PHARMAC
TE PĀTAKA WHAIORANGA

Gout insights
Impact on Māori

Establishing the baseline: November 2021

Version 1.1

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Disclaimer

All care has been taken in developing the methodology and insights contained in this report. However, Pharmac gives no indemnity as to the correctness of the information or the data given here. Pharmac shall not be liable for any loss or damage arising directly or indirectly from use of the data or insights supplied in this report.

Introduction

Tēnā koutou katoa

We are excited to introduce a series of research insights being developed by Pharmac to implement our Medicine Access Equity Monitoring and Outcomes Framework. Our first report focuses on the prescribing and dispensing of medicines for gout.

Future reports will focus on conditions and populations that are priorities for health equity. Gout insights for Pacific peoples will be released shortly, and measures for cardiovascular disease, diabetes, asthma, and chronic obstructive pulmonary disease are being developed.

Our commitment to Te Tiriti o Waitangi

Sharing these insights supports Te Rautaki o Te Whaioranga, Pharmac's Māori Responsiveness Strategy, and our commitment to Te Tiriti o Waitangi. Our goal is to advance Māori health and aspirations – to achieve pae ora for Māori – through tino rangatiratanga, partnership, active protection, options, and equity.

We will therefore routinely and transparently report on Māori access to medicines and our role in working to address equity gaps, and we will work with our partners across the health and disability sector to influence prescribing and dispensing behaviour in primary care.

Turning these insights into action

Te Pataka Whaioranga has a strategic priority to enable equitable access and use of medicines by influencing medicines availability, accessibility, affordability, acceptability and appropriateness. Research like this supports this priority, but it is not enough on its own.

We are using the data and insights and working with our partners across the health and disability sector to influence prescribing and dispensing behaviour. We're also examining our own processes for improving access to funded medicines. This work has started for Gout and will expand to other conditions in this research series.

What you can do

These insights will be particularly useful for the health system, including health practitioners, health workers, and policy makers.

Our key findings outline where inequities lie in access to preventive gout medicines – and we will be monitoring these over time. The insights are concerning but not surprising. There are systemic and societal influences that we need to address to achieve equitable outcomes. While research like this supports our goal for Māori to achieve their best health and wellbeing, we know it is not enough on its own.

We ask that you reflect on these insights in your work and do what you can.

As part of the New Zealand health and disability sector, we all have a role to play in addressing current health inequities. We hope these reports, and the practical resources available on He Ako Hiringa demonstrate what can be done in terms of equitable access to medicines.

Ensuring rigour in our research

An established external review process is in place to ensure the data used within each report is robust and has credibility with experts in the field before its released. External review of these insights included Pharmacoepidemiology, Clinical specialist (condition specific), General practitioner, and Māori Health (including epidemiology, framing of our narrative, and Māori clinicians).

We welcome your feedback

These insights are intended to prompt discussion, we welcome and encourage your thoughts and ideas.

Please get in touch with us at accessequity@pharmac.govt.nz

He tono – a request

Tera te haeata takiri ana mai i runga o Hikurangi
Ara whaiuru, whaiuru, whaiuru
Ara whaiato, whaiato, whaiato
I ara rā tini! I ara rā tini! Arara rī
Te Pātaka Whaioranga!
Kia mau. Kia mataara.

There yonder breaks the dawn on the peak of Hikurangi
Now seek entry, seek access, seek passage
Now seek collaboration, seek combination, seek togetherness
There, a culmination for the multitude
The Storehouse of Wellbeing!
Be alert. Be vigilant.

Ngā mihi

Trevor Simpson
Chief Māori Advisor

Dr David Hughes
Chief Medical Officer

Key findings

An estimated 10,400 more Māori need preventive gout medicine each year

Our primary finding is that, to help achieve equity in access to medicines, we need more Māori started on preventive gout medicine at a younger age. We have estimated that 10,400 more Māori need to be dispensed preventive gout medicine each year to achieve equity of access to medicines.

We know that there are many hurdles in the health system that make it harder for Māori to access medicines for gout. We also know that biological factors, such as kidney disease and genetic variants, and some medicines contribute to higher prevalence of gout in Māori.

