

## MEN'S HEALTH RESEARCH IN NEW ZEALAND: A SCOPING REVIEW

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### Abstract

**Background:** Globally, there has been a growing awareness of the health challenges faced by men. The current public health agenda in Aotearoa New Zealand (NZ) does not specifically address the needs of men. The aim of this scoping review was to capture the major health issues facing men in NZ and particularly to identify the knowledge gaps in the understanding of men's health within the NZ context. This was achieved by presenting key data on their health status and systematically mapping research in NZ related to men's health; international data are also referenced for context as relevant.

**Method:** A search and screening of the literature were conducted using Ovid, Web of Science and Scopus databases from January 1996 to July 2021, with advice from a medical librarian. Search terms included "men's/male's health" and "men's/male's health NZ." An environmental scan of international literature was also carried out and information from the Ministry of Health and Statistics NZ was obtained to provide context of the status of research on men's health in NZ.

**Main Findings:** In keeping with international literature, the major health issues for men in NZ are life-limiting diseases including cancer and cardiovascular disease, the spread of overweight and obesity, issues with masculinity and help-seeking behaviours, unhealthy lifestyles, mental health issues and poor health literacy. The main areas of research related to men's health from the NZ literature were highlighted.

**Discussion:** Men's health remains an under-recognised issue in NZ. If we are to address current inequities in health for men, clinicians, researchers and relevant agencies need to pay more attention to men's health issues and take up the challenge to highlight and promote men's health status in NZ.

**Keywords:** men's health; masculinities; help-seeking behaviour; gender disparity; New Zealand; scoping review

### INTRODUCTION

It is commonly believed that the historical legacy of gender injustice or inequality in terms of health-related consequences falls disproportionately

on women.<sup>1</sup> In advocating for gender equality, feminist scholars and women's rights movements also brought considerable exposure to women's health. It is widely accepted that women face many health and socio-cultural challenges, as well as gender

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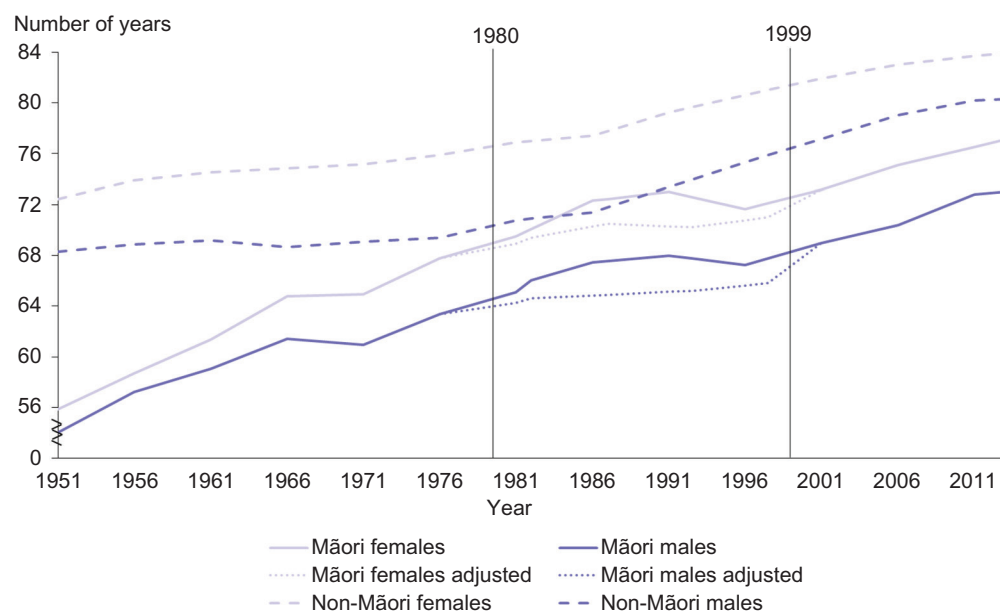
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inequalities that negatively affect their well-being.<sup>2,3</sup> In some important respects, men enjoy multiple advantages such as better employment opportunities, social resources, and physical power as compared to women. However, and despite such advantages, men face more life-limiting health problems.

The last 10 years have seen a global increase in the awareness of wider health issues facing men, beyond male-specific illnesses such as prostate or testicular cancers.<sup>4–7</sup> There is a common finding to such research: men are more likely to experience significant impact from diseases at an earlier age than women and are more likely to suffer a premature death.<sup>8,9</sup> Despite this, within Aotearoa New Zealand (NZ), the health of the male population has received relatively little attention as an area of public health concern.<sup>10,11</sup> Although men in NZ generally enjoy better health and a longer life expectancy than

males in many other countries,<sup>12</sup> there are significant gender health disparities, especially in terms of life expectancy and disease morbidity.

In NZ, life expectancies have risen steadily since the 1950s (Figure 1). Life expectancies at birth are 80.0 years for males and 83.4 years for females (Statistics NZ 2015–2017). This discrepancy is more significant in Māori, as the indigenous people in New Zealand, who comprise around 15% of the population<sup>13</sup>: average life expectancies in Māori men are 4 years shorter than those of Māori women and 7 years shorter than those of other NZ men<sup>12,14,15</sup> (Figure 1). Such differences for Māori mirror those in other indigenous populations internationally. For example, in Australia, Aboriginal and Torres Strait Islander males have significantly shorter life expectancies compared to others<sup>16</sup>; in Canada, work by Statistics Canada



**FIGURE 1.** Life expectancy of New Zealanders.

Note:

This figure presents the life expectancy by gender and indigenous population differences in NZ.

It can be seen that the life expectancy of the whole population has increased. Since the late 1990s, the life expectancy for Māori has been growing at the same rate as (or slightly faster than) that for non-Māori. While the gap between Māori and non-Māori is narrowing, the difference is still 3.4 compared to 4.1 years in 2013.

\*1980s and early 1990s, Māori mortality was undercounted.

Line figure data extracted from Ministry of Health, NZ.<sup>18</sup>

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highlighted similar differences in life expectancy at birth in 2013 between Inuit men (67.2 years) and other Canadian men (79.5 years).<sup>17</sup>

In addition to such disparities in life expectancies, in both developed and developing countries, the overall burden of disease is higher for males than for females.<sup>19</sup> Men generally have higher levels of disability-adjusted life years (globally, males 1.35bn, females 1.19bn; New Zealand males 608,793, females 606,980 in 2019).<sup>20,21</sup> Data from the National Health Interview Surveys in the United States show that the prevalence of what can be termed as mortal diseases, such as heart diseases, is higher in men than in women<sup>22</sup>; furthermore, the death rate for cardiovascular diseases in men is two-fold higher than that in women.<sup>23</sup> Similarly, men experience a two-three times higher rate of death from cancer than women.<sup>24</sup> Data from the NZ Ministry of Health show that for men 50–75 years old, the overall mortality is 30% higher than that for women, and men's age-adjusted rates for a range of other important metrics for health and disease are worse than women's: for instance, high cholesterol (7.9% vs 5.7%), heart disease (4.9% vs 3.1%), diabetes (4.7% vs 3.7%) and gout (2.0% vs 0.2%).<sup>25</sup>

There is increasing recognition of the need to improve men's health, in NZ and globally,<sup>26–28</sup> and most research studies in this area are comparative studies using gender as a social demographic factor and seek to quantitatively analyse differences between men and women in certain health indices.<sup>29</sup> Most of the published NZ men's health articles focus on genitourinary issues: the limited number of articles published in the NZ Medical Journal (NZMJ) on men's health mainly focus on prostate cancer.<sup>30,31</sup> Thus, there is a lack of empirical research that specifically focusses on men's health, and there is a lack of synthesis of existing research findings to highlight current priority issues, needs and services relevant to men's health in NZ. To address these deficiencies and to identify existing gaps in knowledge, we conducted a comprehensive scoping review, systematically mapping research done on NZ men's health to identify the major health challenges facing men in

NZ as identified from previous research (nationally and internationally as appropriate) and available data from online and government databases. Given that there is minimal NZ specific research on this topic, an environmental scan of international literature was also carried out to provide the context of the status of research on men's health in NZ.

