

Inequalities between Māori and non-Māori men with prostate cancer in Aotearoa New Zealand

Richard Egan, Jacquie Kidd, Ross Lawrenson, Shemana Cassim, Stella Black, Rawiri Blundell, Jerram Bateman, John Broughton

ABSTRACT

Māori experience poorer health statistics in terms of cancer incidence and mortality compared to non-Māori. For prostate cancer, Māori men are less likely than non-Māori men to be diagnosed with prostate cancer, but those that are diagnosed are much more likely to die of the disease than non-Māori men resulting in an excess mortality rate in Māori men compared with non-Māori. A review of the literature included a review of the epidemiology of prostate cancer; of screening; of access to healthcare and of treatment modalities. Our conclusion was that there are a number of reasons for the disparity in outcomes for Māori including differences in staging and characteristics at diagnosis; differences in screening and treatment offered to Māori men; and general barriers to healthcare that exist for Māori men in New Zealand. We conclude that there is a need for more culturally appropriate care to be available to Māori men.

Prostate cancer is a major health concern globally. In 2015, prostate cancer was the most common incident of cancer in men, with an estimated 1.6 million cases worldwide, and fifth most common cause of cancer deaths for men, with an estimated 366,000 deaths worldwide.¹ Prostate cancer incidence varies more than 25-fold worldwide, with Australia/New Zealand having the highest age-standardised rates at 111.6 per 100,000.² In Aotearoa New Zealand, prostate cancer is the most commonly registered cancer, with 3,129 cases in 2013, and third most common cause of cancer death, with 647 deaths in 2013.³

Māori are the tangata whenua (Indigenous people) of New Zealand, with 16.5% of the country's population identifying as being Māori, while 64.1% identify as European, 15.1% Asian and 9.1% Pacific peoples.⁴ The condition of Māori health is complex. It involves an interplay of social, economic and political factors, preceded by colonial

history and land confiscations that resulted in a dispossession of language, identity and self-determination.⁵ The contemporary reality of Māori includes societal racism that permeates the health sector at all levels and manifests as inequitable access, treatments and outcomes across most major illnesses.^{6,7} Institutional and interpersonal racism and discrimination are significant contributing factors to Māori health inequalities.⁸⁻¹¹ Māori respondents in the New Zealand Health Survey (1996–7 and 2002–3) reported not visiting a GP, making fewer visits per year to see a GP or being sick enough to warrant seeing a GP but failing to do so.¹² A study by Jansen et al in 2011 found that Māori were less likely to see the GP they wanted, when they wanted and are offered fewer appointment options.¹³ Even when Māori reported urgently needing to see a GP, Crengle et al found that GPs spent less time with them during the consultation, ordered fewer tests and made fewer referrals in comparison to non-Māori.¹⁴

Timeliness and access to healthcare are fundamental to improving the health inequities for Māori men. Vulnerable patients, including Māori, have fewer appointment options, further exacerbated if GP practices have rigid rules and restrictive hours of operation.^{15,16} 'Access' may include the broader healthcare systems that operate at the structural, clinical and patient levels, which, for cancer patients, is shaped by interaction between and across all of these levels, and is generally facilitated through GP practices.¹⁷ Therefore, the concept of *whanaungatanga* (rapport and relationship) is crucial to information sharing and care. Māori are less likely to access GP services where the fundamentals of *whanaungatanga* have not been established.¹⁷ Mastering the fundamentals of cultural engagement with Māori men, particularly for health professionals of other ethnicities, will go some way to achieving equitable health outcomes or reduce the inequities.^{18–20}

Consequently, Māori, like many Indigenous peoples around the world, experience the poorest health statistics in terms of cancer incidence and mortality when compared to non-Māori.²¹ Prostate cancer is no exception, with Māori men disproportionately impacted in the New Zealand context.

