

Equity by 2030: achieving equity in survival for Māori cancer patients

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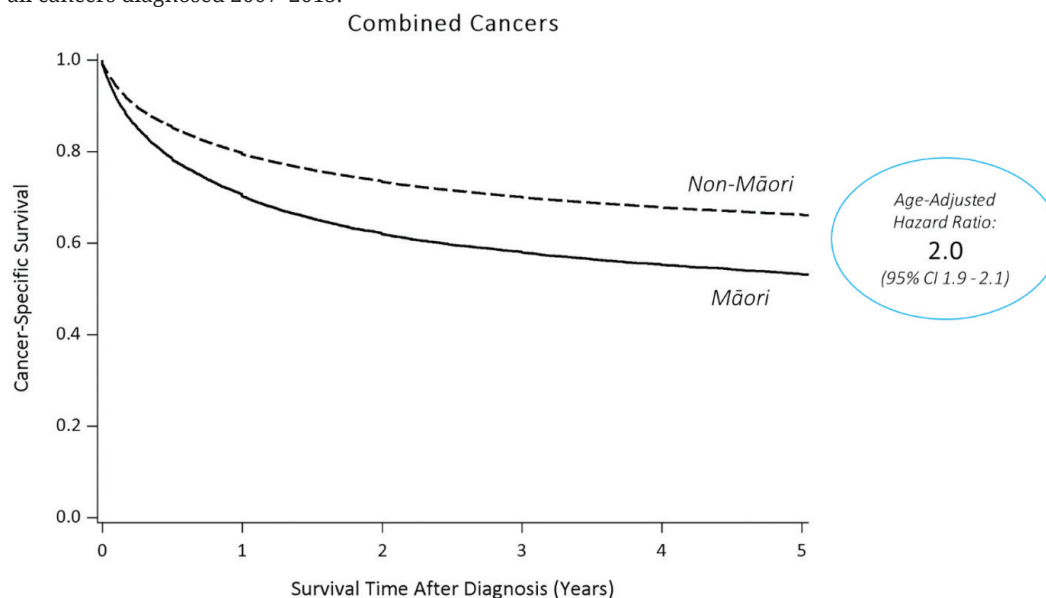
ABSTRACT

Māori diagnosed with cancer are more likely to die—and to die sooner—than non-Māori with cancer. If we accept that these inequities are unfair and avoidable, then we need a well-resourced and focused approach to eliminating them for Māori. Closing this gap will require significant action and sustained resourcing; but first, it requires an aspirational objective to enable collective ownership and navigation. At the Cancer Care at a Crossroads conference held in Wellington in early 2019, the wider cancer sector accepted a tabled goal: to achieve equity in cancer survival for Māori by the year 2030. In this viewpoint, we provide rationale for this goal, provide some recommendations for how it might be achieved, and address its likely criticisms.

The recent Cancer Care at a Crossroads conference, jointly convened by the University of Otago and Cancer Society of New Zealand, brought together leaders from across the cancer spectrum. A recurrent theme across the conference—as well as at the workshops held by the Ministry of Health immediately following it—was the urgent need for the New Zealand health system to strive for equity in cancer incidence, mortality and survival for Māori.¹

With respect to survival, the urgent need for action is driven by strong and enduring evidence of disparities between Māori and non-Māori New Zealanders in terms of survival following a diagnosis of cancer. Māori diagnosed with cancer are more likely to die (and to die sooner) than non-Māori with cancer.^{2,3} Figure 1 shows the extent to which five-year cancer-specific survival differs between Māori and non-Māori for all combined cancers

Figure 1: Five-year Kaplan-Meier curves, comparing Māori and non-Māori cancer-specific survival for all cancers diagnosed 2007–2015.



between 2007–2015; after adjusting for age, Māori patients are twice as likely to die of their cancer than non-Māori patients.