Our insights support the following recommendations for practitioners

- If young Māori present with joint pain, gout should be considered as a cause.
- Practitioners should be aware of the harms of long-term use of NSAIDs for Māori with gout and consider other treatments as appropriate.
- Practitioners are encouraged to follow up with and repeat prescribe preventive gout medicine for young Māori in particular.
- People working with whānau can raise awareness of genetic predisposition to gout in Māori. This can reduce whakamā associated with gout and encourage preventive gout treatment.

Findings demonstrate inequities between Māori and non-Māori, non-Pacific

1. While Māori are approximately twice as likely to be dispensed medicine for gout compared to non-Māori, non-Pacific peoples, this is still not enough to meet health need for Māori.
2. Māori start being dispensed preventive gout medicine 10 years earlier than non-Māori, non-Pacific peoples. Given the much higher gout disease burden, Māori may need to start even earlier.
3. The prescribing and dispensing of non-steroidal anti-inflammatory drugs (NSAIDs) for people receiving preventive gout medicines is high, especially for Māori.
4. For both Māori and non-Māori, non-Pacific peoples, approximately two-thirds of people previously dispensed a preventive medicine for gout are not continuing to receive it regularly.
5. For both Māori and non-Māori, non-Pacific peoples, the younger the person, the less likely they are to be regularly dispensed preventive gout medicine. Only 14% of Māori aged 25-44 have regular dispensing after being initially dispensed these medicines.
6. Māori have higher rates of being dispensed at least one prescription for a preventive gout medicine a year. However, they have lower rates of medicine possession (having enough medicine to cover that year) compared to non-Māori, non-Pacific peoples.
7. Māori are 6.9 times more likely to be hospitalised with a primary diagnosis of gout compared with non-Māori, non-Pacific peoples.
8. Māori are more likely to live with both gout and other long-term conditions, such as type 2 diabetes, than non Māori, non-Pacific peoples.
9. In 2018/2019, 60% of Māori hospitalised for gout were not receiving preventive gout medicine in the six months prior to hospitalisation.
10. It is likely the excess hospitalisations are partly because practitioners are not prescribing preventive gout medicines to enough Māori.

Background

What is gout

Gout is a form of arthritis and a life-long condition. Gout significantly affects people's social connections, opportunities for employment and general wellbeing. The symptoms and risk of complications are preventable if people with gout take medicine daily to reduce blood urate levels.

Gout occurs when high levels of urate in the blood cause urate crystals to form in the joints. This can cause severe pain and damage to the joints. Gout is associated with a higher risk of other conditions such as heart disease and kidney disease. People with gout experience reduced quality of life and life expectancy (3, 4).

Prevalence of gout in New Zealand

Gout is estimated to affect around 6% of adult New Zealanders aged 20 years and over (5). Males have approximately three times the prevalence of gout compared with females.

Māori are approximately two times more likely to live with gout compared to non-Māori, non-Pacific peoples and three times more likely to live with gout for those aged between 20-44 years (5). Māori have a younger population so are disproportionately affected by gout. Approximately 70% of Māori are under 40 years of age compared to 54% of the entire New Zealand population (6).

Biological factors – such as kidney disease, genetic variants, and some medicines – contribute to higher prevalence of gout in Māori compared to non-Māori, non-Pacific peoples. Māori are also more likely to be affected by severe gout, early onset gout, tophaceous disease, and accelerated joint damage (7).

Populations compared in this report

This paper compares Māori health data with the data of those who do not identify themselves as either Māori or Pacific peoples. Throughout the paper this comparator group is referred to as "non-Māori, non-Pacific peoples". In all figures Pacific peoples are not included. Please refer to "Pacific people's health - Gout data insights" for information relevant to this population group. The titles and sources of all the figures are provided at the end of this insights report.

The full methodology used to implement Pharmac's Medicines Access Equity Framework is available online.

Medicines in this report

The gout medicines considered in this insight have been listed in Appendix A. Note that for the population with prevalent gout (1), we have included either gout-specific urate lowering therapy (allopurinol, febuxostat, benzbromarone, probenecid) or colchicine, but for any dispensing, possession and regular dispensing we have confined these to gout-specific urate lowering preventive therapy (allopurinol, febuxostat, benzbromarone, probenecid) alone, as these are the medicines people should be prescribed long-term (whereas colchicine is used to treat acute attacks of gout). Preventive therapy relates to the prevention of gout flares, rather than the prevention of the gout condition.

