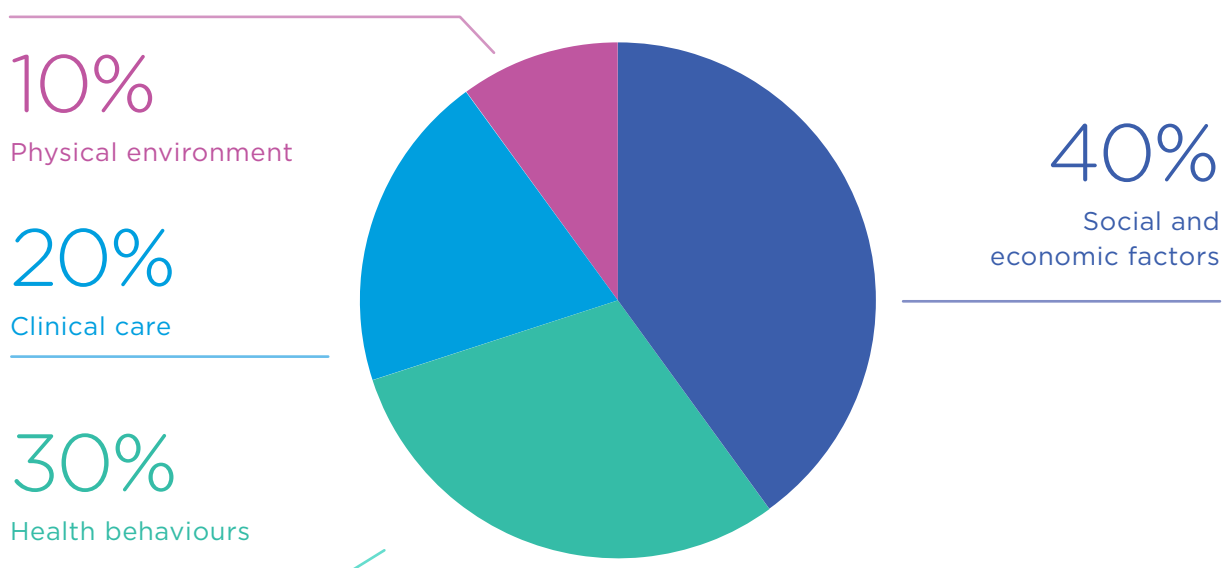


Figure 3 Factors that impact our health ●

# POPULATION GROUPS EXPERIENCING HEALTH INEQUITIES

## Health inequity - a definition

Health inequities are avoidable, unnecessary and unjust differences in the health of groups of people.

PHARMAC's definition of health inequity has been adapted from the Ministry of Health's publication *Reducing Inequalities in Health* and was also used in the development of the Ministry's Health Equity Assessment Tool (HEAT).<sup>16</sup>

Current evidence and data demonstrate that several population groups in New Zealand are experiencing health inequities. The groups include Māori, Pacific people, people living in deprivation, people from former refugee backgrounds and people living in rural and/or isolated areas. This is not a mutually exclusive list; it is likely that the most deprived individuals (and communities) will share more than one of these characteristics. It is also not a restrictive list; evidence may suggest other population groups are facing a similar level of health inequity and should therefore also be considered accordingly.<sup>17</sup>

We know from published literature that health status is inequitably distributed in New Zealand. International comparisons show that New Zealand's health care system is comprehensive and while it generally performs well, there are significant

health inequities. For example, the latest rankings for health care systems of 11 wealthy countries by the Commonwealth Fund puts New Zealand fourth for performance and eighth for equity. Life expectancy is lower for Māori and Pacific populations, and Māori and Pacific people are also two to three times more likely to die of conditions that could have been avoided if effective and timely healthcare had been available.<sup>18</sup> Based on death rates in Aotearoa New Zealand in 2012-14, the gap between Māori and non-Māori life expectancy at birth is 7.1 years, 6.8 years for Māori females, and 7.3 for Māori males.<sup>19</sup>

Inequities in medication access and usage, health outcomes, disease or health risks between ethnic groups have been extensively documented in New Zealand and internationally.<sup>20, 21, 22, 23, 24</sup> While some differences in health outcomes across populations in Aotearoa New Zealand are attributable to differences in population characteristics and may not be avoidable, others are associated with social, economic or health system-related factors and often are unfair and avoidable.<sup>25</sup>

# HEALTH EQUITY AND RACISM

One of the factors that contributes to the observable health inequities between ethnic groups, and a significant determinant of health in its own right, is racism.<sup>26</sup>

The negative impact of racism on health globally is well established.<sup>27,28</sup> Expressions of racism occur at structural and individual levels and these can affect health in several ways, including eroding trust between affected patients and health practitioners. A recently published New Zealand study reported that the higher experience of racism among non-European groups remains an issue in New Zealand and its potential effects on health may contribute to ethnic health inequities.<sup>29</sup>

The Institute for Healthcare Improvement guidance on achieving equity for health care organisations identifies decreasing institutional racism within health care organisations as a key step to achieving health equity.<sup>30</sup> The guidance quotes Jones' definition of institutionalised racism as "differential access to the goods, services, and opportunities of society by race. Institutionalized racism is normative, sometimes legalized, and often manifests as inherited disadvantage. It is structural, having been codified in our institutions of custom, practice, and law, so there need not be an identifiable perpetrator".<sup>31</sup> Structural discrimination is the umbrella term that includes institutional racism, structural inequality and systematic discrimination. Structural discrimination occurs in a society when an entire network of rules and practices disadvantages less empowered groups while serving at the same time to advantage and privilege the dominant group.<sup>32</sup>

In the New Zealand context, the Human Rights Commission has asserted that there is strong, consistent evidence that structural discrimination is a real and ongoing issue in this country.<sup>33</sup> The 1988 New Zealand Department of Social Welfare's report *Puao-te-Ata-tu* noted that structural discrimination is "the most insidious and destructive form of racism". The report found that the negative effects of structural discrimination were wide reaching and inter-generational, primarily disadvantaging New Zealand's most vulnerable groups.<sup>34</sup>

Almost three decades after this report was published, evidence of racism in the form of structural discrimination and its negative impact on health outcomes for Māori in New Zealand remains a significant and largely unresolved issue. There is evidence that structural discrimination confers privilege and advantage based on race. A study in New Zealand examining socially-assigned race/ethnicity and health found that, among the self-identified Māori population, Māori who reported being socially-assigned as European-only had a health advantage compared with those who were socially-assigned as Māori and/or any other non-European group.<sup>35</sup> This suggests that racism is a social construct.



# EVIDENCE OF MEDICINE ACCESS INEQUITY IN NEW ZEALAND

## PHARMAC'S RESEARCH

PHARMAC's updated research report on Māori uptake of medicines shows Māori are continuing to receive funded medicines in the community at a lower rate than non-Māori.<sup>36</sup>

This means Māori are not able to benefit from medicines in the same way as non-Māori which is unacceptable. The research, commissioned by PHARMAC and undertaken by the University of Auckland, is an update of work initially published in 2013, which used 2006/07 Ministry of Health medicines dispensing data. Both reports account for differences in age and health need between populations.

The updated report using 2012/13 Ministry of Health dispensing data signals that, while there has been improvement in some areas, there continue to be inequities in the supply of funded medicines to Māori.

The updated research signals that:

- **large inequities continue** – compared with 2006/07, Māori remain overall much less likely to access dispensed medicine than non-Māori;
- **Māori access to medicines remains lower despite their health need being higher** – leading to greater inequities in health. This was seen in long term conditions like diabetes, heart disease, and respiratory conditions like asthma and chronic obstructive pulmonary disease. For such conditions medicines are a key part of management and have been evidenced to decrease morbidity and mortality.

## NZ HEALTH QUALITY & SAFETY COMMISSION RESEARCH

The Health Quality & Safety Commission's Atlas of Healthcare Variation and Equity Explorer provide further examples of inequities in relation to health outcomes and medicines access.<sup>37</sup>

While the Atlas highlights variation, it does not suggest an ideal level as it does not consider the burden of disease. However, it is designed to prompt debate and raise questions about health service use and provision among clinicians, users and providers of health services about why differences exist, and to stimulate improvement through this debate.

The Commission's Equity Explorer provides information on how health and health care

vary between groups of people, and between district health board (DHB) areas of Aotearoa New Zealand. It compares ethnic groups and groups based on deprivation.

