

The health of New Zealand cardiology: senior medical officer workforce survey

Selwyn P Wong, Martin K Stiles

ABSTRACT

AIM: To quantify the current state of the cardiology specialist workforce in Health New Zealand – Te Whatu Ora.

METHODS: The Cardiac Society of Australia and New Zealand sent a survey to all Health New Zealand – Te Whatu Ora cardiology departments in 2024, requesting information on specialist cardiac staff. Population information was obtained from Health New Zealand – Te Whatu Ora. International comparisons were obtained by website search.

RESULTS: Of 154 Health New Zealand – Te Whatu Ora–employed cardiologists, 119 (77%) were male, and 113 (73%) received cardiology training in New Zealand. Over half were aged >50, 35% >55, including 18% >60 years. Time in current position was 12±9 years and the vacancy rate was 14%. The current ratio of persons per cardiologist is 35,000. In the five districts with the highest proportion of Māori and Pacific peoples, this ratio exceeds the national average: Tairāwhiti 54,000; Counties Manukau 38,000; Lakes 61,000; Northland 52,000; Hawke's Bay 47,000. For cities with cardiac surgery the ratio is 32,000 and without is 46,000. International ratios include: United States of America (USA) 15,000; Canada 25,000; United Kingdom (UK) 40,000 and Australia 25,000 persons per cardiologist.

CONCLUSIONS: Health New Zealand – Te Whatu Ora has an experienced but ageing cardiologist workforce, with many vacancies. Districts with higher Māori/Pacific populations have fewer cardiologists per capita than the national average of 1:35,000, which is similar to the UK, but less than the USA, Australia and Canada.

Cardiovascular disease demand on Health New Zealand – Te Whatu Ora services is increasing. Nationally, the number of first specialist assessment referrals and the wait times for those appointments are rising. This also pertains to cardiology investigations of both outpatients and inpatients (especially cardiac ultrasound and cardiac catheterisation). There is an increasing strain on the workforce that is apparent from collegial discussion. Furthermore, the public hospital health workforce has been of growing concern to clinicians working in the sector for years. Inadequacies were exacerbated by demands and employment patterns during and after the COVID-19 pandemic. Cardiology services face an increasing demand with human resource a major constraint to appropriate service delivery. Hence, the New Zealand Region of the Cardiac Society of Australia and New Zealand (CSANZ) sought to quantify the current state of the workforce in New Zealand.

Methods

In 2024, a survey was sent to each public hospital clinical head (cardiology or department of

medicine) with a request for information regarding their senior medical officer workforce (those vocationally qualified as adult medicine cardiologists). Data requested included demographics and length of service. Department heads were also asked about any vacant cardiologist positions. Similar requests were sent to cardiology nursing leads and cardiac technologists and will be the subject of a separate report. The data from the senior medical workforce are presented in this paper.

Where necessary, additional information was obtained from the CSANZ database, Health New Zealand – Te Whatu Ora data, the Te Kaunihera Rata o Aotearoa | Medical Council of New Zealand (MCNZ) register and information from the Royal Australasian College of Physicians (RACP). Age was quantified in 5-year bands. Ethnicity was self-identified.

Population data were obtained from Health New Zealand – Te Whatu Ora populations web tool.¹ The population was divided according to Health New Zealand – Te Whatu Ora districts. Within each district, the population of Māori and Pacific peoples was also obtained. Further division was performed according to “metro” districts;

defined as those with cardiac surgical services in the same city, i.e., Waitematā, Auckland, Counties Manukau, Waikato, Wellington, Christchurch and Dunedin. The correct statistical analysis comparing districts by ethnicity and metro/non-metro was uncertain. Limited statistical analysis did not lend weight, and hence, we have let the data stand on their own.