## METHODS

Arksey and O'Malley's scoping methodology was utilised to guide our review.<sup>32</sup> This scoping review was reported according to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).<sup>33</sup>

### *Search strategy and information sources*

A literature search was conducted in OVID (Ovid Medline and Embase), Scopus and Web of Science databases (Web of Science Core Collection). Our search was limited from 1996 to July 2021. Although the term "men's health" was not included as a Medical Subject Heading (MeSH) until 2008, we decided to extend the search to earlier years as there are relatively few studies on men's health in NZ and evidence relevant research has been found from as far back as 1996.<sup>34</sup> Articles were searched through titles, abstracts and keywords using MeSH terms and keywords including "men's/male's health NZ" and "men's/male's health NZ." Since scoping studies allow for reviewing of both scientific and "grey" literature to answer broad research questions,<sup>32</sup> relevant NZ data were also accessed from agencies such as the Ministry of Health NZ and Statistics NZ by filtering out each keyword for men's health issues. Such data focussed on disease morbidity and mortality relative to the frequency of occurrence and possible gender, ethnic and location differences. These keywords of men's health issues were identified by the thematic analysis as described below.

### *Eligibility criteria*

This scoping review considered both empirical research (including qualitative, quantitative

and mixed-method study designs) and theoretical reviews (such as opinion papers and editorials) for inclusion. Peer-reviewed journal papers were included if they were (i) specifically focused on the health of “man,” “men” or “male”; (ii) reported research that involved men and either focused on NZ participants or was conducted in NZ and (iii) articles published in English and between the period of 1996 and 2021. Papers were excluded if they did not fit within the objectives of the study, for example, studies on the mechanisms of male-specific diseases such as prostate cancer, as were papers that specifically and exclusively focused on the health of gay men or men who have sex with men, as we were focusing on broad men's health issues rather than attempting a deeper dive into male-specific health conditions. In addition, we used only the latest available data on men's health-related morbidity and mortality from online databases.

### **Data extraction and analysis**

Two independent reviewers identified and critically analysed the search results with the assistance of an experienced subject librarian. Data analysis incorporated both qualitative thematic analysis and numerical summary.<sup>35</sup> Identification of the primary theme for each article was completed by the first author.

The first step of the analysis was to identify any theoretical overview papers on NZ men's health, which was completed by an initial review of the included titles and abstracts. This was followed by a thorough review of these articles, including scanning the reference lists using a thematic analysis to identify common themes related to NZ men's health.<sup>36</sup> The remaining articles were critically summarised and mapped against these themes, according to their specific focus. Once themes were identified, we also conducted additional searches of online databases using the keywords associated with themes to extract the latest epidemiological data as relevant. These supplementary data were analysed by reviewing published reports and performing calculations from extracted datasheets.

The extraction process is summarised in Figure 2. To systematically map the research, a data abstraction form was also developed. Data items included study characteristics (first author, year of publication), men's health-related categories, types of the article (theoretical or empirical) and other details of the article (participants, method and results, if papers were empirical; brief summaries, if papers were theoretical). Furthermore, to assist in identifying areas for future research in men's health in NZ, the findings of this scoping review were discussed in the context of global literature at a broader level.

## **RESULTS**

### **Study characteristics**

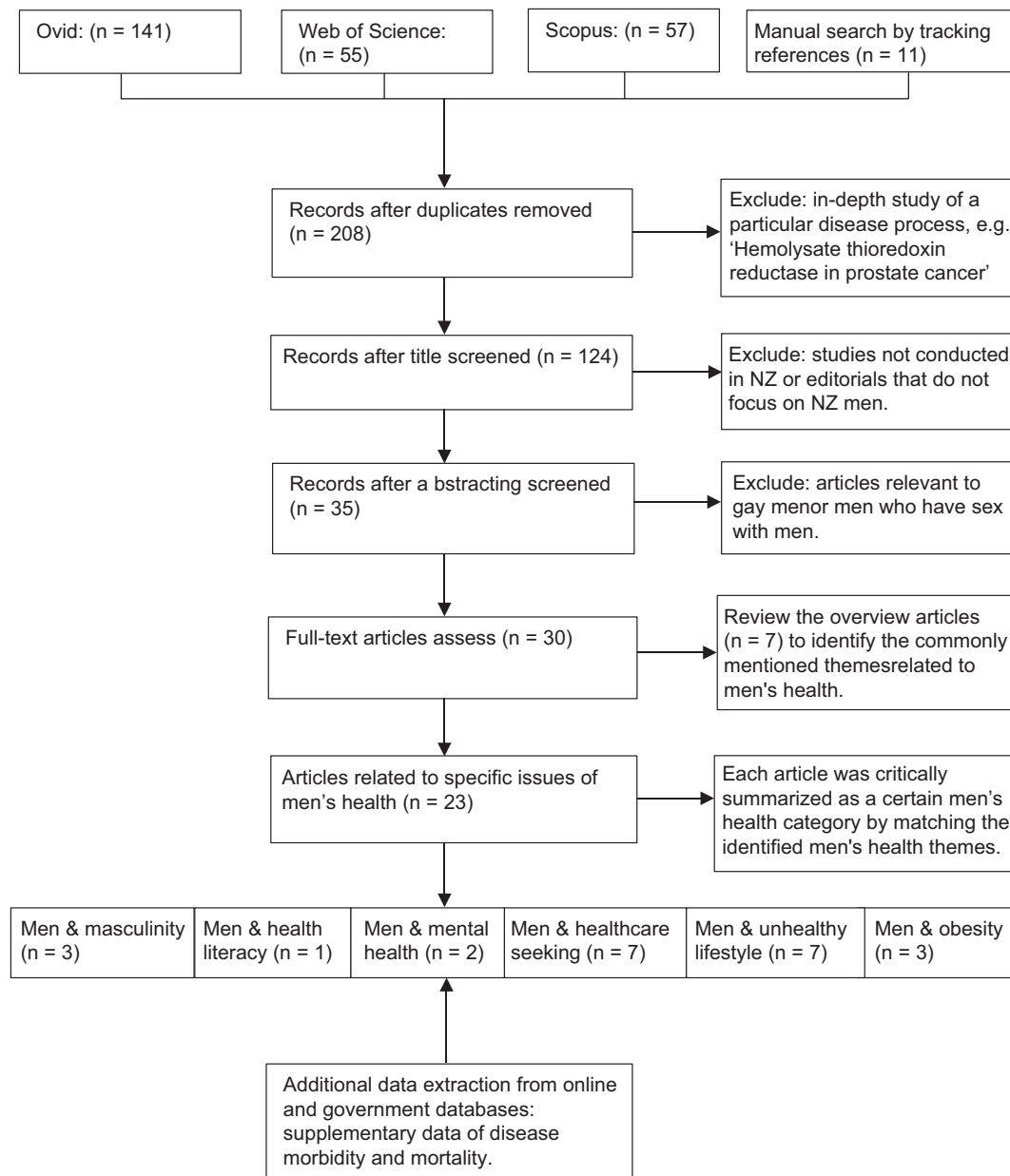
Following application of the review's eligibility criteria, we reviewed a total of 208 articles and included 30 after full-text review (Figure 2). With respect to the types of included articles, *empirical studies* (n = 21) included quantitative studies (n = 9), qualitative studies (n = 10) and mixed-method studies (n = 2) and *theoretical articles* (n = 9) included editorials (n = 5), literature reviews (n = 3) and conference reports (n = 1).