Some of the findings from the two tools in relation to medicine access are summarised in the Appendix 1 and methodology details for these analyses can be found on the Commission's website.<sup>38</sup>

# MEDICINE ACCESS EQUITY – WHAT DOES IT MEAN FOR PHARMAC?

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Medicines prevent, treat or manage many illnesses or conditions and are the most common intervention in health care.<sup>39</sup> Equitable access to medicines is therefore critical for ensuring equitable health outcomes are achieved in those receiving the treatment. In PHARMAC’s context the definition of medicine access equity must be able to guide measurement and hence accountability for the effects of actions and interventions it takes towards achieving its Bold Goal by 2025.

Implicit in PHARMAC’s goal of eliminating inequities in access to medicines is a recognition that groups experiencing inequities may need different access criteria or health system, provider and practitioner behaviour to enable the gap to be closed. Treating people equally under the current system will never eliminate inequities.

PHARMAC’s definition of Medicine Access Equity reflects WHO definitions of equity and its implications for health equity.

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## **Medicine access equity**

is the absence of avoidable, unfair or remediable differences in funded medicine access among groups of people, whether those groups are defined socially, economically, demographically or geographically or by other means of stratification.

## **Medicine access equity**

means that everyone should have a fair opportunity to access funded medicines to attain their full health potential, and that no one should be disadvantaged from achieving this potential. In this context, unequal inputs are required to attain a fair opportunity to access funded medicines.

Adapted from the WHO definitions of equity and health equity.

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# PART TWO

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Building on the discussion of health equity and medicines access equity set out in part one, this section focuses on factors that can facilitate access to medicines and potential areas of intervention. To put this into context, a summary of the barriers which may be experienced during the current process for accessing medicines is described on the next page.

# BARRIERS TO ACCESSING FUNDED MEDICINES IN THE COMMUNITY

PHARMAC makes funding decisions that make medicines available to New Zealanders. When a medicine is listed on the Pharmaceutical Schedule it is *equally* available to all who meet the criteria for its use, and in whom the medicine is indicated and appropriate. This is theoretically **equal access**. However, as mentioned earlier equal availability of medicines does not translate to equitable health outcomes, due to the many system barriers that can prevent someone from being able to access the medicine and fully experience the benefits from its use.

The disproportionate impact of the barriers in population groups already experiencing health inequities contributes to inequitable access to medicines and can result in a significantly lower health gain from the medicine than expected. When coupled with the fact that these groups already suffer a disproportionate burden of disease, it becomes doubly important that they can access the medicines they need.

## **New Zealand researchers Norris and Horsburgh describe the barriers to access that may be present for people along this journey:**

“Firstly, patients have to identify that something is wrong with them or their family member’s health, or something needs to be checked, and decide that this justifies a visit to the prescriber. Social circumstances and where on the list of concerns, are going to affect the likelihood of any action. People who are struggling with paying bills, feeding their families and dealing with other family members needing care and attention are less likely to do this. High rates of poverty and poor health make this a reality for many Māori and Pacific families.

Secondly, the patients have to get to a prescriber which is influenced by several factors such as geographical location, ability to get time off work, user charges, availability and cost of transport, availability and cost of care for dependents.

Thirdly, the interaction with the prescriber has to result in a prescription. The nature of this interaction is complex as there is an intersect between the clinical expertise, knowledge and belief of the prescriber and the patient/whānau/carer expertise and knowledge and beliefs. When the differences and fit at this intersect is not tailored to suit the patient/whānau/carer or designed to include their contributions it may result in different outcomes for different groups of people.

Fourthly, the patient has to take the prescription to a pharmacy (or have it sent there) and they have to pick up the medicine. User charges are a significant barrier to picking up prescriptions, and previous research have shown that these are more likely to prevent Māori and Pacific people from obtaining their medicines. These ethnic differences persist after adjusting for socioeconomic deprivation. Factors such as geographical locality, ability to get time off, availability and cost of transport are also likely to affect whether people pick up their prescriptions.”<sup>40</sup>

Overlaying these is the concept of medicine appropriateness or optimal use, which ensures that the patient achieves the best outcomes from the prescribed medicine. Optimal use of medicines is a dynamic process and needs to be available at all steps of the pathway to accessing a funded medicine; however, this is not always the case. Optimal use of medicines may also require patients to access pathology and diagnostic services and access to these services are affected by reasons that affect access to prescribers and pharmacies.

Figure 4 on the next page illustrates the process of attaining a funded medicine via our current system and points to some of the barriers that may contribute to inequities in medicine access. It also highlights the challenging expectations the system places on individuals to access and benefit from funded medicines.

# PATIENT JOURNEY: ACCESS TO FUNDED MEDICINE





## RETURNING FOR NEW PRESCRIPTION

### GETTING TO THE PHARMACY DISPENSING THE MEDICINE

Patient centered barriers	Health system barriers
Transport	Inconvenience/availability
Physical/mental condition	Paper based prescriptions
Travel	

### PICKING UP THE MEDICINE

Patient centered barriers	Health system barriers
Cost	Availability
Prior debt	Stock
Availability	

### TAKING THE MEDICINE OPTIMALLY

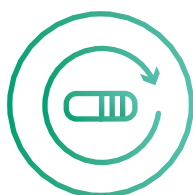
Patient centered barriers	Health system barriers
Recall	Medicine suitability/side effects
Knowledge	
Physical/mental condition	
Sharing	
Persistence	



- GETTING TO THE PHARMACY
- DISPENSING THE MEDICINE

TAKING THE MEDICINE OPTIMALLY

FEELING BETTER/  
WORSE



GETTING A REPEAT



# FACTORS THAT FACILITATE ACCESS TO MEDICINES

Facilitating access is about ensuring that people can get appropriate health care, so they can preserve or improve their health. Access is a complex concept and one that requires evaluation of several aspects to determine if people and populations are accessing health care.<sup>41,42</sup>

Barriers to access must be considered in the context of the differing perspectives, health needs and material (housing, employment, education, financial) and cultural settings of the population groups in each society.

Three main aspects of access are relevant to medicines here:

- Availability
- Utilisation (usage)
- Outcomes (appropriateness).

The first aspect of access is **availability** of the medicine to be prescribed. This relates to whether the medicine has been deemed safe by a regulatory body, is publicly funded and there is adequate supply.

**Utilisation** is concerned with the extent to which a population gains access to and uses available medicines. Financial, organisational and social or cultural factors can all be barriers that limit the utilisation of medicines, as these factors can negatively impact on the *accessibility* of getting to a prescriber or pharmacist, the *affordability* of medicines, and whether those medicines are *acceptable* to the patient. These factors are relevant both for patients taking a medicine for the first time, as well as whether they continue to take medicines as prescribed.

The third aspect of access, **outcomes**, is about the quality, relevance and effectiveness of prescribing, which results in medicines being prescribed *appropriately*. Appropriateness describes the fit between the health care provided and the patient's need, as well as determining the correct treatment both technically and on an interpersonal level.<sup>43</sup> There is a close interrelationship between *appropriateness* and *acceptability*, as both relate to the relationship between the clinician and the patient, so cover notions of health literacy, self-efficacy and self-management.

# THE MEDICINE ACCESS EQUITY DRIVER DIAGRAM

Using this three-tiered framework described on the previous page and drawing on the literature, expertise from clinicians and feedback from Māori and Pacific communities, we have derived five main 'drivers' that facilitate equitable access to medicines. These are:

MEDICINE  
AVAILABILITY



MEDICINE  
ACCESSIBILITY



MEDICINE  
AFFORDABILITY



MEDICINE  
ACCEPTABILITY



MEDICINE  
APPROPRIATENESS



Each primary driver is broken down into several contributing or secondary drivers, with detailed explanation and opportunities for intervention in the following sections. We have set these out in a 'driver diagram', a quality improvement tool for building and testing theories for improvement.