The data insights

1. Māori are more likely to be dispensed a gout-specific medicine compared to non-Māori, non-Pacific peoples but still not enough according to need

Dispensing data identifies that overall, 11% of Māori (20 years and over) and 6% of non-Māori, non-Pacific peoples have ever been treated with a gout specific medicine[1].

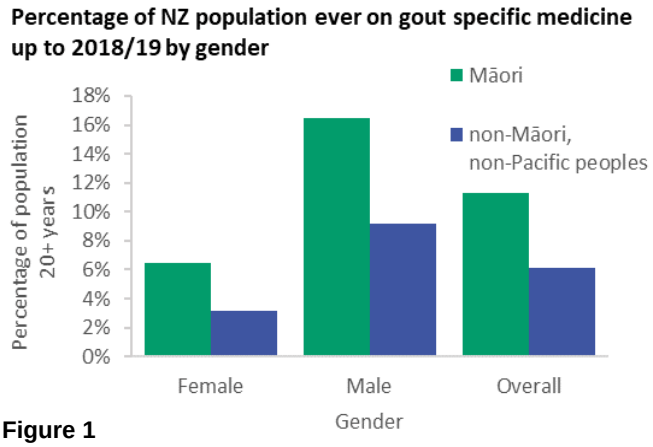

Figure 1

However, Māori are still not being dispensed enough gout-specific medicine according to need, as indicated by hospitalisation rates for gout (see figure 10).

Furthermore, dispensing data represents only the medicated population group. Prevalence of gout is likely to be higher than what is indicated by dispensing data alone particularly for Māori where there are known inequities in access to the prescribing and dispensing of preventive medicines for long-term conditions (8). In addition, there will be people who have been prescribed but not dispensed a preventive gout medicine.

Many barriers contribute to inequities in medicine access. These include structural barriers created through the colonial history of Aotearoa New Zealand, prescribing bias, cost and access to medicines and health care, background social determinants of health and racism.

2. Māori start preventive gout treatment earlier than non-Māori, non-Pacific peoples

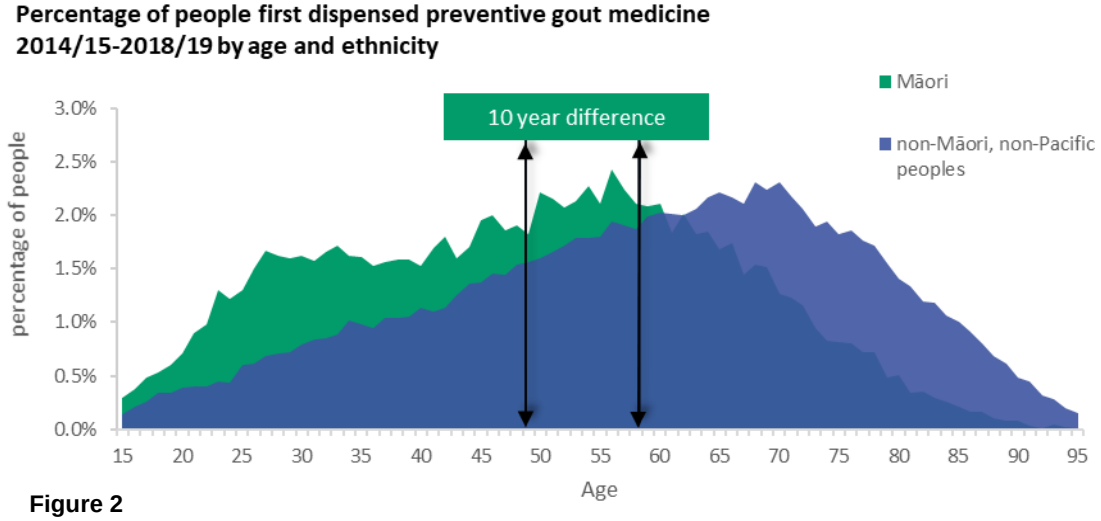

Figure 2

The black lines with arrows indicate the mean age that people, aged 15+ years, were started on preventive gout medicine for the first time, for Māori and non-Māori, non-Pacific peoples respectively. They show that, between 1 July 2014 and 30 June 2019, Māori were started on

[1] Ever been dispensed gout specific medicines include gout-specific urate lowering therapy (allopurinol, febuxostat, benzbromarone, probenecid) or colchicine since 2006.

preventive gout medicine, on average, 10 years earlier than non-Māori, non-Pacific peoples. This indicates there is higher need in Māori earlier in life.