The factors that drive this survival disparity are numerous and varied. In Figure 2, we present a framework for understanding the proximal factors that are likely to be driving this disparity, separated into patient factors and health system factors. It is important to note that these factors are ultimately driven by upstream determinants, including colonisation, historical traumas and institutionalised racism—operating through complex pathways resulting in higher levels of poverty, unemployment, adverse housing conditions and other more proximal drivers of poor outcomes among Māori.^{4–7} While these upstream determinants are ultimately responsible for inequities in health outcomes for Māori, it is useful to focus on the proximal (eg, system-level) factors in order to specifically focus on addressing inequities in cancer survival.

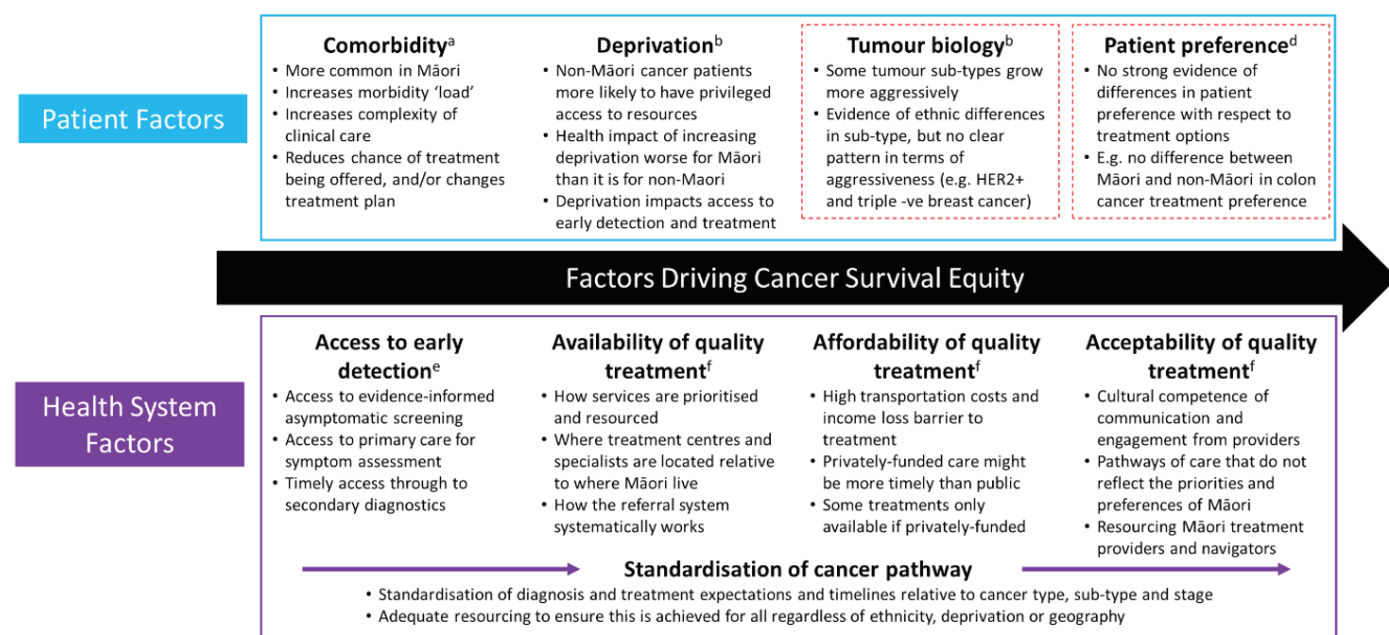
As highlighted in Figure 2, a crucial proximal driver of cancer survival is access to and through cancer services, from early diagnosis through to best-practice treatment and support; and it follows that disparities in access along this continuum will result

in disparities in outcomes.¹² In the presence of finite resources, our services have been moulded over time to achieve the greatest outcomes for the greatest proportion of patients—which means that our system operates in a way that favours our majority New Zealand European population. It is therefore somewhat unsurprising that a system designed to suit the majority might be complicit in driving inequitable outcomes for the minority. If we accept that inequities are unfair and avoidable, then we need a well-resourced and focused approach to eliminating these inequities for Māori. Closing this gap will require significant action and sustained resourcing; but first, it requires an aspirational objective to enable collective ownership and navigation.