After preliminary screening, we first reviewed seven overview articles<sup>10,11,28,37–40</sup> on men's health issues, which provided a context and theoretical framework for identifying and developing major themes related to men's health in NZ. Among these articles, six were theoretical reviews or editorials and one was a retrospective study. The latter used data from NZ Ministry of Health, including registered deaths and model life tables, as well as data from the World Health Organization (WHO) mortality database; the analysis highlighted gender survival disparities in terms of cancer and heart diseases.<sup>40</sup> With respect to the six theoretical overviews, McKinlay<sup>10</sup> noted that while the available NZ research on men's health encompassed a variety of different aspects of male health, most has focused on genitourinary issues,<sup>14,41</sup> chronic disease morbidity, mental well-being and dietary intake and lifestyle behaviours.<sup>42</sup> Johnson et al. assessed NZ men's

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**FIGURE 2.** General data extraction strategy.

health within the wider context of the health of the nation and called for increased public awareness of men's health issues and measures to improve men's utilisation of health services.<sup>37</sup> The European Men's Health Forum published a report (2009) of policy and progress across 11 countries<sup>38</sup>; among these, the report on the current state of NZ male health had

a particular focus on men's masculine identities, the reluctance for seeking medical help and health risk-taking behaviours. This report also underscored the lack of response from the NZ government with respect to men's health-related strategies and policy.<sup>38</sup> Beyond this, in a more recent editorial, Baxter et al. pointed out several challenges facing NZ men,

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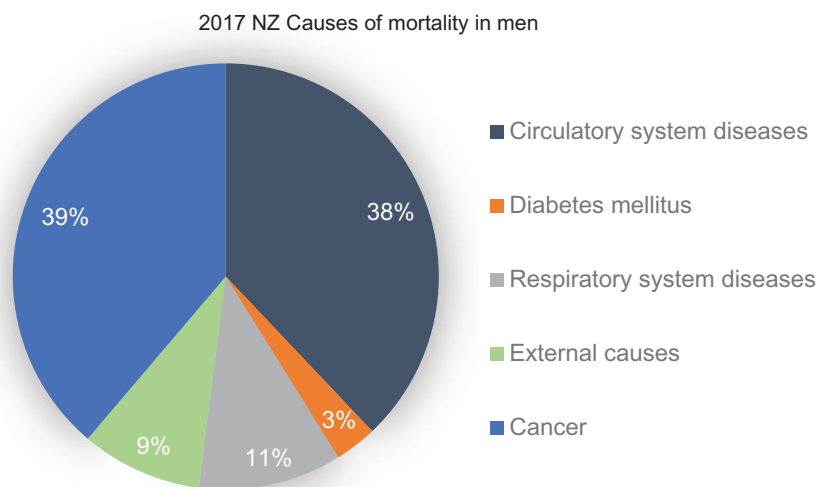
including the impact of major diseases affecting men, higher and earlier mortality in men and health inequities between ethnicities; the editorial also drew attention to the relative lack of research activities and funding.<sup>11</sup>

Based on these overview papers, we identified several priority issues relevant to men's health in NZ: increased morbidity and earlier mortality (primarily associated with cancer and cardiovascular disease [CVD]), widespread obesity and overweight,<sup>43–45</sup> healthcare-seeking behaviour,<sup>46–52</sup> health risk-taking behaviours,<sup>53–58</sup> masculinity ideologies,<sup>34,59,60</sup> mental health issues<sup>61,62</sup> and health literacy.<sup>63</sup> Of the 23 articles based upon empirical data, the issues of men and healthcare help-seeking behaviour ( $n = 7$ ) and men and unhealthy lifestyles ( $n = 7$ ) received most attention from researchers. The following sections elaborate on the identified themes; epidemiological data including disease morbidity and mortality are presented as appropriate to emphasise the health status of men, where information was available. The detail of the 30 articles included are summarised in the data abstraction form (Appendix).

### ***Cancer and cardiovascular diseases***

While none of the empirical studies focused specifically on cancer and heart disease of men (except for issues related to prostate cancer), most of the overview papers used morbidity and mortality data to highlight cancer and heart disease as the leading two causes of death in NZ men. Analysis of the mortality data showed that the leading three causes of death for men were cancer, ischaemic heart diseases and cerebrovascular diseases. Although the list of these diseases is not exhaustive, nor are the diseases exclusive to men, cancer (39% of male deaths) stands out as the single leading cause of death in men (Figure 3).<sup>64</sup>

As with breast and uterine cancer for women, prostate and testicular cancer represent unique health problems for men. Around one in 10 NZ men develop prostate cancer at some stage in their lifetime, with 80% of such diagnoses for men aged 60 years or more. Despite the prevalence of these men-specific cancers, and a high degree of public awareness of these diseases, the highest mortality rate for men for all cancers is not prostate cancer but



**FIGURE 3.** Main causes of death for NZ men (2017).

Note:

The main causes of death for NZ men are cancer and heart disease.

\* Data from Ministry of Health, NZ. Major causes of death.<sup>72</sup>

Men are twice as likely to die of external causes (e.g., road traffic accidents, injury, poisoning, etc.) than women throughout their lives.

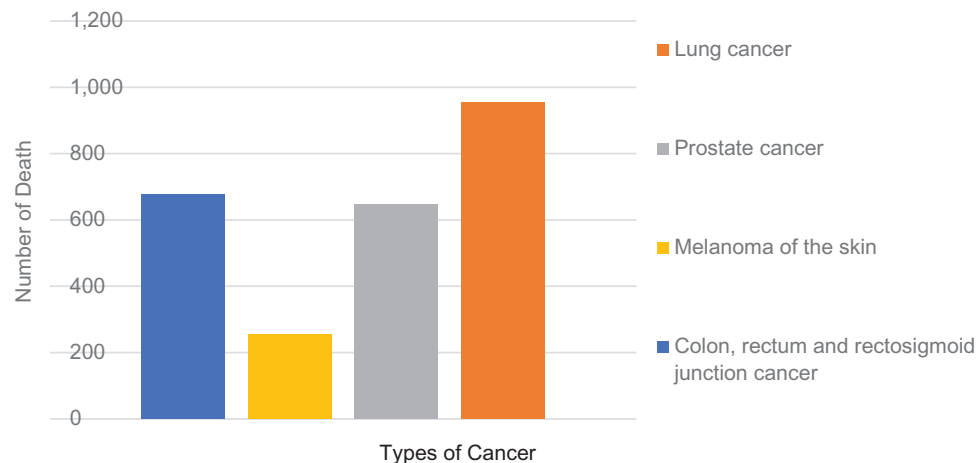
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lung cancer (Figure 4). This is the most common cancer worldwide, contributing to 12.3% in women and 15.5% in men of the total number of new cases diagnosed in 2018.<sup>65,66</sup> Lung cancer is also the most common cancer in NZ, with over 1,600 Kiwis dying from lung cancer every year: more than from breast cancer, prostate cancer and melanoma combined.<sup>67</sup> The survival rate after suffering lung cancer in NZ

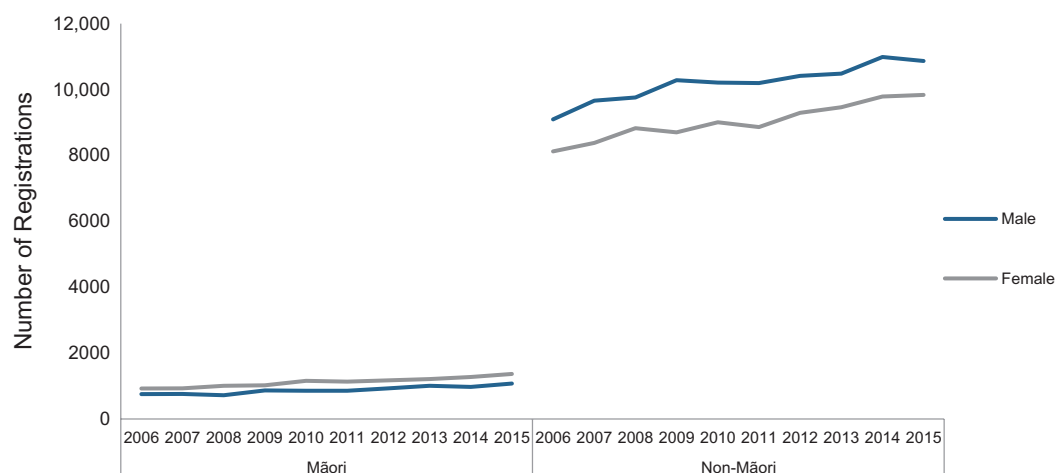
is poor, with a 5-year survival of 9.5% for men and 11% for women.<sup>68</sup> When comparing the overall cancer incidence, cancer registrations in NZ showed that there were 11,945 men compared with 11,204 women with new cancer registrations per 100,000 population in the year 2015 (Figure 5). In terms of Māori men, the most common cancer registration sites for Māori males are prostate cancer, with a



**FIGURE 4.** Causes of mortality in NZ Men: main types of cancers.

Note: Highest mortality rate is not for prostate cancer but for lung cancer.