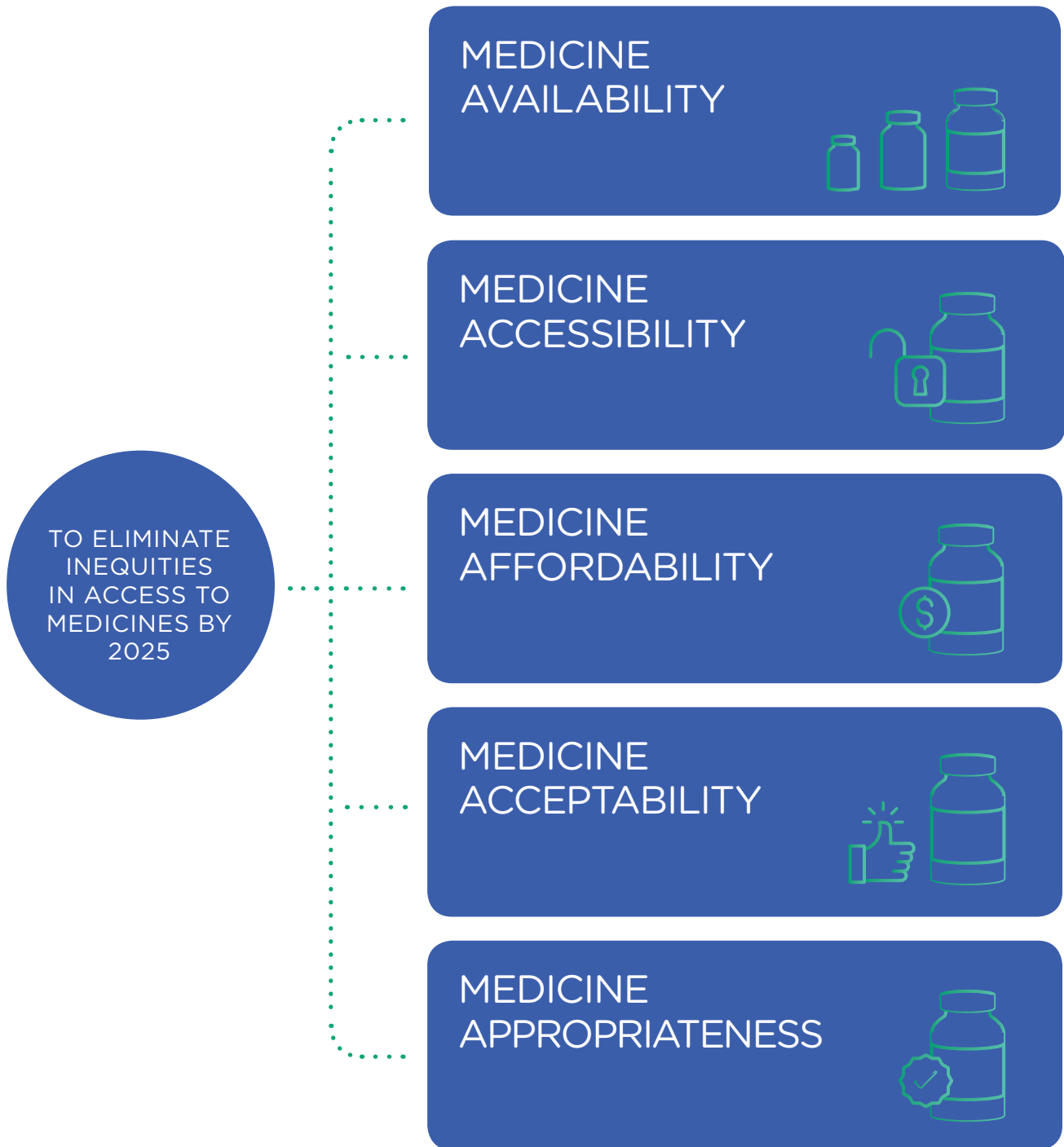
The driver diagram highlights the complexity of medicine access equity - many of the drivers inter-relate with one another and no single driver is going to solve the whole problem. It is likely that the drivers will be more or less relevant for different priority populations. Within the secondary drivers, PHARMAC has clearly identified the level of impact it can have, ranging from direct control, to having an existing role, to having an influence only.

The medicine access equity driver diagram will act as PHARMAC's reference point for investigation and intervention. We have deliberately taken a system-wide view rather than identifying specific medicines to focus on.

# MEDICINE ACCESS EQUITY DRIVER DIAGRAM

AIM

PRIMARY DRIVERS



A **colour key** is used in the driver diagram to indicate the level of PHARMAC's impact.

- **PHARMAC HAS CONTROL**  
means that it has direct levers related to that driver.
- **PHARMAC HAS A ROLE**  
means that PHARMAC has existing programmes, advisory committees and networks related to the driver.
- **PHARMAC HAS INFLUENCE**  
means that PHARMAC does not have a direct role or lever but as a Crown entity can influence policy and practice in other parts of the health and wider system.

## SECONDARY DRIVERS

- PHARMAC's decision-making processes for investment in medicines
- Funding restrictions and schedule rules
- Prescriber awareness and system impact of funded medicine(s) available

- Physical & timely access to a prescriber/prescription
- Physical & timely access to a community pharmacy
- Physical & timely access to diagnostic and monitoring services e.g. labs, scans

- Prescriber costs e.g. consult, repeat prescription and medicine administration fees
- Prescription costs e.g. co-payment, blister pack costs, prescription subsidy card
- Indirect costs e.g. transport, time off work, childcare

- Patient/whānau experiences bias from the health system
- Beliefs and perceptions of treatment prescribed not adequately explored/sought
- Medicine suitability not adequately considered
- Patient/whānau is not empowered with knowledge about the medicine(s)

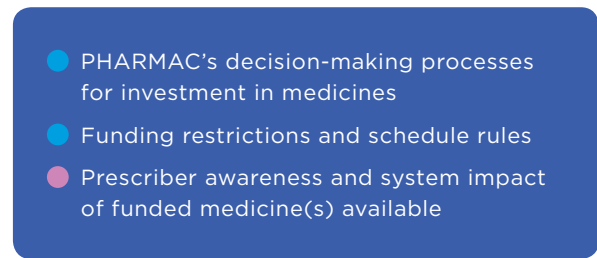
- Medicine therapy prescribed is inadequate
- Unwarranted variation in prescribing

# PRIMARY DRIVER 1 MEDICINE AVAILABILITY

## PRIMARY DRIVER



## SECONDARY DRIVERS



Primary driver 1 Medicine Availability and related secondary drivers ●

A key driver for access to medicines is their availability to be prescribed. In New Zealand, PHARMAC is the government agency that determines which medicines are funded for the eligible people in need, as well as setting funding restrictions which limit availability of certain medicines to individuals that meet specific criteria.

Each of the secondary drivers within Medicine Availability is discussed below.

### PHARMAC'S DECISION-MAKING PROCESSES FOR INVESTMENT IN MEDICINES

PHARMAC has a direct role in making medicines available through its listing in the Pharmaceutical Schedule. This secondary driver relates to examining all PHARMAC's processes to fund medicines for individuals and for eligible groups of the wider population. This will require identifying the opportunities that can strengthen the equity focus in internal processes for funding of new medicines, widening of access for already funded medicines, changing brands of already funded medicines and funding medicines through the Named Patient Pharmaceutical Assessment process.

The process of widening access to an already funded medicine or assessing a new medicine for funding generally includes considering clinical evidence,<sup>44</sup> assessing the relative value of funding the medicine using the Factors for Consideration

(FFC) and the Prescription for Pharmacoeconomic Analysis (PFPA),<sup>45</sup> prioritising, undertaking commercial negotiations with the supplier, consulting on the proposal and implementing the decision.

There is an opportunity to examine how equity is considered in relation to assessing and prioritising medicines for funding. This could involve taking an explicit equity lens when considering health need and medicine suitability, as well as strengthening system thinking to avoid inequitable unintended consequences from funding decisions.

### FUNDING RESTRICTIONS AND SCHEDULE RULES

Some medicines listed on the Pharmaceutical Schedule have **funding restrictions** that limit their availability. These are intended to target the funding of medicines to those who would benefit most from it. An example of the mechanism that PHARMAC uses is the Special Authority, which set out the clinical circumstances of patients who can receive funding for the medicine. People may first be required to try a less expensive medicine or the medicine may need to be prescribed by a particular type of health practitioner. They are generally put in place to manage expenditure on expensive medicines. However, inadvertent access inequities may occur if the special authority access criteria are not aligned with the changes in scope

of practice of other health professionals with prescribing rights. For example, while pharmacist prescribers are legally able to prescribe most medicines they may not be able to apply for special authority for some medicines due to the restrictions and hence are unable to prescribe these to their patients.

Inequities may also arise when the health system does not have the capacity to enable the meeting of the criteria required for access. For example, medicines requiring specialist recommendation/endorsement are required as part of the Special Authority, but the public health system may not have adequate capacity for access to specialists resulting in a delay to accessing the medicine. Similarly, if the monitoring requirement involves using the public system (eg spirometry, bone density scans) and there is limited capacity, then access to the available medicine is affected.