What is our goal?

At the Cancer Care at a Crossroads conference, the sector widely accepted a tabled goal to achieve **equity in cancer survival between Māori and non-Māori New Zealanders by the year 2030**. This goal was tabled and discussed at the conference following a panel of Māori cancer leaders, who reviewed the history of cancer control in New Zealand and its impact on Māori and also discussed survival inequity, racism and Māori models in cancer care.

Figure 2: Framework highlighting the proximal factors driving disparities in cancer survival between Māori and non-Māori.



Boxes with dashed lines indicate factors with limited or conflicting evidence.

^aSarfati et al., 2016. ^bWoods et al, 2006. ^cLawrenson et al, 2017 and 2018. ^dHill et al, 2013. ^eWHO, 2017; Jeffreys et al, 2009. ^fMeheus et al, 2019.¹⁵

Setting a 2030 deadline is aspirational; however, that does not mean it is not realistic. Firstly, setting a target requires that we reliably **measure** and report equity in cancer survival between Māori and non-Māori. In doing so, we acknowledge the survival gap exists, and demonstrate the extent of the problem. Secondly, setting a time target in the near future highlights that resolving this disparity is urgent, and enables us to **benchmark** our progress toward this objective as we go—indicating whether efforts to resolve the disparity are being effective, or whether greater effort is required. It also places **accountability** on Government and the wider sector to achieve the objective within a finite timeframe, rather than some unspecified future point. Finally, a timeframe encourages us to band together and **do something now**—not to allow our focus to be drawn elsewhere, but rather to begin to take the steps required to achieve this goal.

How are we going to get there?

It is imperative that the actions taken to achieve equity in survival for Māori must focus on the system, not the individual. Evidence on disparities in cancer outcomes in New Zealand all support the contention that they largely arise from systems failure, rather than on actions (or inactions) on the part of individuals.¹² It is also worth noting that there is no one correct approach to addressing disparities in survival, and that efforts will necessarily be multi-faceted. The recommended areas of action below should be considered a starting point; many other actions are possible and necessary to achieve this goal. The likely criticisms of these actions, and the Equity by 2030 goal more generally, are addressed in the Appendix.

Patient factors

As noted in the framework presented in Figure 2, there are multiple patient-level factors that likely contribute to the inequities in cancer survival experienced by Māori. These patient-level factors are strongly related to the environmental and structural contexts within which people are living—contexts that tend to differ significantly between Māori and non-Māori New Zealanders. Socioeconomic status, relative deprivation, education and health literacy are all factors for which non-Māori New Zealanders (particularly the majority New

Zealand European population) tend to be at a substantial advantage compared to the Māori population.

One of the consequences of these high-level factors is that more advantaged groups generally tend to have lower rates of many long-term conditions. This means that more disadvantaged groups who develop cancer are also more likely to have co-existing conditions, or comorbidities. As highlighted in Figure 2, comorbidity increases morbidity load on the patient, increases the complexity of clinical care and reduces the likelihood of the patient being offered best-practice treatment for their cancer. Māori cancer patients are more likely to have comorbidity than non-Māori cancer patients: for example, 26% of Māori stomach cancer patients have diabetes mellitus compared to 15% of non-Māori patients,¹⁶ while 51% of Māori liver cancer patients have hypertension compared to 25% of non-Māori patients.¹⁷