\* Data from Ministry of Health, NZ Cancer.<sup>73</sup>



**FIGURE 5.** Gender differences in cancer registrations in NZ: number of new registrations 2015.

Note: Numbers of new cancer registrations for individual cancers for 2015 by sex and ethnic group.

\* Data from Ministry of Health, NZ. Cancer data and stats, new cancer registrations 2015.<sup>74</sup>

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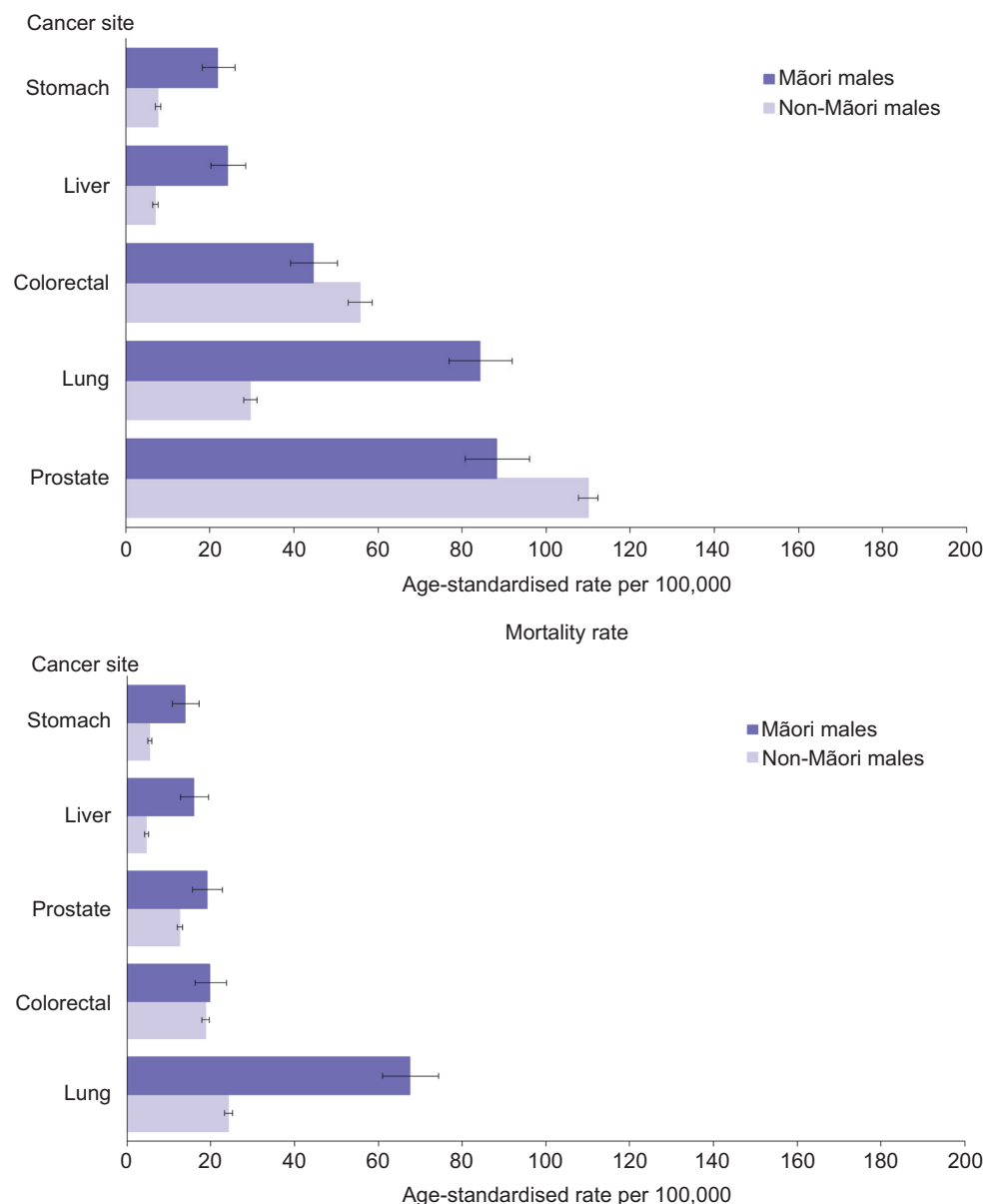
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similar rate for lung cancer; however, the leading cause of cancer mortality for Māori males is lung cancer (Figure 6).

CVD is responsible for almost 40% of total deaths in NZ<sup>14</sup> and includes a range of circulatory

diseases such as coronary heart disease (CHD) and stroke. Data from the Ministry of Health NZ show that total cardiovascular disease mortality rates and hospitalisation rates are higher for males over 35 years (168.2 per 100,000) than for females (99.2



**FIGURE 6.** Male cancer registration & mortality rate, by site, 25+ years, Māori and non-Māori, 2010–12. Note: For many cancers, cancer registration rates for Māori were less than or similar to the cancer registration rates for non-Māori. The biggest difference is in lung and liver cancer, for which rates in Māori males were nearly three times those of non-Māori males in both registration and mortality rates. This suggests that Māori with cancer have a higher risk of dying from their cancer than non-Māori.

\* Data from Ministry of Health, NZ. Māori health.<sup>75</sup>

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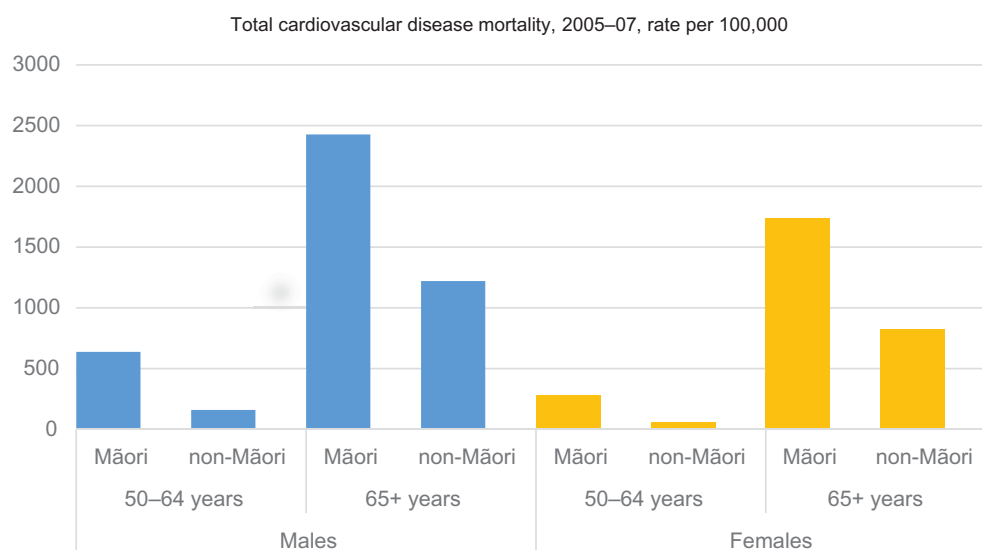
per 100,000).<sup>69</sup> It has also been shown that the incidence of CHD in women before menopause is only 10–30% compared to men, but it increases rapidly after menopause, especially after 85 years.<sup>70</sup> This may partly be due to the protective effect of endogenous estrogen on the cardiovascular system<sup>70</sup> and partly due to women's longer life expectancy.<sup>11</sup> This notwithstanding, Māori in all the age groups have significantly higher mortality and hospitalisation rates for cardiovascular disease than non-Māori<sup>71</sup>. Overall, men are more likely to experience CVD than women (Figure 7).