**Schedule rules** are restrictions that apply to subsidies on community pharmaceuticals and may also impact access, especially if the other drivers described later materialise for the patient/whānau. An example of a schedule rule which could impact access is the period of supply for subsidy rule, while legally most prescriptions are valid for six months, the PHARMAC subsidy can only be claimed if the prescription is presented within three months from date of issue. For some medicines this is entirely appropriate, while for stable long-term conditions it may not be necessary.

Another example is when some medicines can only be dispensed in monthly lots, requiring the patient to physically access the community pharmacy every month to access their medicines. While the rule may be entirely appropriate for medicines that have a patient safety concern, it may also act as a barrier to access for some.

With the establishment of the access equity work programme there is an opportunity for PHARMAC to review the application of funding restrictions and schedule rules for medicines and its impact on equity of access.

Especially since the impact of these can be disproportionate on those already experiencing inequities.

## PRESCRIBER AWARENESS AND SYSTEM IMPACT OF FUNDED MEDICINE(S) AVAILABLE

In New Zealand, a range of authorised and designated prescribers (including general practitioners, registered nurse prescribers, pharmacist prescribers, midwives, dietitians, dentists, optometrists and specialists) can make available funded medicines to a patient by writing a prescription. Therefore, prescriber awareness and knowledge of funded medicines may play a role in access. Many organisations play a role in this area, including Medsafe (Ministry of Health), DHBs, Primary Health Organisations (PHOs) and health professional regulatory bodies, as well as PHARMAC.

The implementation of decisions relating to the availability of medicines and promotion of the responsible use of funded medicines is supported by PHARMAC's Implementation Team and programmes. The team undertakes a range of activities aimed at increasing prescriber awareness of newly funded medicines, and/or medicines that have had a recent change in access or brand. They also promote the responsible use of medicines through campaigns and supporting the development of educational material and prescribing reports through contracted providers. Both arms of the implementation function are critical from an equity perspective for PHARMAC and presents an opportunity to strengthen access equity focus through this internal programme of work especially how we support responsible use and monitor health gains from the funded medicines. In addition, it offers the opportunity to investigate different approaches to the implementation of decisions for different groups of people.

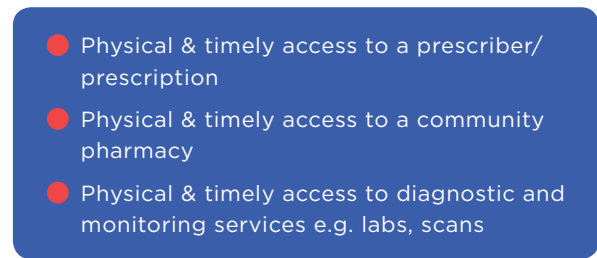
It is also critical for PHARMAC to engage with the wider system to ensure that the intent of funding decisions persists and that the availability of a funded medicine is not viewed in isolation of the system infrastructure required to support its access to patients. For example, in recent years in response to the government priority to provide services closer to home, PHARMAC has successfully been able to fund medicines previously requiring administering in the hospital to be administered in general practices. However, the variability in the capacity and capability of each DHB to support the infrastructure required to enable this in primary care has had a negative impact on access and may have inadvertently contributed to inequities in access. While PHARMAC considers the system impacts of its funding decisions it is not responsible for managing them. However, the access equity work programme offers the opportunity for PHARMAC to consider how these impacts could be better managed.

# PRIMARY DRIVER 2 MEDICINE ACCESSIBILITY

## PRIMARY DRIVER



## SECONDARY DRIVERS



Primary driver 2 Medicine Accessibility and related secondary drivers ●

This driver refers to the **physical** and **timely** access to the medicine for both initial treatment and ongoing use if appropriate. Physical and timely accessibility to a medicine is linked to both the patient's and the provider's capacity and capability. This driver is also linked to medicine affordability (primary driver 3).

### PHYSICAL AND TIMELY ACCESS TO A PRESCRIBER/PRESCRIPTION, A COMMUNITY PHARMACY AND DIAGNOSTICS

This relates to the service provider's capability and capacity to be physically accessible when it is required by the patient, and how well services are designed to need patients' access needs.

This includes the convenience of the hours of opening of these services, the location of the services in relation to where the patient resides/works, travel distance required, and whether multiple services need to be accessed at

different locations. It also includes the stress this inflexibility may cause patients.

The current system is designed to meet the patient's needs only if they can physically access the services when they are open for service. This inflexibility has a much greater impact on medicine access for population groups already living with and experiencing health inequities and contributes to inequities in medicine access.

While the location and opening hours of services that impact access to medicines is outside of PHARMAC's control, some aspects are still within PHARMAC's sphere of influence. For example, PHARMAC has previously exercised alternative mechanisms of medicine distribution and supply, although generally only when it is high cost medicine. It also has schedule rules that enable better access to medicines under practitioners' supply orders for rural areas and specific disease prevention programmes. The access equity work programme provides the opportunity to consider these and other options further.

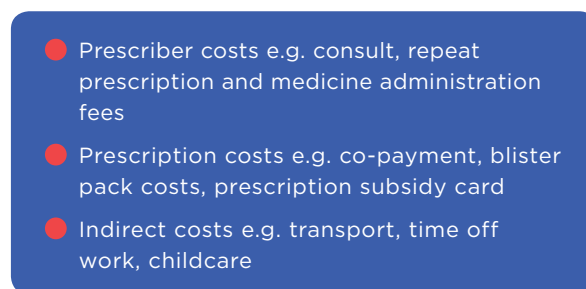


# PRIMARY DRIVER 3 MEDICINE AFFORDABILITY

## PRIMARY DRIVER



## SECONDARY DRIVERS



Primary driver 3 Medicine Affordability and related secondary drivers ●

This driver relates to the out-of-pocket costs the system imposes on the patient, and the patient's/whānau financial capability and capacity to meet the total costs of accessing the medicine, both initially and on an ongoing basis. From the feedback obtained through PHARMAC's Hauora Arotahi consultations, it is evident that the cost of accessing health care in general, combined with the poverty experienced by some whānau, significantly limits the ability of some populations to afford medicines.

### PRESCRIBER COSTS

This refers to the costs incurred by the patient/whānau to obtain a prescription – often a consult fee, or a repeat prescription fee – as well as out of pocket costs incurred for some types of medicines to be administered on site. There might also be additional costs to the patient for medicines that require frequent monitoring and management by their general practice (e.g. regular monitoring if on warfarin (a blood thinning or anticoagulant medicine), blood pressure monitoring). Specialist fees may also be an issue.

As mentioned under medicine availability, with a focus on moving care closer to home, there are some medicines that were previously being administered at the hospital but can now be administered at the general practice, or in the home if the patient is adequately supported.

PHARMAC has enabled these changes by funding the medicine in the community. However, in almost all cases costs incurred for the medicine administered at the general practice are passed on to the patient unless there are DHB arrangements in place to cover the costs. Examples include iron infusion, zoledronic infusion for osteoporosis, and subcutaneous administration of methotrexate injections now administered by general practice.

The NZ health survey 2014-17 pooled year data reported that 14% of the respondents did not visit a GP because of cost in the last 12 months despite having a medical problem.<sup>46</sup> The data shows regional variation with some regions reporting prevalence of not visiting a GP due to cost as high as 21%.

While PHARMAC does not set these costs, it can draw attention to and seek to influence some of these issues with the sector through its partnerships.

### PRESCRIPTION COSTS

Costs are also incurred by the patient/whānau for filling a prescription at the community pharmacy. For most medicine items funded by PHARMAC a co-payment is required (this is currently \$5 per item for most medicines). If medicine items are partially subsidised/funded, a part-charge is incurred. Additional costs incurred may include costs for blister packaging, prescription faxing, out of hours charges and in some cases for the delivery of medicines.

There is significant evidence that the co-payment contributes to inequitable access to medicines. The 2016/17 New Zealand Health Survey<sup>47</sup> found that:

- about 268,000 adults (7.0%) reported not collecting a prescription because of cost in the 2016/17 year; and
- Māori and Pacific adults and children are more than twice as likely not to have collected a prescription because of cost than non-Pacific and non-Māori adults and children respectively, after adjusting for age and sex differences.