Comparison data from other jurisdictions were obtained from online sources. This included the Association of American Medical Colleges 2021,² the Canadian Medical Association 2019,³ the British Cardiovascular Society estimate 2015,⁴ the United Kingdom (UK) cardiovascular workforce report 2022,⁵ the Australian Institute of Health and Welfare data 2016,⁶ the Western Australian Department of Health data 2021⁷ and the New South Wales Government 2019.⁸ The metric used in this

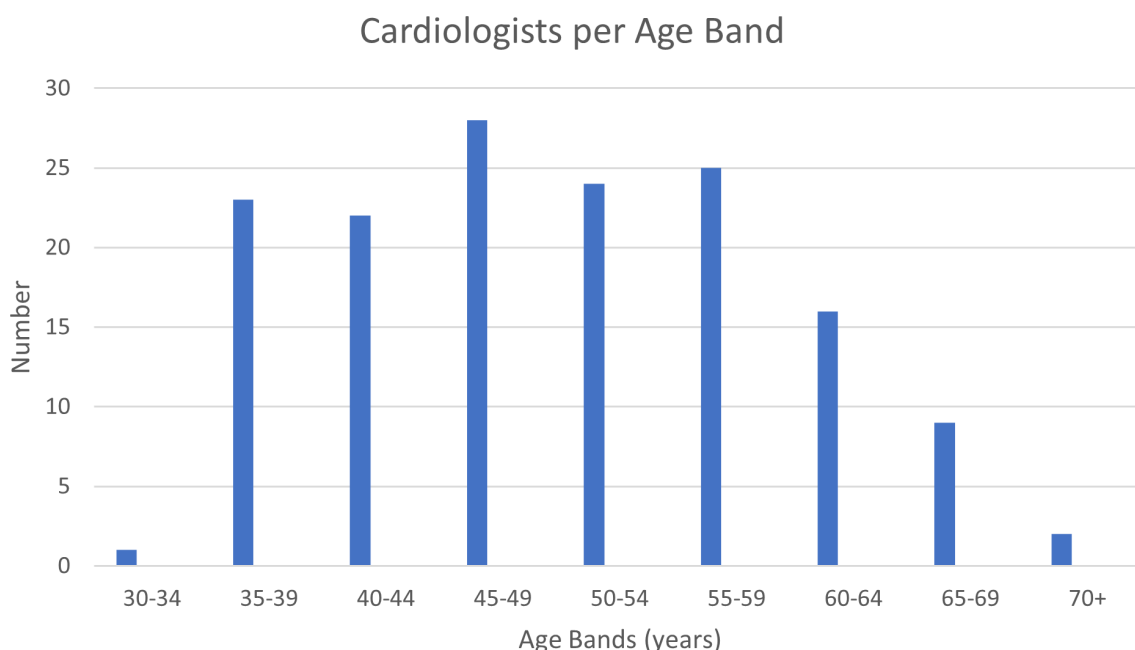
paper is the calculated or reported population per cardiologist. Paediatric cardiologists were not included in our numbers.

Results

As of July 2024, complete data were obtained on all Health New Zealand – Te Whatu Ora cardiologists. At the time of writing, there are 154 cardiologists employed by Health New Zealand – Te Whatu Ora. Of these, 119 (77%) are male. Those that received their specialist cardiology training (FRACP) in New Zealand numbered 113 (73%). Age data were available from 150 of the cardiologists whose information was included in the survey.

This is an experienced workforce with 50% being over 50 years of age (Figure 1). Time spent in their current position was on average 11.9±9

Figure 1: Number of cardiologists in age bands*.



*No age data for four, n=150.

Table 1: Cardiologists by ethnicity.

Ethnicity	NZ European	Other European	Indian	Chinese	Other Asian	Māori	Pacific peoples	Other
N (%)	72 (51)	24 (17)	22 (16)	15 (11)	5 (2)	2 (1)	1 (1)	13 (9)

*No ethnicity data for 13 cardiologists, n=141.

Table 2: Population per cardiologists by region—listed according to Māori/Pacific proportion.