This paper aims to examine the current knowledge as to the nature and cause of the disparities in prostate cancer mortality for Māori and identify opportunities for eliminating the demonstrated inequity.

Epidemiology of prostate cancer in Māori men

Prostate cancer is the second most common cause of cancer death for New Zealand men.³ Although the incidence rate for Māori men being diagnosed with prostate cancer is lower than non-Māori men (RR 0.80, CI 0.73–0.88),³ Māori men had a prostate cancer mortality rate over 1.5 times that of non-Māori men (RR 1.51, CI 1.25–1.83).²² Māori men newly diagnosed with prostate cancer are significantly more likely to die of the disease compared to non-Māori men.^{23–25} In 2011, the age-standardised registration rate of prostate cancer for Māori men was lower than that for non-Māori men (81.4 per 100,000 vs 99.0 per 100,000). In comparison, the age-standardised prostate cancer mortality rate for Māori was higher than that for non-Māori

(22.1 per 100,000 vs 16.2 per 100,000 men).²⁶ In 2013, the gap in the age-standardised registration rate of prostate cancer between Māori men and non-Māori men was smaller than in 2011 (91.8 per 100,000 vs 96.3 per 100,000), but the gap in the age-standardised prostate cancer mortality rate between Māori men and non-Māori men was much wider than 2011 (25.1 per 100,000 vs 17.1 per 100,000 men).³

Staging and characteristics at diagnosis

Previous New Zealand studies indicate that information on cancer staging is critical in order to identify reasons for ethnic disparities in survival and to aid decision making for the management of prostate cancer.^{25,27–29} However, information on survival based on stage for men diagnosed with prostate cancer is rarely reported at a national level in New Zealand.²⁹ The data on prostate cancer staging in the New Zealand Cancer Registry (NZCR—a national collection of all cancer registrations in New Zealand) is incomplete, with approximately 75% of prostate cancer registrations having disease extent at diagnosis recorded as 'unknown'.²⁵

A study carried out in a single urban population in New Zealand concluded that Māori men seem to present with a higher proportion of palpable disease than non-Māori (67.2% vs 53.3%).¹⁶ On a regional scale, a recent study carried out in the Midland Region of New Zealand indicates that Māori men have a lower proportion of localised prostate cancer, and a higher proportion of metastatic disease than non-Māori (19.1% of Māori men with metastatic prostate cancer vs 9.8% for New Zealand Europeans).²⁹ In terms of survival, Māori men with locally advanced prostate cancer were more likely to die than non-Māori men; however, in this relatively small study there was no significant difference in survival rate for men with localised or metastatic prostate cancer between the two ethnic groups.²⁹ In contrast, the analysis of NZCR data by Obertova et al found Māori men with distant metastases at diagnosis were 1.32 times more likely to die of prostate cancer than non-Māori men, irrespective of factors such as age, time of diagnosis and socioeconomic status.²⁵ Additionally, comorbidities can affect a patient's life expectancy and treatment.³⁰ In a 2016

study, the proportion of Māori men having at least one comorbidity was higher (70%) than that of New Zealand Europeans (52%).²⁹ Disparities in survival and the detection of localised versus metastatic disease could also be attributed to differences in screening, referral and treatment between Māori and non-Māori men.^{25,29,31}

Screening and treatment

Screening for prostate cancer in New Zealand general practice began in the 1990s and currently almost 30% of men aged over 40 are tested each year and 45% of men aged 65–75 years of age.³² Prostate cancer screening is well recognised in leading to over diagnosis.^{33,34} PSA testing in general practice is principally opportunistic screening initiated by general practitioners with few screening tests initiated by patients.³⁵ General practitioners (GPs) in New Zealand are half as likely to screen Māori men for prostate cancer compared to non-Māori men.^{29,36}

Lower PSA screening rates are a significant factor contributing to lower prostate cancer incidence rates for Māori men.³⁶ Obertova in 2010 noted Māori men were less likely to be screened compared with non-Māori men (Mantel Haenszel (M-H) age-adjusted risk ratio (RR), 0.52 [95% CI, 0.48, 0.56]).³⁶ When screened, Māori men were more than twice as likely to have an elevated PSA result compared with non-Māori men (M-H age-adjusted RR, 2.16 [95% CI, 1.42, 3.31]). However, there were no significant differences between Māori and non-Māori men in the rate of follow-up investigations and cancer detection.