### Weight and obesity

Overweight and obesity are increasingly recognised as global pandemics.<sup>77</sup> WHO has defined obesity as a chronic disease in which excess body fat accumulates to the extent that it has a negative impact on human health.<sup>78</sup> In 2016, more than 1.9 billion adults (age  $\geq 18$  years)—around 39% of the world's population—were overweight (BMI  $\geq 25$ ); among these, over 650 million adults were obese (BMI  $\geq 30$ ). Weight gain may severely curtail quality of life (QoL) and increase the likelihood of health complications, disabilities and dependency for older

people. The causes of obesity are both biological and social and may vary by sex or gender.<sup>79</sup> Women generally have higher rates of obesity than men, but men are more likely to suffer chronic diseases through obesity, especially as they get older.<sup>80</sup>

The 2018 NZ national health survey found that around one in three adults aged 15 years and over were obese (32%).<sup>81</sup> Currently 65.6% of New Zealanders over the age of 15 years are classed as either being obese or overweight, ranking third in the world only behind Mexico and the United States of America. Beyond this, men living in deprived areas are 1.6 times more likely to be obese than adults living in least-deprived areas.<sup>82</sup> Almost a third (29.3%) of NZ males are considered obese, with the group between 65 and 74 years most affected (38.4%). It is recognised that age and social and economic factors have a direct bearing on individual health status; it has also been revealed by a recent qualitative study that the interviewed 14 NZ men tend to gain weight during their social transition periods.<sup>45</sup> Besides, there are also ethnic differences in NZ men: Asian Indian men have more abdominal adiposity and significantly less skeletal muscle than Pacific Island/European men.<sup>43</sup> Although Māori and



**FIGURE 7.** Gender differences in CVD mortality in NZ.

\* Source of data: Ministry of Health, NZ. Cardiovascular disease (50+ years).<sup>76</sup>

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Pacific men had higher mean BMI compared with European men, it has been highlighted that the same level of BMI can carry different connotations of risk in different ethnic groups.<sup>83</sup> Regardless of their BMI, Māori and Pacific men perceive themselves as being of ideal body size and believe that their weight is appropriate for them.<sup>44</sup> This perception may be due to a range of cultural factors; among these, the most important is cultural efficacy (self-esteem and self-reported confidence and capability in expressing oneself culturally as Māori). It has been reported that cultural efficacy of Māori prevents them from internalising Western body image ideals and promotes their mental well-being and acceptance of body size and shape.<sup>84</sup>

### ***Healthcare seeking behaviour***

It is a commonly held viewpoint that men are reluctant to seek help for health issues, and there is some evidence to support this in the NZ context. McKinlay's focus group study on the beliefs of 22 men and 31 health professionals about health and health care found that in general, NZ men report themselves as being unwilling to engage with health care.<sup>46</sup> Based on a retrospective analysis of 10,506 visit records from NZ National Primary Medical Care Survey, Jatana and Crampton found that men had been less likely than women to visit a general practitioner over the previous 12 months.<sup>51</sup> This reluctance to seek help is more pronounced among young men, who are at higher risk for self-harm and suicide.<sup>50</sup> For Māori men, additional barriers include cultural issues and lack of patient–clinician interactions,<sup>85</sup> which are not necessarily recognised and appropriately addressed by the current NZ health system.<sup>47</sup> An analysis of barriers faced by Aboriginal and Torres Strait Islander men with regard to primary care identified factors such as feelings of invincibility, being uncomfortable or fearful, long waiting times, lack of knowledge and culturally inappropriate staff/services.<sup>86</sup> Other important pragmatic factors may include perceived expense, the lack of trust or understanding of the advice and treatment provided by doctors or healthcare practitioners, lack

of information and knowledge about how/where to seek help, lack of available health services and health services opening times that are not work-friendly for working males.<sup>87</sup> The evidence from an early literature review highlighted that the root of delayed help-seeking was men's own masculine attitudes, behaviours and values.<sup>88, 89</sup> Subsequent studies that have assessed healthcare usage through analysis of family doctor appointments suggest that the issue is more complex than it appears. Data suggest that boys attend general practitioner practices as often as girls, until their teenage years when they mostly disappear from surgeries until their mid-40s, unless they need to attend for medical help or through ill health.<sup>90</sup> Such differences may be due to a variety of factors but are typically attributed to women's higher usage of services for reproductive health issues.<sup>91</sup>

The issues around help-seeking by men are complex. Data from the Australian Longitudinal Study on Male Health showed that men's healthcare utilisation was varied and greatly influenced by age and the interaction between age, location and general health status.<sup>92</sup> In keeping with this, rural male populations have been found to have specific issues with regard to accessing health services, which include limited availability, more restricted health literacy and the risk to their gender identity.<sup>93</sup> Other research has shown that in some circumstances, men are as likely to seek medical attention as women.<sup>94</sup> This is reflected in results of recent NZ research using online surveys to explore young Pacific male athletes' attitudes toward help-seeking,<sup>49</sup> which revealed largely positive views of these young males towards athletes seeking help for mental distress.<sup>49</sup> Similarly, another NZ survey (on 59 older men) of health education and health screening participation found that the majority of men reported good or excellent health and a high level of acceptance and participation in health education and health screening.<sup>52</sup> In addition, findings of an explanatory sequential mixed-method study exploring sex differences in responding to symptoms of lung cancer suggest little difference in the route to diagnosis and stage

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at diagnosis or uptake of screening opportunities, which runs counter to what many expect.<sup>95</sup> Rather, it would appear that when there are signs and symptoms of the disease, there is little evidence that men delay longer than women in seeking a diagnosis.

### ***Masculinities***

Men's self-conceptualisation of masculine ideologies may be another significant factor in their health-seeking decisions: men are expected to be self-reliant, control their emotions, avoid expressing pain and demonstrate courage in the face of adversity.<sup>96</sup> In keeping with this, indigenous masculinities, as a nascent research field in North America and Australia, framed strong men as "good fathers," "hard workers" and "providers." These ideologies have drawn increasing research attention in recent years, and many researchers have integrated concepts of masculinity into exploration of men's health issues.<sup>97</sup>

Studies on philosophical and sociological aspects of masculinity such as beer advertising and campaigns highlight the existence of NZ masculine identities that are strongly associated with unhealthy beliefs and behaviours.<sup>34</sup> Such stereotypical beliefs are also highlighted in qualitative research on older men in rural NZ.<sup>60</sup> Another NZ study focussing on popular men's magazines explored men's help-seeking through analysis of readers' published letters or emails and their replies; based on responses from 511,000 people, it was shown that stoic and "femininity avoiding" ideology was accepted by most readers.<sup>48</sup> The findings also highlighted the link between masculinity beliefs and help-seeking behaviours: in particular, men need a safe and relatively anonymous way to initial help-seeking steps.<sup>48</sup> Māori men are also stereotyped in terms of their masculinity and associated behaviours. Warbrick interviewed 18 Māori men and found that they regarded "broship" as an inherent aspect of their success in an exercise programme and their responsibilities as father, husband and provider as the main reasons for not being physically active.<sup>56</sup> At a wider level, men tend to maintain their masculine identity through

framing indices of their diet, exercise, alcohol consumption and smoking<sup>98</sup>; as part of this, unhealthy lifestyles may be considered to some extent to be more masculine.

