

# All the cancer you cannot see

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**L**ung cancer is the leading cause of cancer death in New Zealand with 1,700 deaths each year. More New Zealanders die of lung cancer than of breast cancer, prostate cancer and melanoma combined. Between 2008–2017, lung cancer was diagnosed in 43:100,000 Māori and 13:100,000 non-Māori/non-Pacific New Zealanders; a number we need to keep in mind as we look at the information on lung cancer in this edition of the journal.<sup>1</sup> Since 2019, New Zealand has Te Aho o Te Kahu, the Cancer Control Agency, working with partners to prevent as many cancers as possible, ensure early detection and diagnosis, provide high-quality treatment and care, and identify and address inequities in cancer care and treatments.

Information, defined as data in context, is the engine of any decision. This edition of the *New Zealand Medical Journal* coincides with the start of Hauora Aotearoa, Health New Zealand. Hauora Aotearoa is poised to create a more equitable, accessible, cohesive and whānau-centred system, which will improve the health and wellbeing of all New Zealanders. Here we highlight data of four articles that illuminate different aspects of lung cancer—a cancer particularly difficult to see before it is too late.

Surgeons from Dunedin evaluate their multidisciplinary team meetings across seven years.<sup>2</sup> Sally Harrison and Michelle Kim review the 108 patients who received surgery with curative intent for lung cancer. They report milestones on the journey from referral to specialist service and cancer resection. They choose the endpoint of a successful operation to cure cancer as the entry criteria for this audit. That is a valid approach, gives unambiguous data, and is easily verifiable. It also excludes all the patients who did not make it to curative surgery. With this approach, we cannot tell whether those patients were excluded due to intrinsically incurable cancer, or due to failure of timely diagnosis.

Still, the authors can be congratulated on using the agreed Clinical Quality Indicators of the New Zealand Ministry of Health Faster Cancer Treatment as their audit tool. Applying the Standards of Service Provision for Lung Cancer Patients in New Zealand to the Dunedin cohort who made it to surgery shows that, across five indicators and seven years of data, the Standards were almost never met. Only in 2015 and 2016 did 95% of patients achieve a time of not more than 31 days from their GP referral to their first respi-

ratory specialist appointment. What this means is that the system has failed to deliver what it set out to do. We value the authors' candour in revealing this information.

A trend of concern is that the number of patients who receive a CT-guided or Endobronchial Ultrasound (EBUS) biopsy has been reducing. A further trend of greater concern is the consistently inferior performance for the disadvantaged. Those who live rurally, have a higher deprivation index, or live outside the tertiary centre all have significant delays, and at times loss of the surgical curative option. These modifiable risk factors affect Māori more often than non-Māori. The authors reveal more delays in the treatment of Māori patients, lower performance against Standards for Māori, and a very low number of Māori receiving therapy with curative intent. The authors note that deficits in secondary care and diagnosis at late stage, due to reduced access to general practitioners, may contribute to the 3.5 times excess lung cancer mortality in Māori.

In summary, the Dunedin audit reveals failure of the lung cancer diagnostic system, even for those who were fortunate enough to have their cancer diagnosed and operated on. We strongly suspect these findings from the Southern DHB hold true across the country. We can only hope that the current health reforms, by shifting the focus of care into the community, are able to improve the performance of cancer diagnosis.

This edition contains a further report from surgeons in Hamilton.<sup>3</sup> Damian Gimpel and colleagues present data on the subset of patients who made it through cardiothoracic surgery with curative intent. Once again, that approach excludes those who never made it to surgery i.e., the cancer patient you cannot see. For the clinician, these data carry intriguing information: haemoptysis was a presenting problem in 20% of patients; almost half those who had an incidentally discovered lesion on CT scanning had a normal CXR; and, a growing number of patients come forward to curative surgery after CT surveillance.

In 39% of patients whose lung cancer was detected early enough to offer curative surgical treatment, the detection was incidental. This high rate of incidentally discovered cancer begs the question: what is the real prevalence of curable lung cancer in the community? How high is the number of patients with curable lung cancer, who we cannot see? The incidental can-

cer was not found through systematic screening. The lesions were found in patients who could afford to go to a GP without lung cancer symptoms, and who were offered a CXR or CT scan for some other indication.

The authors argue their data lends support to lung cancer screening. How can we assure in New Zealand that patients with the highest risk of curable lung cancer are being screened? At this stage in the New Zealand political landscape, the development of Hauora Aotearoa and a Māori Health Authority may provide a huge opportunity. We highlight here the importance of HRC-funded work by Sue Crengle and colleagues, who have taken on the challenge of exploring a screening service for patients and their whānau at the highest risk of lung cancer.<sup>4</sup>

In the context of getting services right for all New Zealanders, the viewpoint article on the impact of COVID-19 is important.<sup>5</sup> Jason Gurney and colleagues explore data on the impact of the COVID-19 protection framework on lung cancer diagnosis, diagnostic procedures and surgeries. As one would predict, all three markers fell during the lockdowns through 2020, taking until 2021 to recover. The authors make the important point that recovery of these services lagged in Māori compared to the non-Māori population. Although the numbers are small, and the confidence intervals overlapping, the message is important: a stressed system unmasks systemic racism, by revealing modifiable risk factors, that are adversely weighted towards Māori compared to non-Māori, non-Pacific.

The last paper on this subject in this edition of the *New Zealand Medical Journal* has a more empowering aspect.<sup>6</sup> Vanessa Hammond and Sierra Alef-Defoe explore the impact of outdoor exposure to emissions from domestic heating from wood burners

on respiratory presentations in mid-sized New Zealand towns. They cite a study from Christchurch from the year 2000 that contributed to the council's decision to phase out wood burners. A bizarre aspect of phasing out wood burners in Christchurch was that many of these stoves were sold to residents in mid-sized towns. Ecologically and epidemiologically, such parochial problem solving does not make sense. The authors remind us that domestic heating is responsible for 94% of the town winter PM<sub>10</sub> emissions i.e., 141kg are omitted on a typical winter night by domestic wood burners, 0.9kg from motor vehicles, and 1.1kg from industrial and commercial sources.

The authors are cautious in that they do not imply causation in their cross sectional study. They also address possible confounding. Even so, the observation that respiratory visits to the GPs are more frequent in the elderly, women and Māori actually reveals another modifiable risk factor. Air quality is a modifiable risk factor additional to the smoke-free aim, one that regional councils can improve together with their residents. Better air quality leads to improved respiratory health and reduced lung cancer risk factors in an equitable way for all air-breathing New Zealanders.

New Zealand has some catching up to do with regard to lung cancer survival. It is pivotal to have local data. We thank the editors of the *New Zealand Medical Journal* for publishing local audits and data relevant to tangata whenua of New Zealand. This information is relevant to the plans of Hauora Aotearoa. It might not have been accepted for publication by an international journal. It is great to see motivation of healthcare providers to get it right for all New Zealanders. Having local data, and the political will to refresh the New Zealand health service gives some optimism for the future.

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**COMPETING INTERESTS**

Nil.

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