Obertova also found that following diagnosis in a cohort of newly diagnosed men a lower proportion of Māori men were treated with prostatectomy and Māori were almost twice as likely to be treated with external beam radiotherapy (EBRT). Māori men were also more likely to be managed expectantly with watchful waiting or active surveillance.³⁷ These differences in treatment can partly be attributed to higher rates of comorbidities found in Māori men.

Because non-Māori are more likely to be treated with a prostatectomy it was noted that in some cases following surgery the staging of prostate cancer altered from localised (Stage 1 or 2) to locally invasive

(Stage 3) based on the post-surgical pathology. This change in staging is likely to lead to additional treatment such as androgen deprivation therapy (ADT) while Māori being treated with watchful waiting or EBRT would not have this additional staging information and may therefore not gain any benefit from adjunct radiotherapy. Researchers also noted that Māori men rarely received low-dose brachytherapy (LDR), compared to non-Māori.³¹ LDR is only available privately in New Zealand and it is well recognised Māori are less likely to access private cancer treatment.³⁸

Socioeconomic risk factors

Māori experience numerous barriers to healthcare access, diagnosis and treatment in an array of domains, which contribute to the overall disparity in health outcomes. For instance, research suggests that the collateral costs of travel and car parking related to accessing healthcare,¹¹ alongside the indirect costs of whānau carers (eg, time off work) if care is required,³⁹ serve as barriers to accessing healthcare. Up to 15% of Māori adults are also unable to access their medication due to cost.⁴⁰ For instance EBRT is only available in major centres. Thus, patients undergoing this treatment may have to travel frequently to the treatment facility and/or seek accommodation nearby, which may pose barriers in relation to time, finances and/or travel distance. Such factors hold potential implications for Māori men who may be socioeconomically deprived and living in rural locations.

Generally men living in socioeconomic deprivation have a higher prostate cancer mortality.²⁷ Further disparities in PSA screening, cancer diagnosis and treatment management are evident for rural men compared to their urban counterparts.³¹ Again, Māori men are disproportionately disadvantaged in these contexts as they are more likely than non-Māori men to live in socioeconomic deprivation, and more likely than non-Māori men to be living in small towns and rural areas.⁴⁶ Other environmental and biological risk factors such as age, smoking, body weight, diet (and cooking methods), exercise and the higher rate of PSA in Māori men have been posited as reasons for prostate cancer outcome disparities.^{9,47,48} The available evidence suggests,

however, that it is more differences in stage at diagnosis and treatment rather than differences in environmental and biological risk factors, that are responsible for the worse survival rates in Māori men.⁴⁹

Furthermore, poor health literacy not only relating to prostate cancer symptoms, but also the cultural health literacy of the health system itself, poses a barrier to Māori men seeking appropriate care.^{43,49–51} When health professionals fail to establish rapport, use good communication or share timely and appropriate information, particularly following prostate cancer testing, this may heighten men's experiences of stress and fear.⁵² In the context of Māori men and health service provision in particular, issues relating to *whakamā* (to be ashamed, embarrassed) such as dignity, shyness, not wanting to draw attention to one's self and the perception of receiving value from the provider contribute to poor health outcomes for Māori men.²⁰

Overall, research indicates that New Zealand is lagging behind its nearest neighbours in Australia to improving prostate cancer diagnosis, treatment and avoidable deaths.^{21,53,54} This is particularly concerning for Māori men, as they are disproportionately impacted in the New Zealand context.