	Total population (000)	Māori n(%)	Pacific peoples n(%)	Māori/Pacific (%)	Cardiologist (number)	Population per cardiologist (000)
All district health board regions	5,325.9	918.5 (17%)	373.2 (7%)	24	154	35
Tairāwhiti	54	29.8 (55)	1.3 (2)	57	1	54
Counties Manukau*	642	103.0 (16)	143.7 (27)	43	17	38
Lakes	122	46.6 (38)	3.2 (3)	41	2	61
Northland	207	75.2 (36)	4.8 (2)	38	4	52
Hawke's Bay	187	53.5 (29)	8.8 (5)	34	4	47
Whanganui	71	20.8 (29)	2.3 (3)	32	0	
Bay of Plenty	285	74.2 (26)	5.7 (2)	28	9	32
Waikato*	473	115.2 (24)	15.1(3)	27	17	28
Hutt Valley*	164	31.2 (19)	13.0 (8)	27	5	33
MidCentral	196	43.3 (22)	6.8 (3)	25	5	39
Taranaki	130	28.3 (22)	2.0 (2)	24	2	75
Wairarapa	52	9.9 (19)	1.2 (2)	21	1	52
Waitematā*	663	70.1 (11)	49.9 (8)	19	18	37
Auckland*	533	40.8 (8)	56.9 (11)	19	27	20
Capital and Coast*	331	41.2 (12)	23.7 (7)	19	11	30
Nelson Marlborough	169	19.6 (12)	4.1 (2)	14	6	32
Southern*	368	41.2 (11)	9.3 (3)	14	9	41
West Coast	33	4.3 (13)	0.4 (0)	13	0	
Canterbury*	615	63.3 (10)	19.8 (3)	13	15	41
South Canterbury	64	6.4 (10)	1.3 (1)	11	1	64
Metro*	4,157				128	32
Non-metro	1,202				26	46

*Metro—city with cardiac surgical services within or abutting region.

Population data is from Health New Zealand – Te Whatu Ora populations web tool.⁸

years. However, there is a concerning number who may be nearing retirement with 52 (35%) over 55 years of age, including those over 60 years numbering 27 (18%).

The number of unfilled cardiology positions was 21, giving a vacancy rate (vacant positions/filled positions) at the time of collection of 14%.

By region

Table 2 ranks the districts according to the percentage of Māori/Pacific peoples (e.g., Tairāwhiti has a 57% Māori/Pacific peoples population). Māori/Pacific peoples have a higher prevalence of cardiovascular disease than other ethnicities. Metro regions are defined by regions that have cardiac surgery services in a city within their region—hence limited to the three Auckland regions, Waikato, Wellington/Hutt Valley, Canterbury and Southern/Dunedin.

The New Zealand national rate of **persons per cardiologist is 35,000**. There is disparity between metro and non-metro districts with respect to number of persons per cardiologist. In the non-metro regions, there are 43% more persons per cardiologist: 46,000 vs 32,000 ($p=0.11$). All the metro districts, except Southern, are staffed with better than average ratios. There are disproportionately fewer cardiologists per head of population in districts with higher rates of Māori/Pacific peoples. The top five districts with the highest Maori/Pacific proportion all have disproportionately fewer cardiologists than average: Tairāwhiti 54,000; Counties Manukau 38,000; Lakes 61,000; Northland 52,000; Hawke's Bay 47,000. There is a disparity of cardiologists per head of population between metro/cardiac surgical services and non-metro districts/districts without cardiac surgical services; 32,000 versus 46,000.

Comparison to international data

Published data are available for other health-care systems. These are from professional medical bodies in the United States of America (USA), Canada and the UK, or from Australian State and Federal Government sources.

