

Cancer outcomes in New Zealand and other countries: how are we doing?

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How are we doing in dealing with cancer? How can we tell? One way is to compare our performance with other countries. The obvious comparator is Australia. We train our healthcare professionals in similar ways, often in combined programmes, and expect them to perform as well as their colleagues in Australia.

The final line in measuring outcomes of cancer care is the number of deaths. The most recent comparison, for diagnoses in 2014–2018, shows that cancer deaths in New Zealand were 11% higher than those in Australia: 17% higher in women, and 5% higher in men. This comparison takes account of calendar year, age and sex distribution.¹ These differences are virtually the same as those shown

over 20 years ago by a similar study,² despite some improvement in intermediate years.³

The excess deaths in New Zealand are not because there is more cancer: the total incidence of cancer in New Zealand is slightly less than that of Australia.¹ The difference arises because we are not as good at treating cancer.

A simple measure of treatment success is the 5-year relative survival rate; that is, the survival of cancer patients 5 years after diagnosis after accounting for other causes of death. The survival rates in New Zealand are lower than those in Australia for most types of cancer,⁴ as shown in Table 1. The smallest differences are in cancers with very poor survival such as pancreas, and

Table 1: 5-year relative survival rates for cancers diagnosed in 2006–2010 in New Zealand and Australia, for all cancer and top five types by New Zealand deaths.

Cancer site	New Zealand annual deaths, 2008	5-year survival, 2006–2010, %		Difference	
		New Zealand	Australia		
Females: all cancer	4,005	63.2	67.4	-4.2	
Lung	745	10.6	16.5	-6.0	
Breast	618	86.6	89.4	-2.8	
Bowel	580	62.2	67.1	-4.9	
Pancreas	197	4.3	5.6	-1.3	NS
Ovary	184	35.9	43.3	-7.5	
Males: all cancer	4,561	61.3	65.1	-3.8	
Lung	889	8.5	12.6	-4.1	
Bowel	684	60.4	65.3	-5.0	
Prostate	670	90.3	92.0	-1.7	
Melanoma	202	88.2	88.5	-0.4	NS
Pancreas	176	4.7	4.9	-0.2	NS

All differences significant except those shown as NS.
Data from Aye et al.⁴

those with very good survival such as melanoma. These differences have increased over time, as the survival rate in Australia improved more between 2000–2005 and 2006–2010.⁵ The lower survival in New Zealand is even worse in the Māori population.⁶ These differences are also seen in patients diagnosed more recently, in 2010–2014.⁷

One reason for this is that in New Zealand we diagnose cancer later, and so make its treatment more difficult and less successful. For most cancers, the main prognostic factor is the extent to which the cancer has spread when it is diagnosed, summarised as the stage of the cancer. International comparisons of cancer stage need to be very careful to ensure the methods used are truly comparable. The SURVMARK-2 programme has compared staging with great attention to these methods, but only for a few countries and a few cancers. It shows that New Zealand has the most unfavourable stage distribution of the five cancers and seven countries studied.⁸

So why do we have later diagnosis? An international study of primary care in 12 countries or regions has shown that in New Zealand it is more difficult and takes more time for general practitioners to get diagnostic tests done or to get a specialist opinion for a patient with suspected cancer.⁹ For example, 45% of New Zealand general practitioners reported that they could get a referral for a suspected cancer patient within 48 hours, compared to 57% in other countries; average times for a colonoscopy were 9.5 weeks in New Zealand, compared to 7 weeks elsewhere.⁹

New Zealand also has higher rates of cancer diagnosed after an emergency department visit, a situation that indicates a failure of normal primary care. In a study of eight selected types of cancers diagnosed in 2012–2017 in 14 jurisdictions, the proportion with emergency presentation was highest in New Zealand.¹⁰ Emergency presentation was strongly associated with high 1-year mortality.

Improving the management of suspected cancer in primary care is a key element in improving cancer care generally. Patients who have private healthcare have more rapid testing and referral in primary care,⁹ and where it has been assessed—for example, in breast cancer—patients with private care have better long-term survival.¹¹

The management of cancer after diagnosis requires a strong workforce and good resources. A world-wide workforce survey reported 272 cancer cases per “clinical oncologist” in Australia and 525

cases per oncologist in New Zealand;¹² although “oncologist” was defined as a specialist exclusively caring for cancer patients, which will only cover a small portion of the workforce. An Organisation for Economic Co-operation and Development (OECD) report¹³ gives data for 2021 on numbers of equipment units per million population, showing lower levels in New Zealand compared to Australia for radiotherapy equipment (28% lower) and CT scanners (35% lower), but no deficit in MRI or mammography. However, the data are derived partially from questionnaires, and may vary in the definitions, in whether private facilities are included and in other ways.

Access to cancer-specific drugs has had more attention. In 2016, there were 89 cancer medicines publicly funded in both countries, with 35 funded only in Australia, and 13 only in New Zealand.¹⁴ An analysis in 2016 by an independent oncologist and authors from Pharmac concluded that most of the cancer drugs only approved in Australia did not deliver clinically meaningful health gains.¹⁴ However, a 2022 report¹⁵ concluded that 18 targeted cancer medicines for 20 indications, available in Australia but not in New Zealand, would be likely to offer substantial clinical benefit.

Most of these things essentially come down to money. Countries with greater total health expenditure per capita have higher relative cancer survival rates.¹⁶ In a 2019 review of 30 developed countries, Australia was ranked fifth in expenditure and second in survival; New Zealand was 15th in health expenditure and 22nd in survival.¹⁶

If we accept our current level of health expenditure, we could compare ourselves to countries with similar expenditures; however, in the 2019 review we had lower survival rates than the countries closest in total health spending, such as France. We have higher expenditures than the United Kingdom and do a little better in survival rates, but cancer services there are being heavily criticised at present.¹⁷

The comparison to Australia is realistic but challenging: Australia has among the best cancer outcomes world-wide, along with the United States, Canada and the Scandinavian countries.⁷ But it's a comparison we accept for many other aspects of life. If we could emulate the Australian success rates in cancer treatment, we could reduce deaths in New Zealand by some 11%, over 1,000 deaths per year. To do so would require increased investment in health and improvements in both the primary and secondary healthcare systems.

COMPETING INTERESTS

Nil.

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