Given the much higher gout disease burden in Māori, it is possible that Māori should be started on their preventive gout medicine even earlier relative to non-Māori, non-Pacific peoples.

3. The prescribing of NSAIDs in people with gout is high, especially for Māori

Non-steroidal anti-inflammatory drugs (NSAIDs) are used to manage the pain of gout when it flares up. They do not stop urate crystal deposition or joint damage. People should be moved away from NSAIDs to long-term preventive medicines, early.

Long term use of NSAIDs for gout causes harm, kidney damage, and cardiovascular disease.

Although the equity gap is starting to decline, prescribing rates remain unacceptably high for Māori.

This requires awareness and behavioural change from prescribers and support for people taking these medicines to understand the impacts of long-term use.

Percentage of population 20+ dispensed any preventive gout medicine and a NSAID 2014-2020 by ethnicity

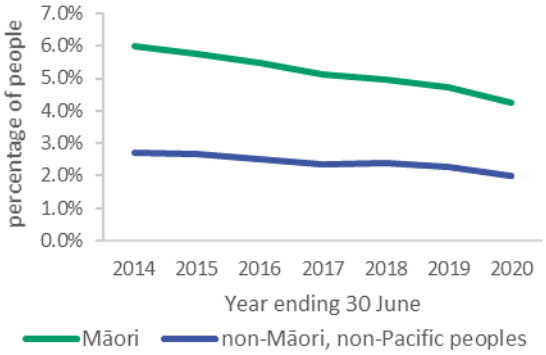

Figure 3

Note, this data covers people dispensed preventive gout medicine, and who have been dispensed a NSAID for any condition. It does not include NSAIDs bought over the counter, nor does it look at alternative colchicine or oral corticosteroid use for severe gout attacks.

Definitions: Any dispensing, possession, and regular dispensing

Dispensing data can be used to determine whether a person has had access to medicines to allow them to take those medicines on a regular basis.

Dispensing of medicines can be measured in two ways:[2]

(1) **Any dispensing** (persistence): The percentage of people who once starting a preventive medicine continue to be dispensed at least one prescription for the condition in the year.
(2) **Possession:** The percentage of people with 'any dispensing' who have had enough medicine prescribed and dispensed to cover that year.

Regular dispensing (persistence and possession combined): The percentage of people who once being started on a preventive medicine have had any dispensing in the year (persistence) and have had enough medicine dispensed to cover that year (possession). This represents the percentage of people who have ever[3] been started on a preventive gout medicine who continue to be adequately treated.

Note: This data has not included dose appropriateness.

[2] These two ways can also be defined using the pharmaco-epidemiological terms persistence and possession

[3] Since 2006

4. For both Māori and non-Māori, non-Pacific peoples, approximately two-thirds of people previously dispensed a preventive medicine for gout[4] are not continuing to receive it regularly.

Gout is a controllable disease. Initial flares usually involve a single joint and can be treated in the community and followed up by starting preventive medicine.

Continuation and regular use of preventive medicines for gout are low for both Māori and non-Māori, non-Pacific peoples.

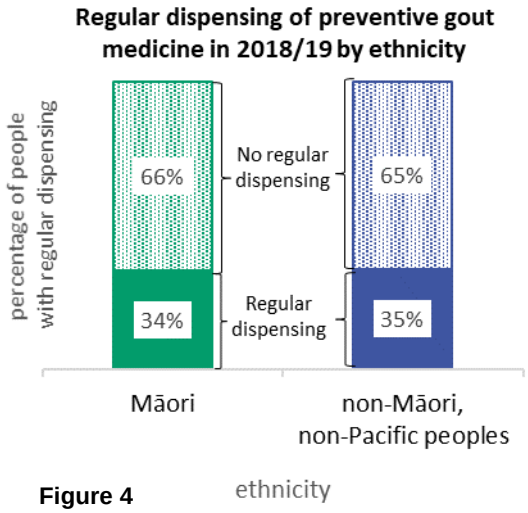

Figure 4

5. For both Māori and non-Māori, non-Pacific peoples, the younger the person, the less likely they are to be regularly dispensed preventive gout medicine