### ***Unhealthy lifestyle behaviours***

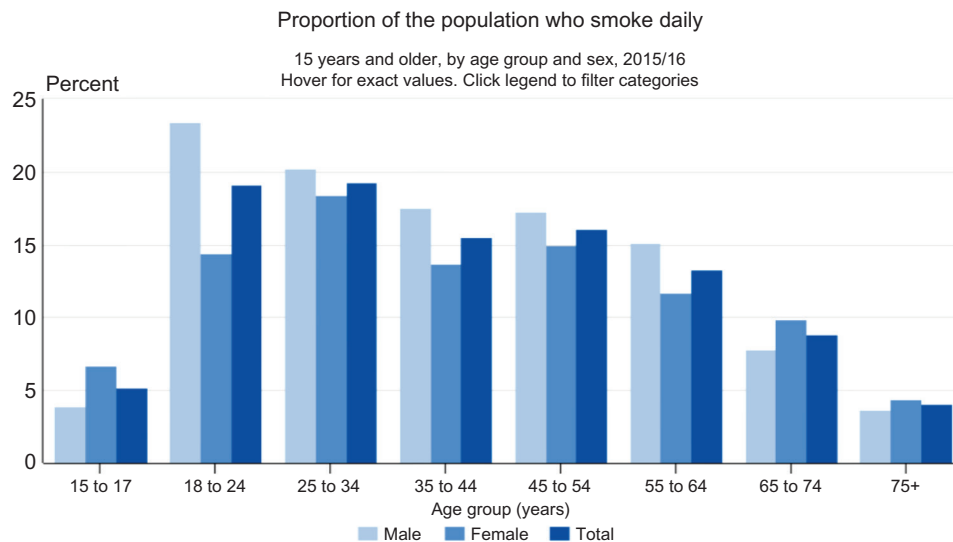
It is increasingly recognised that most "modern," non-communicable diseases are associated with unhealthy lifestyle behaviours.<sup>99,100</sup> Studies from Canada,<sup>101</sup> UK<sup>102,103</sup> and Africa<sup>104</sup> found that men's thoughts about their masculinity have important implications for their health-related behaviour<sup>105</sup> and in particular that men are more likely to exhibit unhealthy behaviours.<sup>106</sup> In NZ, it has been shown that over 20% of people consumed alcohol, with men more inclined to drink alcohol than women (88% vs 80%); most worryingly, hazardous drinking rates were more than double in men (27%) than in women (12%).<sup>107</sup>

### ***Smoking***

In terms of smoking behaviours, 15.7% adults in NZ are current smokers. Figure 8 shows that NZ men have a higher daily smoking rate at most age groups, especially in the group between 18 and 28 years. The smoking prevalence of Māori is significantly higher than non-Māori in both males (27 and 15%, respectively) and females (34 and 8%, respectively).<sup>108</sup> While the data collectively illustrate a decline in adults' daily smoking rate over the past 10 years, this is inadequate for achieving New Zealand's smoke-free 2025 and interim 2018 goals, particularly for Māori and Pacific peoples.

### ***Diet***

It has been reported that there are about 3500 fast-food outlets in NZ, or one for every 1300 people; fast foods such as potato chips and fizzy drinks contain high levels of fat, sugar and salt, which are widely recognised as unhealthy.<sup>110</sup> Typically, meat, alcohol and "hearty" servings were perceived as masculine, and vegetables, fruit and sour dairy products were regarded as distinctly feminine.<sup>111</sup> However, it is argued that healthy eating habits largely depend



**FIGURE 8.** Gender differences in smoking prevalence in NZ 2015/16.

Men are more likely to smoke at 17% than women at 14% are. However, Māori women have the highest smoking rate at 38% (Māori men 32%).

\* Raw data from the 2015/16: NZ Health Survey, Ministry of Health.<sup>109</sup>

on high consumption of fruit and vegetables (F&V) and low consumption of fat dairy products.<sup>112</sup> NZ food and nutrition guidelines for healthy adults suggest eating a variety of nutritious foods including at least five servings of F&V a day.<sup>113</sup> Men do not seem to pay much attention to achieving a healthy diet. A range of studies has shown that a large proportion of adults do not pay attention to intake of fruit and vegetables; men, in particular,<sup>114,115</sup> do not meet the minimum daily recommended amount. Furthermore, a recent NZ qualitative study of eight men with eating disorders found that they did not place much emphasis on physical parameters such as weight stabilisation and body image when choosing their diet.<sup>57</sup>

### **Drug and alcohol use**

Recreational drug and alcohol consumption have been shown to have damaging effects on both the individual (including the immune system)<sup>116</sup> and the wider community (e.g., violence).<sup>117</sup> A previous United Nations survey found that NZ had the one of the highest levels of ecstasy and amphetamine abuse in the world.<sup>118</sup> NZ Alcohol and Drug Use

Survey shows that nearly half of people aged 16–64 years reported they had experience of “any drugs” for recreational purposes in their lifetime,<sup>119</sup> and the social cost of drug-related harms and intervention costs in 2014/15 were estimated as NZ\$1.8 billion. In terms of alcohol consumption, data from the NZ Health Survey show that in 2015/16, 80% of adults reported they had experienced drinking alcohol, 31% reported drinking at least twice a week, and 20% reported drinking alcohol in a way that could harm themselves or others. Among these, hazardous drinking rates were markedly higher in men (27%) than in women (12%). Among drinkers, men drink more daily or weekly and consume more alcohol each time<sup>120</sup>; men are at higher risk of suffering physical assault and violence after drinking,<sup>53</sup> as well as experiencing more deaths from alcohol-related causes.<sup>121</sup> However, comparing data from two previous NZ-based surveys (n = 4232, in 1995, and n = 5113, in 2000) indicated a gender convergence in terms of alcohol consumption and alcohol-related problems: that is, women’s consumption of alcohol moving towards that of men.<sup>55</sup> Ethnic differences

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in patterns of alcohol consumption have also been identified: a survey of 1042 older Māori people found that 41.2% of all participants reported drinking at hazardous levels. Higher rates of hazardous and binge drinking were found in males, current smokers, those with lower social networking scores and those with higher Māori cultural identification scores.<sup>122</sup>

### **Mental health**

Mental health issues such as loneliness and depression can affect either sex.<sup>122</sup> However, it is well noted that men have specific issues with reporting mental health issues. Data from Ministry of Health NZ show that in 2015 and 2016, mental health and addiction services received a total of 171,033 clients: 89,379 (52.3%) were male and 81,654 (47.7%) were female. Those living in the most-deprived areas of NZ are 2.7 times more likely to experience mental ill health compared to people living in the least-deprived areas. McKenzie conducted 15 life-history interviews with NZ men and indicated “*men as less able and less interested than women in building emotional and supportive relationships with others*.”<sup>59</sup> Another survey investigated 217 older men (≥ 65 years) and found that, compared with women, men's social networks are narrower, and most rely on their spouses for social support.<sup>61</sup> Therefore, men are more likely to experience loneliness and associated depression than women, and this disparity may—over time—affect men's quality of life.<sup>123</sup>

Suicide rates reflect wider issues of mental health and social well-being: men's attitude towards their health and their mental health issues has a direct impact on their suicide ideation. The suicide rate for men is three times that of women in NZ; furthermore, among Māori males, the suicide rate was 21.7 per 100,000, 1.4 times that of non-Māori.<sup>124</sup> Meanwhile, compared to Australia, between 2009 and 2013, the suicide rate among NZ men aged 20–24 years (the age group with the highest rate) was 29.7 per 100,000—double the rate of their counterparts in Australia<sup>125</sup> (Figure 9). NZ Māori men have the highest suicide rate among

all ethnicities<sup>126</sup> and genders, which is higher than those of Aboriginal and Torres Strait Islander men from Australia. Hatcher identified the major cause of Indigenous suicide as the lack of sense of belonging: “*Indigenous suicide should really be called the problem of postcolonial suicide*.”<sup>127</sup> This is important to recognise and highlights the need to support indigenous men's sense of belonging by valuing their culture, practices and stories.

Although men are clearly more at risk of suicide, mental health and suicide issues in men seem to not receive the same attention from medical practitioners, partly because of the dominant focus within mental health research on women's higher reported rates of diagnosed mental disorders.<sup>128</sup> Recent studies<sup>129,130</sup> have examined men's social relationships and support in relation to mental health within a gender framework, with specific reference to men's hegemonic masculinity. It is important to recognise that the influence of hegemonic masculinity in terms of the impact of social context, as well as gender stereotypes, may adversely affect help-seeking behaviours, as well as men's health literacy.