A previous study also found that there were ethnic differences in access to prescription medications in New Zealand. The study found that the odds of deferring getting a prescription filled at least once during the preceding 12 months because they could not afford it were greater for Māori and Pacific people than for NZ Europeans.<sup>48</sup>

A prescription subsidy card scheme operates from 1 February to 31 January the following year whereby if individuals (>13years) from the same household have paid the co-payment for 20 funded medicines during this period they will not pay the co-payment for funded medicines on subsequent prescriptions dispensed during this period. This is intended to reduce the cost burden of medicine co-payments for high users of medicines. However, previous research using anonymous data from community pharmacy found that 40% of the people were still paying the prescription co-payment fee for 90% of the medicines they got, after they should have been entitled to the exemption via a prescription subsidy card. The study also found that most of the people missing out were from the most socioeconomically deprived areas.

## INDIRECT COSTS

Indirect costs are additional costs incurred by the patient/whānau in getting to the prescriber, the community pharmacy, or diagnostic services in a timely manner. They include factors like transport, parking, time off work and child care costs.

The NZ health survey 2014-17 pooled year data showed that the overall prevalence of not visiting a GP due to lack of transport (for all adults) was 3.1%. However, for adults living in deprived neighbourhoods the prevalence was 7.1%, for Māori the prevalence was 7.3% and for Pacific the prevalence was 8.3%.

Given that this driver is largely determined by how and where people are living and working, strictly speaking it is outside PHARMAC's scope and role. However, we may have a role in influencing the reduction of these costs if the characteristics of the funded medicine are the direct cause of these costs. For example, PHARMAC could look at funding medicines with shorter infusion times, or moving infusions to oral therapy. The direct distribution of medicines is another area worthy of investigation. Another level of influence would be sharing the impacts of these indirect costs with agencies such as the Ministry of Health and Ministry of Social Development, with organisations involved in planning and funding of services such as DHB and PHOs and/or local councils.

Affordability impacts on equity of access to medicines, particularly for groups already experiencing inequities. While PHARMAC does not have control over all the costs associated with accessing medicines, the access equity work programme is an area that PHARMAC can explore solutions to costs related to accessing medicines with key stakeholders, such as the DHBs, Ministry of Health, prescribers and pharmacies.

# PRIMARY DRIVER 4 MEDICINE ACCEPTABILITY

## PRIMARY DRIVER



## SECONDARY DRIVERS

- Patient/whānau experiences bias from the health system
- Beliefs and perceptions of treatment prescribed not adequately explored/sought
- Medicine suitability not adequately considered
- Patient/whānau is not empowered with knowledge about the medicine(s)

Primary driver 4 Medicine Acceptability and related secondary drivers ●

The Medicine Acceptability driver refers to the health system's capability and capacity to ensure that the medicine prescribed is acceptable to the patient as an intervention. The secondary drivers focus on the role and responsibility of the health care system, the health care provider and the health practitioner to ensure the patient/whānau experiences the intended medicine-related health outcomes.

It is important to note that the identified secondary drivers listed here are in no way intended to lay blame on the patient; instead they are to illustrate the failure of the health system to provide an appropriately tailored experience that enhances the acceptability of the medicine as required by the individuals and their families/whānau.

This driver is concerned also with aspects of medicine optimisation, which is about how the system enables the person to fully experience the optimal health benefit from the prescribed treatment.

### Research shows that cultural factors have an impact, and that for Māori:

engagement with a medicines optimisation process is more than the provision of 'understandable' information, founded on clinical competence. Instead, Māori require genuine relationships that are connected to culture and underpinned by trust and collaboration. Therefore, a person or whānau may have negotiated the health process to the point of having an evidence-based medicine prescribed and dispensed for them, but they may still be without the final tools necessary to administer the medicine correctly, or they may feel a lack of trust and collaboration in the process such that they choose not to take the medicine.<sup>49</sup>

This driver is inter-related with medicine appropriateness (primary driver 5) which is about ensuring that the technical aspects of the prescribing, monitoring and optimising of prescribed treatment is appropriate and timely for the individual.

Acceptability of a prescribed medicine results in improved adherence. Improving adherence requires a continuous and dynamic process. Published research shows that adherence to long-term therapy for chronic illnesses in developed countries averages around 50%. This rate may be even lower in certain population groups when combined with the impact of the drivers mentioned earlier. The consequences of poor adherence to long-term therapies are poor quality of life and increased health care costs.<sup>50</sup> Overall, this driver is about the factors that affect the acceptability of the medicine as a health intervention and its place in the life of the patient to preserve or improve their health.

Feedback from PHARMAC's engagement with Māori and Pacific communities strongly suggests that cultural acceptability of the medical model within which they are cared for impacts on their initial and ongoing engagement and acceptability of what is being offered. Feedback from the communities also indicates that the current systems are not consistently communicating information about the prescribed medicines in a way that promotes their acceptability as an intervention of value. The current system is not designed to consistently make medicine management services available in a way that addresses these issues for patients. There is wide variation in where, how and by whom these services are offered in New Zealand.

### PATIENT/WHĀNAU EXPERIENCES BIAS FROM THE HEALTH SYSTEM

The acceptability of the medicine as a health intervention will be determined by the experience the patient/whānau has with the health care system, the processes and the interactions with individual providers of the service.

Systemic biases are biases in systems and institutions which refer to the laws, customs, policies, and practices that systematically reflect and produce group-based inequities in societies. They can result from routine standards of practices or policies in which bias is embedded and often invisible. At an individual level everyone displays some level of misattributions/bias towards others and makes assumptions about them and these can lead to prejudice and discrimination. In health care this impacts on interpersonal interactions, organisational dynamics, health care costs and equity.

If a patient/whānau experiences bias from the health system and or from providers of services, it will influence their acceptance of the medicine as an effective intervention. They are unlikely to engage with the health care system because of it and may forgo the health benefits and consequently experience inequitable health outcomes.

In the context of access to funded medicines, these biases can translate to differential prescribing and quality of services provided. For example, a community-based study of asthma related primary care for children found ethnic differences in the provision of asthma education, parental asthma knowledge and medication that suggested there were differences in the quality of care received by Māori and Pacific children compared to the other ethnicity group.<sup>51</sup> Analysis of dispensing data also suggested that the greatest unmet need for inhaled corticosteroid treatment was among Pacific and Māori children, supporting previous trends.<sup>52</sup>

Research in New Zealand comparing Māori and non-Māori experiences of general practice found that Māori were less likely than non-Māori to report being offered a choice of appointment times, to be seen on time, and to be seen within their preferred time frame.<sup>53</sup> The authors of the study suggest that these findings are more likely reflecting the difference among practice staff, rather than GPs, in offering access to primary medical care. They describe that Māori, for example have a cultural tendency to be *noho whakaiti* – to not cause a ruckus – and so may not appear worried, upset or assertive to staff in the face of an urgent need.<sup>54</sup> Other research has found that practice staff demonstrated poorer communication with Māori than non-Māori about their health care.<sup>55</sup>

Through its access equity work programme PHARMAC has identified this secondary driver as one it can influence through its network of clinical advisors, committees, prescribers and through its influence on the educational content provided to health professionals.

### BELIEFS ABOUT AND PERCEPTIONS OF TREATMENT PRESCRIBED ARE NOT ADEQUATELY EXPLORED OR SOUGHT

Patient/whānau involvement in the decision-making process before initiating a medicine requires health professionals to acknowledge patients' views, beliefs and perceptions about their condition and treatment with medicines being proposed. Health systems and models of care also need to be set up in a way that allows for patient beliefs, views and perceptions to be sought. Both patients and health care professionals in the health care system have a role in making decisions

about the medicine(s) prescribed. A New Zealand study found markedly lower levels of adherence for allopurinol (a medicine for gout) in Māori compared to non-Māori.<sup>56</sup> The study utilised a methodology known as the medicine possession ratio calculated from dispensing data. In this study the authors discuss both affordability and patients feeling insufficiently informed about gout, and its treatment as drivers for the lower adherence levels seen in Māori. Studies have found that in the presence of insufficient information, family and community often became the main sources of information on gout and that this has led to long standing myths about gout and its treatment.<sup>57</sup>

For Māori specifically, this perceived knowledge can be premised on previous kōrero (discussions), beliefs and experiences with health care providers that may be intergenerational. The beliefs and perceptions need to be explored or sought by health professionals if they are to increase the engagement of patients and communities to impact the acceptability of the medicines prescribed. The environment within which this is explored needs to enable people to pass on information about their beliefs and perception in a manner that makes them feel culturally safe.<sup>58</sup>