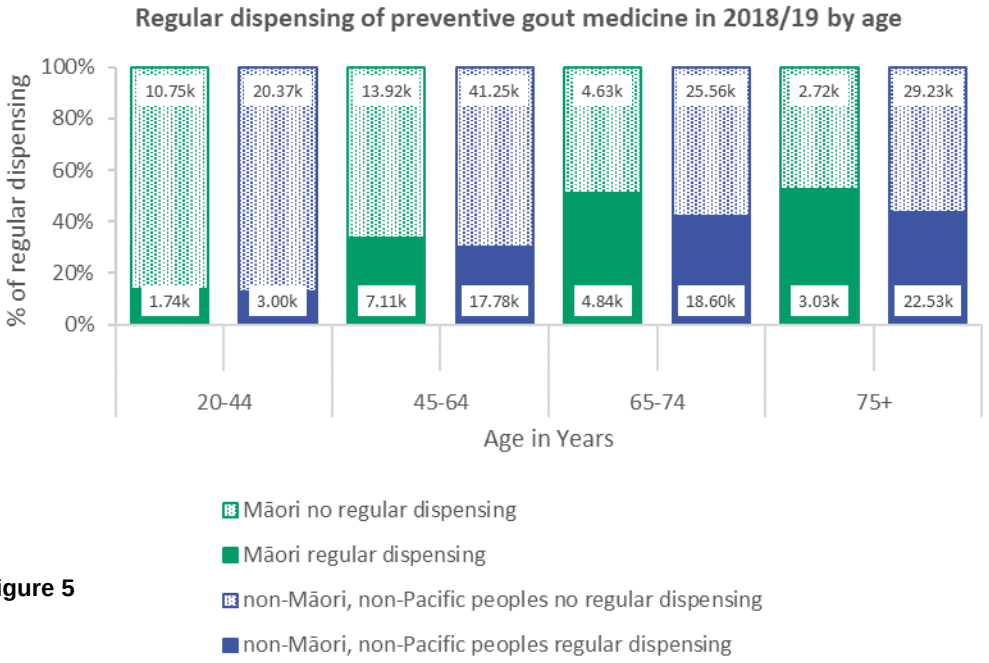

Figure 5

NB: The numbers indicate the number of people with gout.

[4] Preventive medicines for gout are gout-specific urate lowering therapy, allopurinol, febuxostat, benzbromarone, probenecid Note those taking these medicines as part of cancer therapy have not been excluded in these insights but will be in future iterations.

Younger people are less likely to be regularly dispensed preventive gout medicine, irrespective of ethnicity, compared with older people. A greater proportion of Māori are in the younger age groups, which impacts the overall rate of regular dispensing for Māori (see Figure 4).

Māori start preventive gout treatment earlier, therefore at any age are likely to have had gout for a longer period of time – this may have relevance for disease severity.

6. Māori have less medicine possession of preventive gout medicine than non-Māori, non-Pacific peoples

When 'regular dispensing' is broken down to 'any dispensing' and 'possession' we see that Māori have greater rates of 'any dispensing' (receiving at least one prescription a year after initially being prescribed the medicine) but lower rates of 'possession' (receiving enough medicine to cover a given year) compared to non-Māori, non-Pacific peoples.