### **Health literacy**

Health literacy has been defined in different ways since it was first introduced as a term in the 1970s. A previous systematic review captured 250 different definitions of health literacy and pointed out that there is no single, commonly accepted definition; rather it should be considered within the context of social, environmental and cultural factors.<sup>131</sup> In NZ, the Ministry of Health definition (2010) is as follows:

The capacity to obtain, process and understand basic health information and services in order to make informed and appropriate health decisions.<sup>132</sup>

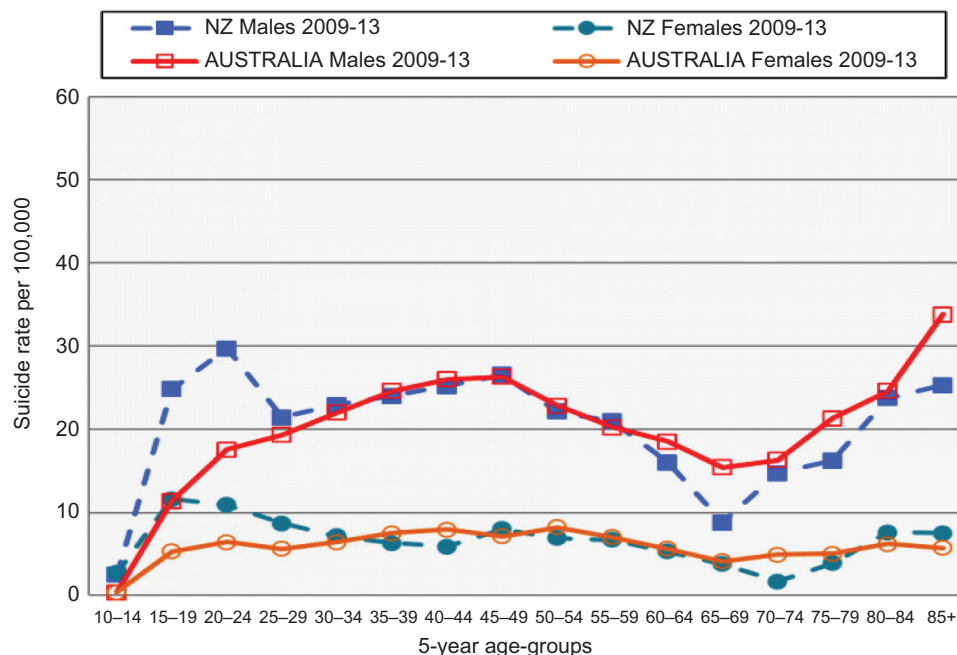
Difficulties with health literacy have been shown to be an independent risk factor for premature morbidity and mortality<sup>133</sup> and is recognised as a prevalent problem globally.<sup>134,135</sup> From the

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**FIGURE 9.** NZ and Australian suicide rates per 100,000 in 2009–2013.

The comparison of suicide rates in NZ and Australia in 2009–2013 of all age groups.

Male suicide rates are significantly higher than women in both countries.

In NZ, there was an initial peak in male suicide rate at age 20–24, double that in Australia.

Source of data: Changes in the age pattern of NZ suicide rates.<sup>125</sup>

Adult Literacy and Life Skills Survey conducted in NZ in 2006, it appears that New Zealanders have poor health literacy skills: more than 50% of adults have some level of difficulties with health literacy, scoring below the minimum required to meet the demands of everyday life and work.<sup>136</sup> Up to 80% of Māori men and 75% of Māori women do not have adequate health literacy, with consequent negative impacts upon health and well-being.<sup>137</sup> Coupled with this is the issue that health professionals have a limited understanding of the importance of health literacy and of the consequences of low health literacy for their indigenous patients.<sup>138</sup> A recent literature review conducted in NZ summarised 33 papers on the issue of health literacy determinants; this showed that inadequate health literacy was linked with low socioeconomic status, lower level of education, non-English speakers and compromised health status.<sup>63</sup> For men's health

literacy, international evidence revealed that men have a lower level of health literacy than women in terms of understanding medical forms and directions on medication and in following the guidance of clinicians.<sup>139</sup> Based on the definition above, health literacy is a capacity or skillset and thus could be improved with the increased engagement of health services. It is also increasingly recognised that the health literacy environment is as important as the individual's health literacy: therefore, improving men's literacy should be matched with efforts to improve engagement by healthcare professionals, hospitals and health-provider organisations and at a higher "systems" level.<sup>140</sup>

## DISCUSSION

The aim of this paper was to review the literature on the salient men's health status in Aotearoa NZ.

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For this, there was a specific focus on men's cancer and CVD, obesity, help-seeking behaviour and masculinity beliefs, unhealthy lifestyle behaviours, mental health and health literacy. Apart from reinforcing other review findings<sup>10,141</sup> showing gender differences in health, it has highlighted that gender inequalities in life expectancy and disease morbidity need to be better recognised in order to improve the health and well-being of NZ men.

### ***Gender health divide***

In comparing relevant data of NZ and other developed countries, the prevalence of major diseases in NZ men mirrors the global picture. Worldwide cancer data showed that there were an estimated 18 million cancer cases around the world in 2018; of these, 9.5 million cases were in men and 8.5 million in women. Meanwhile, 14 years of data from the US National Health Interview Survey indicated that men have higher CVD morbidity and mortality compared to women.<sup>142–144</sup> This is consistent with the situation in NZ and is reflected in screening services: within the health system, professionals start CVD risk assessments for men 10 years earlier than for women in all population groups.<sup>145</sup> International data indicate that in contrast to developing countries, in developed countries, more men are overweight than women.<sup>146</sup> A Swedish study showed that compared to female students, male students had a higher level of overweight and obesity resulting from unhealthy behaviours, were less careful about their diet and health-enhancing activities and drank more alcohol.<sup>147</sup> Correspondingly, in NZ, the adult obesity rate has increased from 27 to 32% in the past decade.<sup>81</sup>

Gender disparities in health levels remain a long-standing concern. The WHO Commission on Social Determinants of Health Report indicated that gender inequalities negatively impact health outcomes for women and girls.<sup>148</sup> Men and boys, in contrast, are regarded as benefitting from male privilege or have advantages and influence in the political and economic spheres.<sup>149</sup> This raises a question: why do such multiple advantages for men

not effectively translate into longer life expectancy and better health outcomes? According to Professor Sir Michael Marmot, Chair of the Commission on Social Determinants of Health, WHO, men's poorer health outcomes are the result of several factors, mostly associated with how men respond to poverty and poor living conditions.

Greater levels of occupational exposure to physical and chemical hazards, behaviours associated with male norms of risk-taking and adventure, health behaviour paradigms related to masculinity and the fact that men are less likely to visit a doctor when they are ill and, when they see a doctor, are less likely to report on the symptoms of disease or illness... health-related behaviours (such as alcohol consumption, smoking or car-driving behaviour) and health risks also show very strong gender patterning, and male suicides are a particularly important issue. (p. 139)<sup>150</sup>

It is important to recognise that health behaviours and health outcomes for men are also determined by cultural, environmental and economic factors associated with the intersection of gender, race, ethnicity, sexual identity and other socially defined identities and group memberships.<sup>151,152</sup> Key social determinants, their interaction and subsequent impact on men's health have also been identified from the international evidence<sup>153</sup>; these are educational attainment, housing, employment, poverty and living arrangements.<sup>154</sup>

### ***Why do men lag in terms of health performance?***

A growing body of international research has also focussed on the potential underlying reasons for why men are more vulnerable than women when it comes to their health. Such gender differences in health outcomes are recognised across lifespans. Overall, child mortality is higher among male children, compared to their female counterparts.<sup>155</sup> This can partly be explained by males being more burdened by illness during early life (chromosomal

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difference) and partly due to boys' delay in physical development and cognitive formation whereby they are more likely to hurt themselves. These negative health effects tend to emerge as boys grow and lead to higher rates of cancer and cardiovascular diseases. During their twenties through to middle age, men access healthcare services infrequently; this can be attributed to an unwillingness to seek help, as it is seen as contrary to concepts of traditional masculinity.