Evidence shows that beliefs and perceptions play an important role in adherence to treatment globally and therefore needs to be explored and sought. In an international study of 24,017 adult patients with chronic illness, 34% of the patients reported at least one instance of intentional non-adherence (ie intentional decision to miss/alter doses) in the past six months, and the reasons were related to the patient's beliefs about and perceptions of the treatment prescribed.<sup>59</sup>

### **MEDICINE SUITABILITY IS NOT ADEQUATELY CONSIDERED**

Once a shared decision has been reached to commence with a medicine and the patient has started to take or receive the medicine, there are factors that will impact the continuing acceptability of that medicine for the patient/whānau. Research has shown that only 16% of patients who are prescribed a new medicine take it as prescribed, experience no problems and receive as much information as they need; and 10 days after starting a medicine, almost a third of patients are already non-adherent.<sup>60</sup>

The patient experience with the medicine is wide ranging and includes experiencing side effects, feeling worse after taking the medicine, not finding the device/formulation suitable or convenient, finding the dosing regimen unsuitable to their lifestyle/too complicated to manage, not liking the taste, feel and look of the medicine, and finding the medicine technically hard to administer

because of their condition (eg osteoarthritis in their hands hindering their ability to open bottles, blister packs, or lids; or vision impairment) or the mode of delivery itself (eg subcutaneous injections, inhaler devices).

When these experiences are not sought or adequately considered, they may result in the patient either not continuing with the medicine or continuing with it but not in the way it was intended. Consequently, the patient does not fully experience the intended medicines-related health outcomes from their medicine(s).

### **PATIENT/WHĀNAU IS NOT EMPOWERED WITH KNOWLEDGE ABOUT THE MEDICINE(S)**

This driver relates to empowerment the patient has received from the health system, health care provider and health practitioners through the knowledge required about the medicine and the condition it is prescribed for.<sup>61</sup> International research shows a strong link between the ability of the system/health practitioner to empower and health status.<sup>62,63,64,65</sup> There are also links between health literacy and health inequalities.<sup>66,67</sup>

This empowerment is a dynamic and continuous process and the roles of the health system, health care provider and health practitioners are crucial. Different levels of responsibility sit within these three roles: for example, the health system is responsible for funding health services and information about services; the health care provider is responsible for delivering services and communicating information; and the health practitioners are responsible for making sure that appropriate information is provided to patients in a way that makes sense to the patients.<sup>68</sup> Regarding medicines, this empowerment relates to knowing the name of the medicine, why the medicine is prescribed, how it works to prevent or treat the condition, what to expect from it, what to do if the experience is unexpected, how long they can expect to be on the medicine, and when and how to take it to get the best effect.

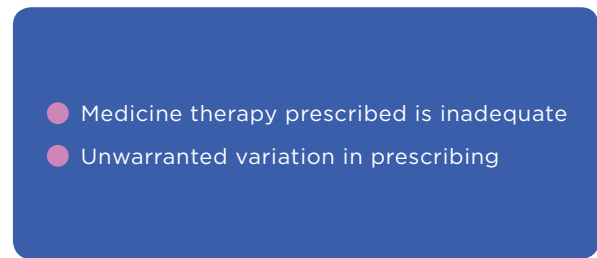
In New Zealand, this appears to vary by ethnicity. Initial analysis from the Health Quality Safety Commission's Primary Care Patient Experience Survey indicates variation by ethnicity among those who agree that the purpose of their medications was properly explained to them or that they were sufficiently involved in decision-making about their medicines.

# PRIMARY DRIVER 5 MEDICINE APPROPRIATENESS

## PRIMARY DRIVER



## SECONDARY DRIVERS



Primary driver 5 Medicine appropriateness and related secondary drivers ●

This driver is about the adequacy and the quality of prescribing. It is however important to acknowledge that inadequate and poor quality prescribing cannot be attributed entirely to prescribing behaviour of clinicians. Prescribing is often thought of as just the act of writing a prescription, but it is a complex and high-risk intervention, it requires demonstration of competence and relies on effective systems and processes that support safe, appropriate and effective prescribing.<sup>69</sup> The primary care system is not optimised to support high quality prescribing and optimal use of medicines, particularly when faced with a high proportion of patients with multiple co-morbidities requiring multiple medications. Models of care which are aimed at improving access, such as drop in clinics where a patient sees a different prescriber at every interaction, may have the unintended consequence of suboptimal prescribing – there is emerging evidence in the UK of an association between continuity of care in the primary care setting and fewer hospital admissions.<sup>70,71</sup>

Prescribing involves the process of deciding which medication to use and how to use it, while prescription is how these decisions are communicated.

Safe and effective prescribing involves several cognitive and decision-making steps before the prescription is generated and in this respect is a staged process rather than a single event.

The process of prescribing is underpinned by knowledge of clinical pharmacology and strengthened by professional practices such as self-reflection on prescribing.

### MEDICINE THERAPY PRESCRIBED IS INADEQUATE

This secondary driver is related to both the prescribing competency and the processes required to ensure the patient can get the best outcomes from their prescribed treatment. These competencies and processes come into play every time a medicine is prescribed ie. one off, use when required and repeat treatments.

Firstly, the prescriber must be skilled at gathering relevant information to inform the selection of treatment. This includes taking and/or reviewing the patient's medical history, taking and/or reviewing the medication history and reconciling this with medical history, undertaking further appropriate physical examination/investigations and assessing adherence to current and past medication and risk factors for non-adherence.

The next stage of prescribing involves the prescriber making a clinical decision and undertaking a collaborative decision making process with the patient/whānau/caregiver in the selection of treatment. Collaborative decision making about selection of treatment with patient/whānau/carer has shown to improve



adherence and patient outcomes. To do this the prescriber has to identify key health and medication related issues with the patient which include making or reviewing the diagnosis; determine how well disease and symptoms are managed/controlled; determine whether current symptoms are modifiable by symptomatic treatment or disease modifying treatment; consider the ideal therapy (pharmacological and non-pharmacological) taking into account the potential contraindications/concerns; medicine-patient; medicine-disease and medicine-medicine interactions and select medicine, form, route, dose, frequency and duration of treatment.

The next step requires effective communication of treatment decisions. Once a treatment decision is reached the decision must be safely and effectively communicated to both the patient/whānau/carer and other health professionals involved. The generated prescription should be legible, unambiguous and without error-prone abbreviations so that it can be correctly dispensed and administered. A clearly documented management plan that contains triggers for referral and action should be available. The patient/whānau/carer should be informed about the prescribed medicine (this has already been covered under the medicine acceptability driver).

The final step is to monitor and review the therapeutic and adverse impact of treatment. Ongoing systems for monitoring and reviewing the impact of the treatment need to be set up to inform dose adjustments or a change in treatment. This includes a review of control of symptoms and signs, adherence and outcomes. In New Zealand, access to specific services for medicine management and monitoring is variable because of their availability. When available these services are mostly led by pharmacists and nurses and can be delivered in either hospitals, primary health organisations, general practices, pharmacies and community-based health service clinics.

The primary care system in New Zealand is not designed adequately to support the above described process of prescribing and inadequacies in any of the above can result in the prescribed treatment being inadequate and result in a loss of medication-related health outcomes for patients. All steps and processes described above are dynamic in nature, the responsibility for which in the New Zealand context can often sit across a range of prescribing and non-prescribing health professionals. In addition, there may be multiple prescribers involved in the care of a single patient across the primary and secondary care interface, and patients may not have a continuous relationship with the prescriber(s).

PHARMAC acknowledges that inadequacies in the medicine therapy prescribed will result in loss of medication related health outcomes for all populations in New Zealand. However, for those already experiencing health inequities, the loss in health arising from inadequate medicine therapy is likely to have a more significant impact on their health outcomes, particularly when coupled with factors described in the medicine acceptability driver.