This appears to be an untenable problem that can only be circumvented by preventing comorbidity in the first place (an important objective). However, of more immediate consequence to achieving equity in cancer survival by 2030 is the striking evidence that there is systematic under-treatment of cancer patients with comorbidity—and that if treated, those with comorbidity have better outcomes.¹⁸ The key implication of this is that the reticence to treat patients with comorbidity for fear of doing harm is leading to a systematic under-treatment of Māori cancer patients. Sarfati et al¹⁹ examined receipt of adjuvant chemotherapy among colon cancer patients with Stage III disease (for whom this therapy is generally indicated), and found that nearly 85% of those without comorbidity (Charlson score: 0) received this chemotherapy compared to only 19% of those with severe comorbidity (Charlson score: 3+). However, the authors also found that giving chemotherapy to the group with the most severe comorbidity reduced their excess mortality compared to those without comorbidity by 66%.¹⁹ In a study of patients with TNM stage I-III liver or stomach cancer, adjusting for differences in the comorbidity burden between Māori and non-Māori patients accounted for a third of the survival difference between the two groups (cancer-specific age, sex, site and stage-adjusted hazard ratio, 1.33; plus comorbidity, 1.23).²⁰

To facilitate an understanding of a treatment gap, we must have an ability to measure treatments received according to cancer stage. This requires renewed investment in information systems and data collection to ensure accuracy of stage at diagnosis (further expanded on below), and of treatment received. Combined with ethnicity and comorbidity data, these data can help us to understand more about the extent to which cancer patients with comorbidity are being undertreated in New Zealand. This analysis will not be straightforward, but will result in a clearer understanding of the extent to which our survival disparity is being driven by systematic under-treatment of Māori due to comorbidity. The very generation of this evidence will help inform clinicians about the impact of treatment on patients with comorbidity, and over time would result in improvements in care. Perhaps most crucially, we need to resource our system to provide the integrated and well-coordinated services that would be required to maximise the safety of treating patients who might previously have been overlooked for treatment, rather than the present single-discipline focused approach.⁸

An additional patient factor that may contribute to survival disparities between Māori and non-Māori is differences in the biology of tumours typically experienced by these populations. There is some evidence from the breast cancer context that Māori and Pacific women are more likely to have HER2+ breast cancer than non-Māori/non-Pacific women.^{10,11} However, the same study observed that Māori and Pacific women are also less likely to have triple-negative breast cancer, which has a poorer prognosis than other forms of breast cancer—with the authors noting that any differences in tumour biology between Māori and non-Māori are likely to have a marginal contribution to survival disparities. Research into any discovered differences in patterns of disease could also be valuable at a biological level in terms of understanding cancer aetiology.

Early diagnosis

There are three key areas of action that need to occur with respect to early diagnosis: 1) ensuring good stage data, 2)

ensuring barriers to early diagnosis and access to primary care are addressed and 3) ensuring equitable screening programmes.

Ensuring good stage data

There is evidence that, for some cancers, Māori are more likely than non-Māori to be diagnosed with more advanced disease, including lung, breast, prostate and cervix.^{2,21,22} By contrast, for several cancers—including those for which survival outcomes are poorer for Māori, such as stomach, liver, kidney and ovarian cancers—there is some evidence that there is no difference between Māori and non-Māori in terms of stage of disease at diagnosis.^{2,16,17} However, there are limitations to the data upon which many of these observations have been made—limitations driven by the way in which staging data is collected and reported nationally, which result in a large proportion of cancers remaining unstaged on our cancer registry.²³ Such limitations will need to be overcome as a matter of urgency (at least for our priority cancers, but more systemically over time), which will require initiatives such as facilitation of centralised reporting of clinical staging data. Such initiatives are currently underway at the Ministry of Health.

Ensuring barriers to early diagnosis and access to primary care are addressed

Outside of screening programmes, early detection of cancer often occurs within primary care—meaning that achieving equitable access to affordable and acceptable primary care services is important for achieving equitable early detection for Māori.⁴ There is evidence that Māori are more likely than non-Māori to have their cancer detected following symptomatic presentation to a hospital emergency department²⁴—indicating disparities in access to earlier symptom detection in primary care. The current government has increased subsidies to general practice in order to reduce consultation costs to patients, with the aim of improving access to primary care. However, the fact that general practice is not free at point of delivery is likely to remain a barrier for some patients.