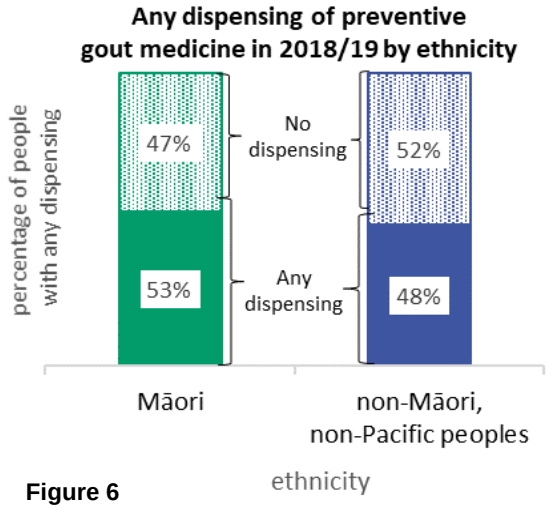

Figure 6

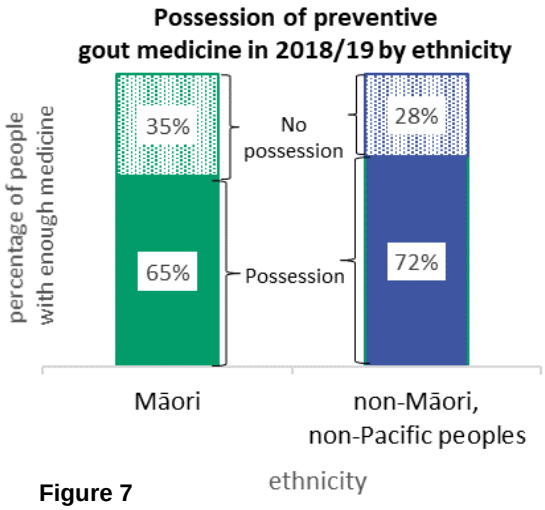

Figure 7

These differences in 'any dispensing', 'possession' and 'regular dispensing' between ethnicities do not take into account:

- the very high relative gout disease burden encountered by Māori
- disease severity
- the need for more Māori to be prescribed preventive medicines earlier.

In the year ending June 2019, 25,450 (6.0%) Māori aged 20+ were on preventive gout medicine. Another 22,260 (5.3%) Māori had started preventive gout medicine previously but were no longer receiving any dispensing of them in the year.

Similarly in 2019, 85,800 (3.1%) non-Māori, non-Pacific peoples aged 20+ were on preventive gout medicine. Another 90,650 (3.3%) were no longer receiving any dispensing of them in the year.

7. Māori are more likely to live with both gout and other long-term conditions, such as type 2 diabetes, than non-Māori, non-Pacific peoples.

Multi-morbidity disproportionally impacts Māori. There is a high co-prevalence of gout and diabetes in the adult population of Aotearoa New Zealand.

One in three Māori with gout have been identified as having diabetes as opposed to one in five of European ethnicity (2).

This is important as living with another long-term condition such as diabetes as well as gout adds to the overall disease burden experienced by Māori. The presence of gout may also be a marker of health risk which has important implications for clinical practice (2).

Percentage of people dispensed any preventive gout medicine and also any medicine to treat type 2 diabetes in 2018/19 by ethnicity

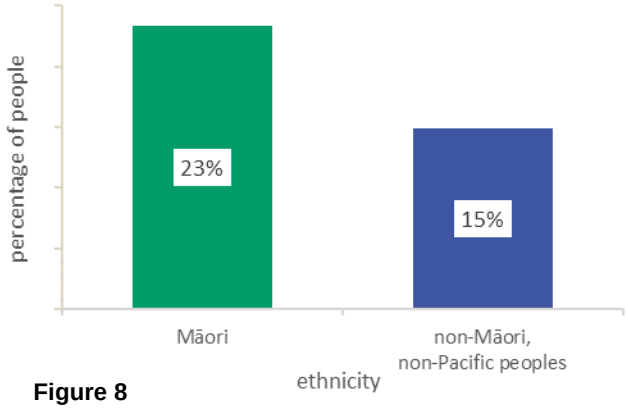

Figure 8

2018/19 dispensing data indicates that 15% of non-Māori, non-Pacific peoples and 23% of Māori have been dispensed preventive gout medicine and medicine to treat type 2 diabetes.

Higher rates of co-morbidity for Māori also occur for cardiovascular and renal disease.

8. Māori are 6.9 times more likely to be hospitalised with a primary diagnosis of gout compared with non-Māori, non-Pacific peoples

Differences in hospitalisation rates, between Māori and non-Māori, non-Pacific peoples are evident across all age groups and in terms of the **absolute gap** is largest in the 65+ age group. However, the equity gap (relative gap) is largest in the 25-44 year age group.

If Māori people were hospitalised for gout at the same rate as non-Māori, non-Pacific Peoples, there would have been 390 fewer hospitalisations in 2019.

In 2019, 1,430 people were hospitalised for gout:

- 470 were Māori (age standardised rate (ASR) 1.05 per 1000[5])
- 580 were non-Māori/non-Pacific peoples (ASR 0.15 per 1000)[6].