## UNWARRANTED VARIATION IN PRESCRIBING

Unwarranted variation is defined as the variation in the utilisation of health care services that cannot be explained by variation in patient illness or patient preferences and may signal inappropriate care, ineffective use of resources and raise issues about quality of care, health system efficiency and equity/access.<sup>72</sup> Evaluating prescribing practice to identify unwarranted variation is complex and as mentioned above prescribing behaviour is not the sole determinant of the variation seen in prescribing. Using Wennberg's categories for evaluating variation<sup>73,74</sup> we can be attribute unwarranted variation in prescribing to the following:

- underuse of medicines despite the high health need. This is evidenced by the findings of our updated research which shows the shortfall in the uptake of medicines between Māori and non-Māori when compared to the burden of disease/health need.<sup>75</sup> There are multiple reasons why this might be occurring as evidenced by the drivers already mentioned;
- preference sensitive prescribing of medicines. This relates to the prescriber's preferences for a medicine based on their experience and confidence, or regular tendency (habit) with the medicine, inadequate cultural competency and awareness, and implicit bias. Preference sensitive prescribing has a strong association with some of the contributors of the medicine acceptability driver. In a recently published New Zealand editorial, 37% of people identified as having gout were dispensed a non-steroidal anti-inflammatory drug (NSAID) medicine compared with 23% for the resident adult population in 2016. NSAIDs can improve the symptoms of the gout flare, but repeated courses of NSAIDs without urate-lowering therapy represent poor care, due to the risk of kidney disease and other complications. Māori and Pacific people aged 20-44 years with gout were dispensed more NSAIDs than other ethnic groups. 47% of Pacific peoples and 41% of Māori with gout were dispensed a NSAID in 2016, compared with 34% of those identifying as European/Other ethnicities<sup>76</sup>; and

- supply sensitive structural constraints of the health system. This includes short appointment times in primary care, the workload of the prescribers, stress, inefficient patient management systems, unfamiliarity with new technology systems, business management stress, conflicting guidelines and advice, lack of time and funding to review medicines for best therapeutic effect and working in systems that are fragmented. This constraint is described in more detail below.

In Aotearoa New Zealand, the setup of the healthcare system contributes significantly to the variation in the way each of the above stages of prescribing are undertaken. For example, there isn't a single shared patient health record available to all the health professionals involved in the care of a patient throughout the country. There are multiple systems used by the hospital and the primary care health professionals to communicate treatment decisions which are often not timely and accessible when making another treatment decision. This in turn makes gathering the relevant information required to make a treatment selection decision and the other stages of prescribing challenging. The challenge is further compounded when patient/whānau move between District Health Boards, change their general practitioner, pharmacy, specialist care or other health care professionals and /or when service provisions are inconsistent and changing.

An example of the nature of this challenge is evidenced in a New Zealand study which looked at the accuracy of the prior cardiovascular disease (CVD) identification in general practice systems at the time of cardiovascular disease risk assessment.<sup>77</sup> The study found that 39% of the people with prior-publicly funded CVD hospitalisations were not recorded as such (i.e. had a discordant recording) at the time of their first CVD assessment in general practice. They also observed that this discordance worsened over time and was associated with markedly lower dispensing of evidence-based medicines. People under the age of 55 years, women and those of non-European ethnicities were more likely to have a discordant recording, whereas smokers and people with diabetes were more likely to have their prior CVD hospitalisations accurately

recorded in the primary care risk assessment. In this study, reasons for the discordance seen in the lower dispensing of evidence-based medicines (known as triple therapy, a combination of blood pressure lowering, lipid lowering and antiplatelet/ anticoagulant medicines) was attributed to a variety of system, information technology, provider and patient factors affecting medication initiation, dispensing and ongoing maintenance, monitoring and review. These medicines could reduce the risk of recurrent CVD events by at least 50% over five years and the level of discordance found in the study therefore represents a significant loss of health for eligible people.<sup>78, 79</sup>

New Zealand researchers with expertise in indigenous health have considered the various parts of what is required to achieve the best possible health outcomes from medicines in partnership with the person for whom they are prescribed and specifically looked to highlight the process from an indigenous view with respect to Māori in Aotearoa. The researchers state that attaining optimal/appropriate use of medicines is necessary to help achieve health equity and claim that a multi-dimensional approach is imperative. The paper outlines the journey to the best possible outcomes from medicines and draws attention to the importance of the patient's contribution and interaction with the clinician within the complexity of the prescribing process. It suggests that the aim of this interaction could be considered as a meeting of clinical expertise and the best available clinical evidence alongside patient preference, priorities, values, experiences, culture and beliefs.<sup>80</sup>

PHARMAC's access equity work programme seeks to draw attention to the importance of medicine appropriateness in ensuring people can achieve the best outcomes from their prescribed medicines and will look to influencing systems that enable medicines to be prescribed appropriately and reduce the unwarranted variation in prescribing.



ACHIEVING MEDICINE ACCESS EQUITY  
IN AOTEAROA NEW ZEALAND:  
TOWARDS A THEORY OF CHANGE

# PART THREE

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# ACHIEVING MEDICINES ACCESS EQUITY

PHARMAC wants to support the health sector to work towards achieving health equity. One way that PHARMAC can do this is to look at its role in the New Zealand health care system and identify features of its systems and processes that can generate preferential health benefits for the socially disadvantaged and vulnerable population groups, as well as for the general population.

Recent guidance published by the Institute for Healthcare Improvement outlines five key components that must be present for health care organisations wanting to establish a framework to improve health equity.<sup>81</sup>

These are:

- make health equity a strategic priority;
- develop structure and processes to support health equity work;
- deploy specific strategies to address the multiple determinants of health on which health care organizations can have a direct impact, such as health care services, socioeconomic status, physical environment, and healthy behaviours;
- decrease institutional racism within the organization; and
- develop partnerships with community organizations to improve health and equity.<sup>82</sup>

The guidance acknowledges that while health care organisations alone do not have the power to improve all the multiple determinants of health for all of society, they do have the power to address disparities directly at the point of care, and to impact many of the determinants that create these disparities.

In line with this, PHARMAC will be considering its organisational framework for improving medicine access equity and how it operationalises the elements of the framework within its core business.

# SCOPE OF PHARMAC'S MEDICINE ACCESS EQUITY WORK

PHARMAC will undertake a phased approach to its medicine access equity work programme, incorporating the relevant components of medicine access from its Māori Responsiveness Strategy – Te Whaioranga, and its Pacific Responsiveness Strategy.<sup>83,84</sup>

The table below summarises the initial scope of the work programme.

## SUMMARY OF SCOPE

1	<b>What is our aim?</b>	To eliminate inequities in access to medicines by 2025.
2	<b>Why are we doing this work?</b>	<p>Not all New Zealanders are achieving 'best health outcomes' from medicines funded by PHARMAC, and are missing out on the opportunity to improve their health through use of medicines.</p> <p>The social determinants of health and structural system-level barriers lead to the inequitable distribution of health status between different population groups. Health inequities are unfair, and can and should be eliminated. One of the ways in which health inequities manifest is through gaps in access to healthcare, including medicines.</p> <p>We know that there are differences in the use of medicines by some population groups, particularly when looked at by ethnicity. Research shows significant differences in the way Māori receive medicine, in comparison to other New Zealanders. When the burden of disease is considered, there's a significant amount of medicine that Māori are not getting. This is also likely for Pacific peoples and other population groups experiencing inequities.</p>
3	<b>What do we mean by medicine access equity?</b>	<p>Adapting from the World Health Organization (WHO) definition of equity and health equity, PHARMAC defines <b>medicine access equity</b> as:</p> <p>"The absence of avoidable, unfair or remediable differences in <i>funded medicine access</i> among groups of people, whether those groups are defined socially, economically, demographically or geographically or by other means of stratification."</p> <p><b>Medicine access equity</b> means that everyone should have a fair opportunity to <i>access funded medicines</i> to attain their full health potential, and that no one should be disadvantaged from achieving this potential. In this context, unequal inputs are required to attain a fair opportunity to access funded medicines.</p>

4

**What do we mean by 'access'?**

In order for the best health outcomes to be equitably obtained from medicines, a narrow definition of access focusing on whether a medicine is able to be prescribed is insufficient. We are taking a wider definition which takes into account the following aspects:

- Availability – relates to whether the medicine has been deemed safe by a regulatory body, is publicly funded and there is adequate supply.
- Utilisation – concerned with the extent to which a population gains access to and uses available medicines optimally.
- Outcomes – about the quality, relevance and effectiveness of prescribing and dispensing.

Access in this context can refer to the first time someone is prescribed a medicine as well as ongoing access for long-term conditions.

5

**What is our focus?**

The scope of this work focuses on medicines that are already publicly funded. Unfunded medicines are out of scope. However, PHARMAC will be examining its decision-making processes and systems for investing in medicines ensuring that future funding decisions do not contribute to inequities for priority populations.