USA

- From the Association of American Medical Colleges 2021—people per physician:²
 - Cardiovascular disease **14,600**
 - Clinical cardiac electrophysiology 124,000
 - Interventional cardiology 70,000
 - Thoracic surgery 73,000

Canada

- From the Canadian Medical Association 2019:³
 - Nationwide **25,000** per physician (cardiologist)
 - Quebec **17,000**—this is the only province with lower than average population per physician
 - Ontario **26,000** and British Columbia **34,000** (the two most populous provinces)

UK

- From the British Cardiovascular Society 2015 estimate:⁴
 - **45,000** per cardiologist
- From the UK cardiovascular workforce report 2022:⁵
 - 1,700 cardiologists, which equates to **40,000** per cardiologist

Australia

- Australian Institute of Health and Welfare data 2016:⁶
 - 1,199 cardiologists (public and private), 1,141 clinicians
 - **21,000** persons per cardiologist
 - **South Australia 19,000**. QLD/NSW/VIC lower than average, WA/TAS/NT higher than average
- Western Australian Department of Health data 2021:⁷
 - 85 cardiologists—**WA 31,000** persons per cardiologist
- NSW Government 2019:⁸
 - **NSW** clinical workforce 409—**20,000** persons per cardiologist
 - **Sydney** 311—**16,000** persons per cardiologist

Discussion

This survey documents that the Health New Zealand – Te Whatu Ora cardiologist senior medical officer positions have a vacancy rate of 14% and a majority are held by people over 50 years old. Hence, there is concerning vulnerability of our cardiologist workforce in New Zealand. On average, New Zealand has 35,000 people per cardiologist. There is regional disparity according to population, ethnicity and cardiac surgical services. Furthermore, we have fewer cardiologists per population than comparable healthcare systems.

There have been recent resignations due to advancing age and burnout. The usual number

of qualifying specialists in New Zealand via the RACP is 10 per year. There have recently been RACP-qualified specialists who have chosen positions in Australia or the USA. There has been an uptake of overseas cardiologists via the MCNZ Council/RACP Overseas Trained Physicians pathway (from Mexico, Canada, Brazil, the Netherlands, Sweden, USA). Addressing the current vacancies and turnover due to the ageing workforce, as well as increasing the workforce to address demand, will require a multifaceted approach, including increased funding for positions that are appealing professionally and financially, particularly in comparison to Australian positions. Increase in local training numbers should be considered—there is a high demand from trainees for these positions. Flexibility in recruitment from Health New Zealand – Te Whatu Ora to appoint New Zealand-trained cardiologists prior to departing for overseas fellowships (i.e., a guaranteed job on return to New Zealand) would improve recruitment. Flexibility in reduced hours/call work would improve retention of older cardiologists and those with parenting responsibilities.

With respect to the number of people per cardiologists, there is disparity in non-metro regions and in regions with higher Māori/Pacific populations (i.e., likely a higher cardiovascular disease burden). Districts with higher populations and with cardiac surgical services have significantly fewer people per cardiologist. This will reflect larger hospitals in metro centres with tertiary cardiology services and relatively well-staffed, larger cardiology units. Districts with higher Māori/Pacific representation have significantly more people per cardiologist. The inference is that the highest-need regions are underserved. Under-resourcing is exacerbated by the greater high-risk ethnic groups in those regions. It would be beneficial for flexibility in Health New Zealand – Te Whatu Ora contracts to attract health workers to areas of higher need

The number of cardiology clinicians in comparable healthcare systems is useful information. Our workforce data suggest that there are markedly fewer cardiologists per head of population than in the comparable healthcare systems of Australia and (urban) Canada. In the UK, it is likely that optimising cardiovascular care would require an increase in cardiologists (thereby reducing the population per cardiologist from current relatively high levels). The USA likely is

not a comparable system, but the data suggest that there is double the number of cardiologists per head of population than here. While the UK numbers are inferior to New Zealand, New Zealand is likely closer to an optimal number than the UK. The Canadian cardiology workforce per head of population is superior to New Zealand, and Australia is even better—our view is that those two countries should serve as aspirational benchmarks for all of New Zealand.

Limitations

The survey canvassed only those qualified as adult cardiologists and did not account for the general physicians providing cardiology care. The smaller New Zealand hospitals are reliant on cardiology care from these practitioners. Paediatric cardiologists were excluded but population does include all ages. There are a small number of cardiologists (authors' estimate is nine) working solely in the private sector who are not included. Most (seven) of these individuals have served long careers in public hospitals and now work part-time. The subspecialty of the cardiologists is not well captured. Most hospitals have their cardiologists doing general cardiology work or covering more than one subspecialty. Specific subspecialty identification would be useful in national workforce planning.