Addressing barriers to accessing high-quality primary care for Māori patients includes initiatives that increase whānau awareness about cancer and facilitate

empowered engagement with primary care (eg, the *Kia ora E Te Iwi* programme). At a systems level, building capacity and expertise of Māori primary care providers and their models of care will also cut-through the cultural barriers that may be preventing equitable access to and through primary care services.

Additional initiatives to improve early diagnosis such as streamlined access to secondary care are likely to benefit all patients, not just Māori. Initiatives such as haematuria or rectal bleeding clinics, or lung fast track clinics for abnormal chest x-rays are used in many but not all centres. Having clear pathways for high-risk symptom clusters could facilitate earlier detection. An equity-focused approach would involve initially focusing on improving early diagnostic pathways for symptom clusters related to disease types prevalent in Māori.

Ensuring equitable outcomes in current screening programmes

Improving access to screening will increase the proportion of cancers detected at an early stage and will inevitably lead to an improvement in cancer survival. Encouragingly, recent data have demonstrated that Māori women diagnosed with screen-detected breast cancer have the same clinical outcome as non-Māori, highlighting that equity can be achieved following diagnosis, and reinforcing the need to achieve screening parity (these findings are further discussed later).²⁵ Recent improvements in access equity have been observed for the BreastScreen Aotearoa programme, with Māori participation at 65% as of 2016; however a further 3,063 Māori women aged 50–69 need to be screened each year just to achieve the same screening rate as the New Zealand European population.²⁶ Given the number of Māori women who die each year of breast cancer—combined with the fact that Māori breast cancer patients are more than 40% more likely to die of their cancer than European/Other patients²—continual improvements in breast screening access for Māori (beyond just achieving screening rate parity with New Zealand European women) must be sought. Practical advice for achieving this is provided in the latest BreastScreen Aotearoa Programme Monitoring

Report.²⁶ Our burgeoning bowel screening programme is certain to save Māori lives, but must also take lessons from BreastScreen Aotearoa and elsewhere to maximise Māori access to the programme and through subsequent diagnostics and treatment.^{27–29} Encouragingly, some centres have achieved equitable screening rates between Māori and non-Māori, again highlighting that equity is achievable with sustained and focused efforts. The incorporation of a self-testing option for HPV screening is a positive initiative that may result in improvements in HPV screening access for Māori³⁰ (currently 64% of women aged 25–69 compared to 81% for New Zealand European³¹); although it should be noted that cervical cancer is not among the biggest cancer killers of Māori.²

Beyond our current screening programmes, we must consider the practicality and net benefit of other targeted screening options. For example, if we agree that lung cancer is a priority in terms of addressing survival equity, then we must begin to consider what characteristics a targeted lung cancer screening programme might have—including what the downstream ramifications of such a programme are, not least of which will include an assessment of surgical, radio-oncological and pharmaceutical capacity and availability. Such a programme would need to minimise operational costs and maximise screening participation among Māori in order to maximise effectiveness. A pilot lung cancer screening study is currently in development in the Auckland region, with the findings of this pilot study potentially crucial to the future of lung cancer screening in New Zealand.

Consistent, high-quality care

Achieving consistent, high-quality care involves multiple steps along the cancer care pathway, from early detection (which includes primary care and screening access); timely best-practice treatment with clear guidelines and tumour standards (secondary and tertiary services); high-quality data collection, analysis, reporting and feedback mechanisms; and wrap-around services to ensure patients and their whānau are economically and emotionally supported throughout the journey (which includes partnership with NGOs). Presently, evidence

in colorectal cancer demonstrates that Māori experience inequities at multiple points along the treatment pathway, which may also be true for other cancer types.³³ Therefore it is evident that a suite of interventions will be required to achieve treatment equity, underpinned by careful monitoring. Radiation treatment is already only provided at six public cancer centres, and other complex services and treatments are being provided centrally or at a few centres. These are invariably located in metropolitan centres, which means that rural communities may be structurally disadvantaged from accessing certain treatments. The impact of this must be monitored and mitigation strategies such as transport and accommodation assistance will need to be provided appropriately, and in a form that meets the needs of Māori communities.