Opportunities for equity

Healthcare service provision generally relies on building health literacy in patients and communities to overcome disengagement from services. However, in order to achieve health literacy and active participation in health decisions for Māori men and their *whānau*, health services must value the importance of being Māori.^{20,55} Health professionals need to endeavour to re-engage Māori men and their *whānau* by challenging the inherent racism, as outlined in the discussion above, that contributes to the prevalent limitations of health services.²⁰ A recent study²⁰ highlighted that when working with Māori men there are gaps in service capacity to understand the Māori view of health, the impacts of generations of economic deprivation and racism, the drivers of health-seeking behaviour, service accessibility, the importance of *whānau* support and the overall need for

Māori-focused services.²⁰ Such gaps are also well represented in the broader corpus of Māori health literature.^{11,56–58} We argue that these factors must shape future research and service initiatives that purport to improve Māori health equity. Addressing the unacceptably high Māori mortality rate in prostate cancer requires targeted anti-racism interventions at specific high-risk points in the treatment pathway. These high-risk points include diagnosis, which requires, for example, an equity-focused review of opportunistic screening to address earlier diagnosis for Māori. Further, many of these equity concerns are raised by the Prostate Cancer Taskforce (2012), where they suggested the need to “Get access to and quality of prostate care right for Māori and we get it right for all. It doesn't work the other way around”.⁵⁹

Conclusion

While Māori are less likely to be diagnosed with prostate cancer, they are significantly more likely to die from this disease. Most of the disparity is due to the later stage at diagnosis for Māori men and ethnicity-based differences in treatment. In order to address these disparities and eliminate the inequity for Māori there needs to be several systemic factors addressed. Some include the impact of wider social determinants such as generations of economic disadvantage for *whānau*, meaning that access to general practice is a barrier. The differences in screening rates for Māori men appear to be due to general practitioners being less likely to screen Māori men. While this can be partially addressed through providing Māori men and their *whānau* with better information on prostate cancer screening to equip them to self-advocate, it is essential to address racism that contributes to inequitable outcomes for Māori men. Finally, further equity-focused research is urgently needed to investigate the relationship between the differences in treatment and outcomes for Māori, and what the impact of comorbidities is on treatment and cancer outcomes. We conclude that there is an urgent need for more culturally appropriate care to be available to Māori men affected by prostate cancer.

Competing interests:

Nil.

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Author information:

Richard Egan, Department of Preventive & Social Medicine, Te Tari Hauora Tūmatanui, Dunedin School of Medicine, Te Kuri Hauora O Ōtepoti; University of Otago, Te Whare Wānanga O Otago; Ross Lawrenson, Waikato Medical Research Centre, Waikato Hospital Hamilton; Waikato Medical Research Centre, University of Waikato, Hamilton; Jacquie Kidd, Nursing, Auckland University of Technology, Auckland; Shemana Cassim, Waikato Medical Research Centre, University of Waikato, Hamilton; Stella Black, School of Law Auckland, University of Technology, Auckland; Rawiri Blundell, Manager Māori Health, Pinnacle Midlands Health Network; Jerram Bateman, Te Tari Hauora Tūmatanui, Dunedin School of Medicine, Te Kuri Hauora O Ōtepoti; University of Otago, Te Whare, Wānanga O Otago; John R Broughton, Department of Oral Diagnostic and Surgical Sciences, Faculty of Dentistry; Te Tari Hauora Tūmatanui, Dunedin School of Medicine, Te Kuri Hauora O Ōtepoti; University of Otago, Te Whare, Wānanga O Otago.

Corresponding author:

Dr Richard Egan, Department of Preventive & Social Medicine, Te Tari Hauora Tūmatanui, Dunedin School of Medicine, Te Kuri Hauora O Ōtepoti; University of Otago, Te Whare Wānanga O Otago, Dunedin.
richard.egan@otago.ac.nz

URL:

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