Summary

Health New Zealand – Te Whatu Ora has an experienced cardiologist workforce, but a concerning proportion may be nearing retirement by way of age. There is a high (14%) vacancy rate. Non-metro regions have fewer cardiologists per head of population (by 40%). Additionally, the top 25% of districts with higher Māori/Pacific population proportions also have fewer cardiologists per head of population than the national average of one per 35,000. In comparison, recent data show much better rates of cardiologists per head of population in Canada (one per 25,000) and Australia (one per 21,000). Increased efforts from Health New Zealand – Te Whatu Ora in the recruitment and retention of cardiologists is vital to the preservation of current workforce numbers. There also needs to be an expansion to address growing demand and unmet need, particularly in non-metro regions and those with higher Māori/Pacific populations.

COMPETING INTERESTS

Nil.

AUTHOR INFORMATION

Selwyn P Wong: Cardiologist, Department of Cardiology, Middlemore Hospital, Auckland.

Martin K Stiles: Cardiologist, Department of Cardiology, Waikato Hospital; Professor of Medicine, Faculty of Medical and Health Sciences, The University of Auckland, Hamilton.

CORRESPONDING AUTHOR

Selwyn P Wong: Cardiologist, Department of Cardiology, Middlemore Hospital, Auckland.
E: spwong@middlemore.co.nz

URL

<https://nzmj.org.nz/journal/vol-138-no-1627/the-health-of-new-zealand-cardiology-senior-medical-officer-workforce-survey>

REFERENCES

1. Health New Zealand – Te Whatu Ora. Populations web tool [Internet]. Wellington, New Zealand: Health New Zealand – Te Whatu Ora; 2025 Sep 15 [cited 2024 Dec]. Available from: <https://tewhatuora.shinyapps.io/populations-web-tool/>
2. AAMC. U.S. Physician Workforce Data Dashboard [Internet]. AAMC; 2024 [cited 2024 Oct]. Available from: www.aamc.org/data-reports/report/us-physician-workforce-data-dashboard
3. Canadian Medical Association. Cardiology profile [Internet]. Canada: Canadian Medical Association; 2019 Dec [cited 2024 Oct]. Available from: <https://www.cma.ca/sites/default/files/2019-01/cardiology-e.pdf>
4. British Heart Foundation. Cardiovascular Disease Statistics 2015 [Internet]. British Heart Foundation; 2015 Dec 8 [cited 2024 Oct]. Available from: <https://www.bhf.org.uk/information-support/publications/statistics/cvd-stats-2015>
5. British Heart Foundation. Cardiac Workforce Census 2023-2024 [Internet]. British Heart Foundation; 2024 [cited 2024 Oct]. Available from: <https://www.bhf.org.uk/what-we-do/policy-and-public-affairs/influencing-change-in-healthcare-systems/cardiovascular-workforce/bhf-bcs-cardiac-workforce-census>
6. Department of Health, Disability and Ageing. Cardiology workforce – MWRAC fact sheet [Internet]. Australian Government; 2017 Oct [cited 2024 Oct]. Available from: www.health.gov.au/resources/publications/cardiology-workforce-mwrac-fact-sheet
7. Government of Western Australia, Department of Health. WA Cardiology-SWCP-summary-sheet 2013-2021 [Internet]. Government of Western Australia, Department of Health; [cited 2024 Oct]. Available from: https://www.health.wa.gov.au/~/_media/Files/Corporate/general-documents/Medical-workforce-CMO/PDF/Cardiology-SWCP-summary-sheet.pdf
8. NSW Health. Physician – cardiology [Internet]. NSW Government; 2023 Jul 5 [cited 2024 Oct]. Available from: www.health.nsw.gov.au/workforce/modelling/Pages/physician-cardiology.aspx