Setting equity-focused treatment guidelines, monitoring them, and improving the system

As recently recommended by a group of world experts convened by the International Agency for Research on Cancer (IARC): *"...progress in reducing social inequalities in cancer outcomes should be monitored, regularly reported on and used to introduce improvements"*.³⁴ Our sector, led by the Ministry of Health, are currently developing tumour standards and indicators of quality of care for a number of key cancers (including bowel and lung), with additional pan-cancer standards and indicators that will overarch all tumour groups. These standards and indicators provide an opportunity to incorporate specific factors that indicate equity in access to best-practice standards of care, which can then be monitored over time to assess progress toward equity. This important opportunity could be missed if a clear pathway for quality improvement does not follow monitoring, or if quality improvement efforts are ad hoc. Again, strong central leadership will be required.

In the context of inequities in survival outcomes between Māori and non-Māori cancer patients, standardisation of access to best practice care matters. Māori women with breast cancer have poorer survival outcomes than European/Other women with breast cancer;² however, it has recently been reported that Māori women who

are diagnosed with their cancer through the BreastScreen Aotearoa screening programme have the same (if not better) survival outcomes as non-Māori women diagnosed through the programme.²⁵ The drivers of this significant achievement are likely to be multifaceted; but the most likely central driver is standardisation of the clinical pathway for patients diagnosed through the breast cancer screening programme, attached to well-organised and well-resourced monitoring and quality improvement processes. We must strive toward achieving this for all tumour streams: setting minimum standards for the level of care that is required in order to achieve the greatest possible survival benefit, and then ensuring that all New Zealanders have equal access to that standard of care. Taking this approach, while simultaneously collecting good data and making adjustments to system structure and resource as required, is a crucial means by which we will be able to achieve survival equity for Māori.

In order to achieve survival equity we must do whatever it takes to ensure that Māori have equitable access to and through best-practice cancer services. This will require a flexible and innovative cancer services system that focuses on patient and whānau needs, and learns what is required in order to reach and treat them. It will require a commitment from our society to the principal that achieving equity in survival will involve a disproportionate allocation of resources to ensure that we all enjoy the same access to best-practice care. As stated by Reid and Robson, equity *"is an ethical concept...it does not necessarily mean that resources are equally shared; rather, it acknowledges that sometimes different resourcing is needed in order that different groups enjoy equitable health outcomes"*.³⁵ Finally, the achievement of this goal will also require ongoing strong Māori leadership. Whether asserted through individuals or representative groups, Māori must continue to monitor progress toward survival parity and hold the Government to account when inaction is observed or a change in approach is required. As well as providing accountability, Māori leaders in the cancer sector must be enablers of the systemic change required to achieve equitable outcomes for

Māori—from the development of effective solutions to areas of need at various points along the care pathway, to the leadership required to ensure prioritisation and execution of these solutions.

Conclusions

New Zealand stands at the junction of a critical philosophical choice: whether, in good conscience, to accept the existence of preventable inequities in cancer survival for its indigenous population, or to invest whatever resource is required to close the gap. Māori shoulder an inequitable burden of cancer incidence and mortality in New Zealand, which is driven largely by

preventable exposures such as tobacco; but Māori also suffer poorer survival outcomes once they have cancer, which reflects a health system that is working better for some groups of New Zealanders than it is for others. However, this inequity is not inevitable: by taking steps such as understanding and dismantling the barriers to early diagnosis, understanding the extent of under-treatment of patients with comorbidity, and establishing consistent, high-quality standards of care that are enacted without exception, we have the collective power to overcome this problem—and to improve cancer outcomes for Māori, and for all New Zealanders.

Appendix

Addressing criticisms of the Equity by 2030 goal

In the presence of enduring and substantial differences in the likelihood of death following a cancer diagnosis, achieving survival equity for Māori should not be a difficult concept to support. As a society, New Zealanders have a strong sense of fairness; and what we seek here is a commitment to achieving cancer outcomes for our indigenous population that resemble those that are already being achieved by our majority European population, with a reasonable timeframe attached to this commitment in order to incentivise immediate progress.