Such unwillingness may be in part explained by the theory of *hegemonic masculinity*, proposed by Australian sociologist Raewyn Connell<sup>156</sup>:

A practice that legitimizes powerful men's dominant position in society and justifies the subordination of the common male population and women, and other marginalized ways of being a man. (p. 77)<sup>156</sup>

Connell emphasises how hegemonic forms of masculinity affect men's behaviour—men regard “not seeking help” as appropriate masculine behaviour, while “seeking help” is regarded as a manifestation of “effeminate fail.”<sup>157</sup> Apart from this, as highlighted by Courtney, men would see themselves as stronger, both physically and emotionally, than most women.<sup>158</sup> Connell's masculinity lens characterises men as stubborn and unwilling to seek help, whilst deeming women as excessively seeking help and accessing medical services.<sup>60</sup> These views are supported by findings by previous NZ-based studies,<sup>46</sup> and they have become commonly cited as an explanatory framework in international men's health studies.<sup>8,159–161</sup> However, the proposal of a central role of hegemonic masculinity on men's health is not without its critics: it has not been a widely held belief by clinical researchers,<sup>162–164</sup> and not all men consider themselves to be reluctant help seekers.<sup>165</sup> For example, as indicated above, more men use mental health and addiction services in NZ than women. In the men's health literature, issues of race, ethnicity, culture, sexual identity and orientation, disability and economic

status are critical determinants of masculinity that men construct.<sup>166,167</sup> For instance, NZ young Pacific male athletes were very willing to seek help for mental distress, whereas older men with prostate cancer displayed negative views of seeking medical help.<sup>49,168</sup> Men of specific population groups create new normative men's health understandings for themselves. Thus, such aspects of intersectionality need to be acknowledged in trying to better understand men's health and health disparities.<sup>169</sup>

Men's poorer health outcomes are also related to the size of their social networks and the extent of their social participation.<sup>170</sup> The consequence of limited social interactions can contribute to increased feelings of loneliness as men age. Lack of friends, children's independence and living status changes—from work to retirement—all add to men's social isolation, which will eventually lead to an increase in men's mortality. The contemporary global COVID-19 outbreak has further exacerbated men's vulnerability, in particular, the disproportionately higher death rate and lower immune response among men compared with women.<sup>171</sup> Whilst biological factors are significant causes of men's higher risk of premature death and serious illness,<sup>172</sup> there are also amplifying factors relating to their lifestyle, risk-taking behaviours, as well as less engagement with healthcare services, and with preventive public health measures.<sup>26,173–175</sup>

### **Gaps in NZ**

Despite such gender inequalities highlighted in the literature, there is limited recognition in NZ of the importance of men's health. The health of men have been studied much less than that of their female counterparts, both in NZ and elsewhere.<sup>176</sup> There is also a comparative lack of focus on men's health issues from NZ governmental ministries and agencies, health research funders or at the wider societal level. While NZ has a Ministry for Women, *Te Minitatanga mō ngā Wāhine* (established in 1984), there is no comparable Ministry for Men. Issues related to men's health have not been the focus of any specific strategies or policies from

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the government, and there is no current guidance or consistency in decision-making about issues that have implications for men's health.<sup>176</sup> In contrast, Australian federal and state governments, and other countries including Ireland, Brazil, Iran and South Africa, have established Men's Health Forums and released national men's health policies to address health disparities.<sup>177–182</sup> To date, the only significant initiative from the NZ government (2008) has been to establish the *Men's Health Innovation Fund* to support community men's health initiatives. It provided approximately NZ\$3,000,000 to support community groups to improve men's health through innovative approaches and establish relevant services in male-dominated workplaces.<sup>176</sup> However, there would appear to be no data on outcomes and impact from this particular initiative.

In NZ, most studies on male health do not distinguish between ethnicities but simply call participants "NZ men." Of note, Māori experience special and additional risk factors that may influence their health, such as neighbourhood deprivation and racial discrimination. In recognition, attempts are being made to address such ethnic inequalities with the development of an NZ framework to ensure that inequalities in health are tackled systematically across all health policies.<sup>183</sup> As part of this, Vision Mātauranga aspires "*to reduce ethnic disparities in outcomes and to support positive Māori health and wellbeing over the life-course*" as one of its four key research themes (Hauora/Oranga, Health/Wellbeing),<sup>184</sup> but there is still little specific attention to Māori males.

Beyond this, health professionals and researchers highlight that there is very little mainstream policy interest in gay men's health in NZ.<sup>185</sup> In contrast, this is an emerging area of policy concern and health promotion activities internationally, in both mainstream and gay-specific settings.<sup>186</sup> As such, gay men's health, including their mental health issues, sexually transmitted infections and social identities, warrants special attention and consideration. Excluding research on gay men and male-specific health conditions is the key limitation of this

review as they can be both be considered men's health research.

### ***Challenges and implications for the future***

Men's health research represents a multidisciplinary area including physiology, sociology, psychology, clinical medicine and epidemiology. Men's health is not simply examining the health status of men. It also includes examining those social and cultural determinants that predominantly affect men's health. As stated by Toi Te Ora Public Health NZ, "*Income, employment, education and housing have considerable impacts on our health; much more than the delivery of health services.*"<sup>187</sup> Understanding the relevance of all of these is important to addressing current inequities, and joint efforts are essential in striving to improve men's health in Aotearoa/NZ.

The findings of this literature review highlight both challenges and opportunities, which may also inform the development and implementation of a Men's Health Policy for Aotearoa New Zealand. It has been suggested that the development of relevant policies should focus on three areas: school—so that boys and young men can develop the correct mindset around "masculinity" and their health, workplace—to guarantee health and well-being, especially of middle-aged men and marginalised men—men from minority populations, men living in poverty areas and men who have sex with men to ensure that all can enjoy equal health and equal access to health services.<sup>188</sup> We further suggest that equal focus should be given to uneducated boys and unemployed males. Beyond this, we also suggest that social circumstances need to be fully considered when formulating any future Men's Health Policy. Thus, identifying social and cultural determinants of men's health should be seen as a cornerstone for future studies.

NZ literature on men's health did not cover social and cultural determinants of health, and most of the literature available on these issues did not focus on health disparities among men. Thus, targeted research programmes are necessary to improve men's health in NZ. For future research

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programmes, the challenge is in increasing men's awareness of health issues, improving their health literacy and addressing the nature of the dominant male identity. Researchers should start with understanding how men conceptualise health and how they think about their health using qualitative approaches. Thereafter, more comprehensive studies with quantitative data will be needed to investigate social determinants and risk factors of men's health in the NZ context, with the focus on more subgroup elements including gender inequalities. Following this, interventions should be developed first and foremost to meet the needs of those men who currently experience the poorest health, with consultative and participatory processes being an essential element to such development. Future research should also focus on ethnic differences in NZ men's health, acknowledge that the attitudes and cultural frameworks of men of different ethnicities impact their health and suggest corresponding interventions that are culturally appropriate. Furthermore, globally, the development and the focus of Men's health research in NZ should draw on the experience of other countries with similar circumstances across the region. The Western-Pacific Regional Office of WHO and Global Action for Men's Health (GAMH) have recently advanced the collaboration in terms of the epidemiological, socio-economic and political opportunities and challenges facing men's health.<sup>189</sup> This will position concrete and practical references for ways forward with respect to developing future strategies of men's health in NZ.

Although there is still a relative lack of research on men's health, clinicians and health researchers are becoming more aware of the importance of men's health. In NZ, the Ministry of Health has launched a men's health website aimed at "encouraging men to be more aware of their prostate health and to access healthcare"—[www.kupe.net.nz/](http://www.kupe.net.nz/). To support developments in this area, we have also established the NZ National Centre for Men's Health to support developments in this area—[www.otago.ac.nz/mens-health](http://www.otago.ac.nz/mens-health).

## CONCLUSION

This paper has provided an overview of research on the main issues affecting men's health in NZ. In particular, it has highlighted a range of evidence that health indicators and outcomes among men are worse than those in women. Despite this, men's health has not yet received significant attention from the government and research funders.

With respect to NZ men, cancer and CVD are the main causes of death. Obesity and overweight have maintained a high incidence in the past decades. Issues around help-seeking behaviours and hegemonic masculinity have represented important areas for research. Unhealthy lifestyle behaviours such as smoking, harmful drinking and risk-taking are regarded as predominately men-specific health issues. Improving health literacy—how men think about their health and how much they know about their health—is also key to supporting men in maintaining their health. These important topics related to men's health found in this review are worthy of more in-depth discussions in the future.

Overall, research on men's health is still developing. Taking into consideration gender differences in many aspects of health, men for the most part have poorer health and outcomes than women but receive less attention. To fundamentally address men's health issues and reduce gender inequalities, further studies are needed on men's health and what works for men in terms of interventions. Beyond this, more gender-specific policies to improve health are required in NZ.

## DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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