Rate of hospitalisations with a primary diagnosis of gout 2014/15-2018/19 by age and ethnicity

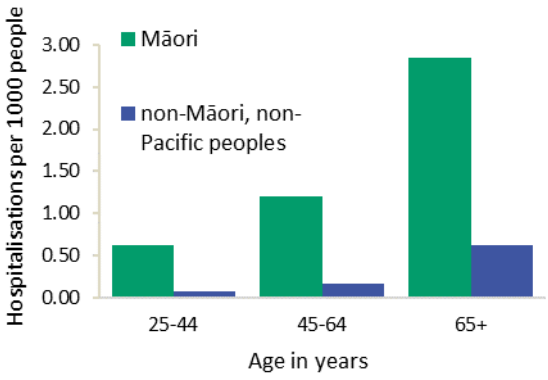

Figure 9

Hospitalisations are likely to represent only a small part of the persisting burden of gout Māori experience in the community.

[5] Age Standardised to the 2013 Māori population

[6] See Pacific Health gout data insights for data relevant for Pacific peoples.

9. In 2018/2019, 60% of Māori hospitalised for gout were not receiving preventive gout medicine in the six months prior to hospitalisation.

Hospitalisations might be avoided if access to early preventive gout medicine is improved.

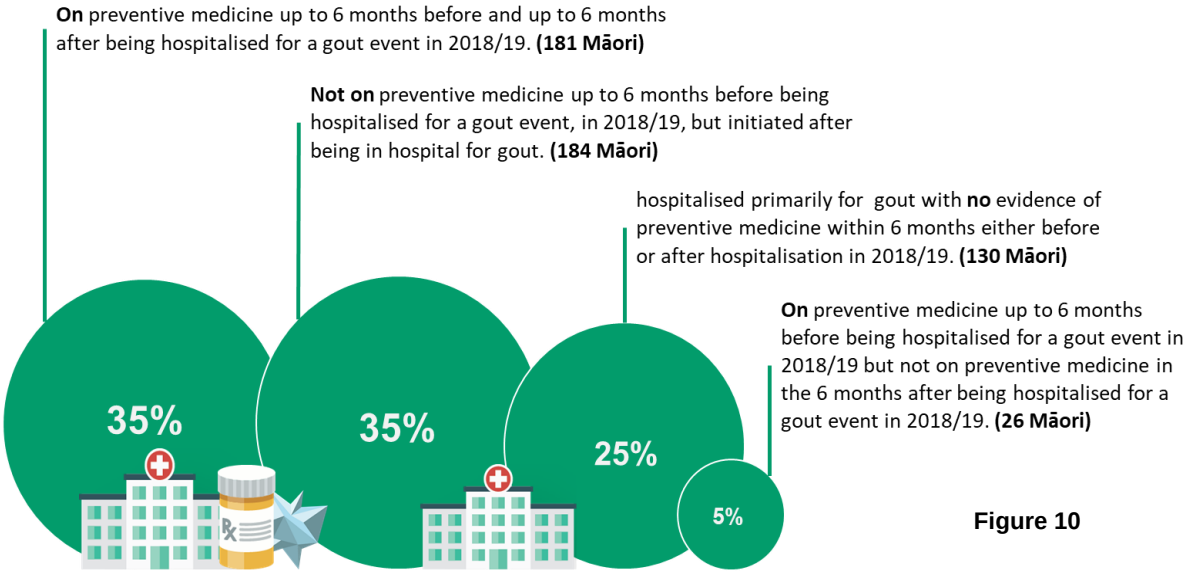

Figure 10

One quarter of Māori hospitalised for gout did not receive a preventive gout medicine before or after hospitalisation. A further 5% had a prescription for a preventive gout medicine in the six months before hospitalisation but not afterwards[7].

The fact that Māori are still not on preventive medicine in the six months after hospitalisation for gout shows there is unmet need, and that the health system needs to do more.

Interventions and solutions need to better support Māori with gout across their life journey.

10. Practitioners are encouraged to start prescribing more Māori preventive gout medicines earlier.

There are significant equity gaps in hospitalisations that cannot be sufficiently explained by the rates of regular dispensing and possession of preventive gout medicines between population groups. It is likely the excess hospitalisations are partly because practitioners are not prescribing preventive gout medicines to enough Māori, particularly in the younger age groups. Barriers to medicines being dispensed to Māori also need to be removed.