We will focus on conditions that are significantly amenable to medicines as a treatment mode. This includes medicines for either the prevention, treatment and/or management of: asthma, diabetes, gout, hypertension (high blood pressure), primary and secondary prevention of a cardiovascular event.

In line with the Government's priorities, we will focus on the primary care setting. Over time, we will look to improve equity of access to medicines in secondary care and for funded vaccines.

6

**Which populations?**

Initial priority will be given to our Treaty partner, Māori, who are well evidenced to experience health inequities. Other priority populations will include:

- Pacific peoples;
- those living in high socioeconomic deprivation;
- those residing in rural and isolated areas; and
- people from former refugee backgrounds.

7

**What are the key enablers of medicine access equity?**

The primary drivers for change to eliminate inequities in access to medicines we have identified are:

1. **availability** – how PHARMAC makes and implements funding decisions so that everyone who is eligible can access funded medicines;
2. **affordability** – reducing cost barriers for priority populations so that people can afford funded medicines;
3. **accessibility** – ensuring people don't face challenges getting to see a prescriber or to the pharmacy;
4. **acceptability** – the ability of health services to create trust, so patients are informed and engaged enough to accept the medicines they've been prescribed; and
5. **appropriateness** – the adequacy and quality of prescribing to ensure equitable health outcomes.

Each of these have several secondary drivers that contribute to them. While PHARMAC does not have direct control over a number of these contributory drivers, it can and will use its role and influence to collaborate with the wider sector to achieve its goal of eliminating inequities in access to medicines by 2025.

# CONCLUSION

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One of PHARMAC's Bold Goals is to eliminate inequities in access to medicines by 2025. While PHARMAC has a role to play in ensuring that its funding decisions do not create barriers to accessing medicines for population groups already experiencing health inequities, and that its responsible use of medicines function supports optimal prescribing and uptake, the cause of the inequities is likely to be complex and systemic.

The drivers for medicines access are complex and not all of these are in PHARMAC's direct control or influence. Addressing the complex drivers to accessing medicines and optimising use will

require a whole of sector approach. The goal is bold and accomplishing, it will require PHARMAC to take a comprehensive stocktake of its own decisions and programmes and be a tenacious influencer that nudges other decision and policy makers and organisations to improve health equity.

PHARMAC will be developing an outcomes and evaluation framework to monitor the progress of its work in medicine access equity. The framework is likely to consist of a combination of summary and stratified measures used to monitor its performance.

# APPENDIX

Summarised findings from the Health Quality & Safety Commission’s Atlas of Healthcare Variation and Equity Explorer relating to medicine access equity.<sup>85</sup>

Condition	Equity Explorer Findings	Atlas of Healthcare Variation Findings
<b>Gout</b>	<p>Inequity in allopurinol dispensing for Māori and Pacific peoples persists with age-standardised analyses.</p> <p>The national Māori to European/Other ratio was 0.88 (this was a significant difference). Smaller numbers within individual DHBs mean the rate ratio was not significantly different for 15 DHBs. It was significantly lower for five DHBs, and Māori did not have a significantly higher rate of allopurinol dispensing.</p> <p>For Pacific peoples, the national Pacific peoples to European/Other ratio was 0.90: significantly fewer Pacific peoples with gout were dispensed allopurinol compared with European/Other people. Again, most individual DHBs did not show a significant difference.</p> <p>At a national level, people in less deprived socioeconomic groups were dispensed more allopurinol than those in more deprived socioeconomic groups.</p>	<p>Updated 2016.</p> <p>Māori and Pacific peoples were less likely to receive allopurinol regularly. Although Māori and Pacific peoples were more affected, they were less likely to regularly receive allopurinol.</p> <p>Over half of those with gout were dispensed non-steroidal anti-inflammatory drugs (NSAIDs) in 2014. This may indicate the need for more preventive treatment and suggest more research and debate into the use of these drugs are needed. Māori and Pacific peoples with gout were dispensed more NSAIDs than other ethnic groups.</p> <p>Māori and Pacific peoples had at least five times as many admissions due to gout than those of European/other ethnicities.</p>

Condition	Equity Explorer Findings	Atlas of Healthcare Variation Findings
<p><b>Diabetes</b></p>	<p>Some DHBs have inequity in angiotensin converting enzyme inhibitors (ACEIs) or angiotensin receptor blockers (ARBs) medicine dispensing between ethnic and deprivation groups.</p> <p>The number of diabetics dispensed ACEI or ARB medicines in 2014 varied between 35% and 57% depending on the population group.</p> <p>Asian, Māori and Pacific diabetic populations received fewer ACEI or ARB medicines than European/Other ethnicities in some DHBs (ratio less than 1.0), but more medicines in other DHBs (ratio more than 1.0).</p> <p>The DHB dispensing ratios compared with the European/other ethnic group varied: 0.81-1.52 for Asian populations, 0.94-1.45 for Māori and 0.89-1.57 for Pacific peoples (2014 data).</p> <p>Māori and Pacific peoples were dispensed significantly more ACEI and ARB medicines in many DHBs. There was minor fluctuation in the numbers over the five years of data. Few ethnic groups changed 'position' within their DHB over this time. This indicates that in those DHBs where ethnic inequities existed, they were generally persistent over time.</p> <p>Asian, Māori and Pacific peoples with diabetes occupied comparatively more days in hospital compared with European people with diabetes. Likewise, socioeconomically deprived diabetics occupied comparatively more days in hospital than socioeconomically advantaged diabetics.</p>	<p>Updated November 2017.</p> <p>Pacific peoples had a significantly higher prevalence of diabetes than all other ethnic groups, while those identifying as European/Other had significantly lower rates of diabetes.</p> <p>Rates of diabetes in Indian populations are similar to those observed in Pacific peoples.</p> <ul style="list-style-type: none"> <li>• The regular use of medicines for glycaemic control (insulin or metformin) varied 1.8-fold by DHB, with 34-61% of those with diabetes regularly receiving insulin or metformin.</li> <li>• On average, 22% of people with diabetes regularly received insulin. People of Asian ethnicity received significantly less insulin than people of all other ethnic groups. As might be expected, insulin use was highest in the 0-24-year age group with diabetes, with 62% of these regularly dispensed insulin.</li> <li>• Māori and Pacific peoples have a higher rate of ACEI or ARB use at a younger age; however, there are data showing Māori and Pacific peoples have significantly higher rates of end-stage renal disease.</li> </ul>

Condition	Equity Explorer Findings	Atlas of Healthcare Variation Findings
<p><b>Asthma</b></p>	<p>Māori, Pacific and socioeconomically deprived children are disproportionately more likely to be admitted to hospital for asthma.</p> <p>Asthma reliever inhalers were slightly more likely to be dispensed to Māori and Pacific peoples.</p> <p>There was wide variation in the dispensing of asthma preventer medicine between socioeconomic groups in some DHB areas.</p> <p>There was minor fluctuation in the numbers over the five years of data. Few ethnic groups changed ‘position’ within their DHB over this time. This indicates that in those DHBs where ethnic inequities in asthma prescribing existed, they were generally persistent over time.</p> <p>In 13 DHBs, Pacific peoples were less likely to be dispensed reliever inhalers (2014 dispensing ratios compared with the European/Other ethnic group were 0.79–1.48). Overall, the national dispensing ratio for Pacific peoples was 1.05: Pacific peoples were slightly more likely to be dispensed reliever inhalers. However, Pacific peoples (and Māori) are noted to have higher asthma rates,<sup>86</sup> so this is a significant inequity.</p>	<p>Updated 2016.</p> <ul style="list-style-type: none"> <li>• Admission rates in young children are many times higher than in older children (10–14 years) and adults.</li> <li>• Admissions for Pacific peoples and Māori are proportionally higher than European/Other.</li> <li>• Fourteen percent of people had a readmission within three months and 18% had a readmission between three months and one year.</li> <li>• Thirty-six percent of people admitted with asthma were not regularly dispensed an inhaled corticosteroid (ICS) in the year after admission.</li> <li>• Eighty-two percent of people admitted did not receive a funded influenza vaccine in the year after admission.</li> <li>• Māori (87%) and Pacific peoples (86%) groups were significantly less likely to receive influenza vaccine compared with the European/Other group (80%).</li> </ul> <p>In the community, 19% of those regularly dispensed SABA (reliever) were not dispensed any preventer medication in the year and 31% regularly dispensed SABA were not regularly dispensed a preventer.</p>





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