However, there are some potential criticisms of this goal that are worthy of discussion. Some of these are addressed below.

Criticism #1: Focusing on achieving survival equity for Māori is racist.

Programmes that are directed at eliminating inequities between groups, such as affirmative action programmes in US colleges, frequently attract criticism. There remains reluctance by some to accepting and implementing interventions that are directed primarily toward specific ethnic groups, such as Māori. This approach is often labelled ‘race-based’ or outright racist, since it directs resource and/or opportunity toward one ethnic group over others with the objective of improving outcomes for that one group. Somewhat paradoxically, this approach is often considered to be inequitable—an unfair allocation of opportunity based on a person’s ethnicity. Critics perceive one group as ‘getting more’ than them, with the implication that it is to their own detriment or expense.

However, this view is entirely untenable when we take into consideration two key factors: firstly, the strong patterning of survival inequity by ethnicity in New Zealand, whereby Māori are much less likely to survive their cancer even after adjusting for differences in factors such as deprivation and comorbidity.³⁶ The patterning of survival outcomes observed for Māori provide an important public health opportunity: to understand the factors that are collectively contributing to poorer outcomes for this population group, and then to tackle them. Rather than being racist, initiatives that target Māori cancer outcomes represent a means by which to improve health outcomes for a substantial minority of the New Zealand population—and by improving systems to achieve optimal outcomes for disadvantaged groups, everyone stands to benefit.

Secondly, the importance of The Treaty of Waitangi cannot be understated: our founding document guarantees equal opportunity to our Māori population to participate in partnership with the Crown (including the equal opportunity to good health). The principles of The Treaty require the Crown to take active measures to restore balance in situations where Māori have been disadvantaged;³⁷ there are few better examples of this imbalance than in cancer survival.

Criticism #2: Focusing on achieving survival equity for Māori will leave other disadvantaged groups behind.

Inequity occurs over multiple axes, of which ethnicity is but one. It can be argued that prioritising initiatives that aim to improve outcomes for Māori do so at the peril of other groups, such as Pacific New Zealanders, those of all ethnic groups living in socioeconomic deprivation and those living in rural and/or geographic isolation.

However, taking this view presumes that initiatives aimed at improving outcomes for Māori will not result in improvements for other cancer populations—which they almost certainly will. Just as a rising tide lifts all boats, so too will the initiatives required to achieve survival equity for Māori lead to an overall improvement in care for non-Māori. As mentioned above, achieving survival equity for Māori will require us to set strong minimum standards of care access, and to devote the resource that is required to achieve these standards. It will require us to develop a system that monitors quality of care, communicates more effectively with patients and their whānau, and integrates and coordinates cancer and comorbidity care. It will require us to justify why some patients get treated and other patients do not. In short, when it comes to improving cancer survival outcomes, what is good for Māori is good for everyone.

Criticism #3: In order to achieve equity in cancer outcomes for Māori we should be focusing on prevention, not survival.

Striving for survival equity must be part of wider suite of initiatives, aimed at achieving equity in cancer incidence, mortality and survival for Māori. Achieving equity in cancer *incidence* must be driven by prevention—by renewing our commitment to Smokefree 2025, and taking wider systemic approaches to chronic infections, obesity, alcohol and diabetes control. Achieving equity in cancer *mortality* is entwined with these prevention efforts: even if we were to completely eradicate tobacco from New Zealand tomorrow, we are still likely to observe an inequity in lung cancer mortality between Māori and non-Māori for the next half-century and beyond.

On the other hand, achieving equity in cancer survival is a pressing short- to medium-term objective—one that will be acutely sensitive to systemic change in cancer care priorities, starting with those outlined in this paper. Prevention is, of course, the key to ultimately achieving equity in Māori health outcomes overall: but it will not help us to achieve equity in cancer survival.

Competing interests:

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