To achieve equity an estimated 10,400 more Māori need to be started on preventive gout medicine each year.

[7] May include some people who have subsequently passed away.

Number of Māori dispensed any preventive gout medicine and those needing to start to achieve equity in 2018/19

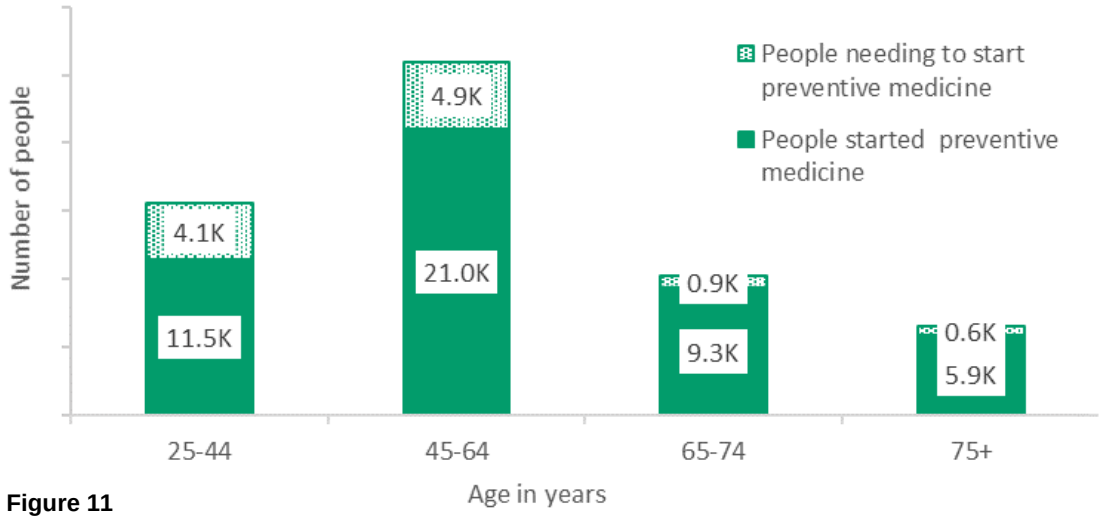

Figure 11

List of figures:

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Appendix A: Gout medications

Table 1: Gout medications included in baseline analysis

MONITOR GROUP	CHEMICAL NAME	PREVENTIVE / ACUTE
Allopurinol	allopurinol	Preventive
Benzbromarone	benzbromarone	Preventive
Colchicine	colchicine	Acute
Febuxostat	febuxostat	Preventive
Probenecid	probenecid	Preventive
Non-steroidal anti-inflammatory drugs (NSAIDs)	celecoxib	Acute
	diclofenac sodium	Acute
	diflunisal	Acute
	fenbufen	Acute
	fenoprofen calcium	Acute
	flurbiprofen	Acute
	ibuprofen	Acute
	indomethacin	Acute
	ketoprofen	Acute
	mefenamic acid	Acute
	meloxicam	Acute
	naproxen	Acute
	naproxen sodium	Acute
	phenylbutazone	Acute
	piroxicam	Acute
	rofecoxib	Acute
	sulindac	Acute
	tenoxicam	Acute
	tiaprofenic acid	Acute

Appendix B: Gout ICD-10 codes

Table 2 ICD-10 codes for gout baseline analysis

Code	Description
M100	Idiopathic gout, ankle and foot
	Idiopathic gout, forearm
	Idiopathic gout, hand
	Idiopathic gout, lower leg
	Idiopathic gout, multiple sites
	Idiopathic gout, other site
	Idiopathic gout, pelvic region and thigh
	Idiopathic gout, shoulder region
	Idiopathic gout, site unspecified
	Idiopathic gout, upper arm
M109	Gout, unspecified, ankle and foot
	Gout, unspecified, forearm
	Gout, unspecified, hand
	Gout, unspecified, lower leg
	Gout, unspecified, multiple sites
	Gout, unspecified, other site
	Gout, unspecified, pelvic region and thigh
	Gout, unspecified, shoulder region
	Gout, unspecified, site unspecified
	Gout, unspecified, upper arm