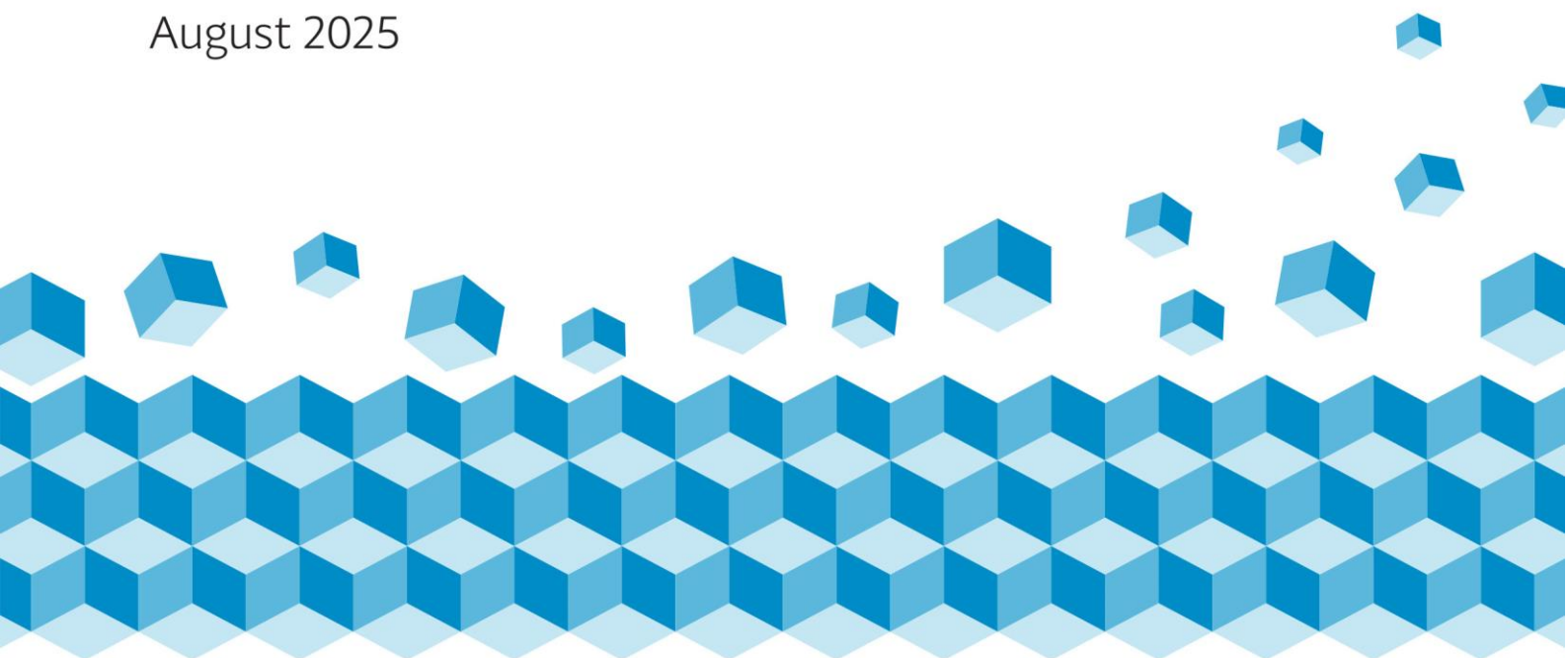


National report on doctors eight years after graduating from New Zealand medical schools in 2011–2015

August 2025



Prepared by:

The New Zealand MSOD Steering Group.

University of Otago:

Prof T. Wilkinson, A Prof J. Rudland, Dr A. Salkeld,
Dr K. Costello.

University of Auckland:

Prof P. Poole, Prof W. Bagg, Dr C. Connell,
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msod
medical schools outcomes database



Otago Medical School
Te Kura Hauora o Ōtākou



**MEDICAL AND
HEALTH SCIENCES**

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OTAGO MEDICAL SCHOOL
Te Kura Hauora o Ōtākou



**MEDICAL AND
HEALTH SCIENCES**

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EXECUTIVE SUMMARY

This report provides the findings from New Zealand Medical Schools Outcomes Database (MSOD) analysing questionnaire data (2019 and 2023) from doctors eight years after they graduated from a New Zealand medical school (between 2011 and 2015). The response rate to these PGY8 questionnaires was 48.6% (942/1947) but linkage to workforce outcome data is 92.3% (1797/1947).

Over the survey period, the questionnaire respondents comprised 60% women and 40% men, compared with the complete cohort over this period which comprised 55% and 45% respectively.

The median age at the time of the survey across all cohorts is 32.4 years, with little to no variation in each cohort year. Approximately 86% of respondents are in the 30–34-year age bracket. These match the complete cohort (median 32.5 years, 85% in 30–34-year bracket). The self-reported ethnic identity of respondents shows 9% of respondents identified as Māori and nearly 3% of respondents identified as Pacific people. While this underrepresents the proportion of Māori in the New Zealand population (17% Māori), it adequately represents the proportion of Māori in the graduating classes (8%, Māori). Both the proportions of Pacific people in New Zealand (8% Pacific people)¹ and in the graduating classes (5% Pacific people) are underrepresented. Over 93% of respondents are New Zealand citizens.

Approximately 85% of respondents have a partner or spouse. About 45% have children under the age of 16, and 16% report being responsible for one or more dependants other than children under the age of 16 years.

Eight years after graduating, 96% of respondents agree or strongly agree that their work and training experiences since graduation have prepared them for work as a doctor, while 80% of respondents agree or strongly agree that their basic medical degree prepared them for their work as a doctor. About 72% of respondents are working as a registrar, nearly 18% are vocationally registered. About 82% are enrolled in a Postgraduate College training programme.

Eight years after graduating, 79% of respondents are working full-time, working a mean of just over 50 hours per week, while 20% of respondents typically worked for 60 or more hours per week.

The most frequent main intention for PGY9 is to continue a vocational training programme, while at PGY10 and PGY11 the most frequent main intention is to undertake work in a vocational scope of practice.

Fewer than 2% of respondents had indicated that they had left the medical profession, and a further 1% indicated their intent to do so between PGY9 and PGY11.

About 90% of respondents were working in New Zealand eight years after graduation. Over 91% of respondents intend to work in New Zealand in the future: 67% in a major city; 22% in a regional centre or large town, and the remainder in smaller towns.

About 95% of respondents are decided on a future medical specialty. According to workforce linked data across all cohorts, the top vocational scopes are General Practice (35.6%), Internal Medicine (16.6%), Surgery (11.2%), and Anaesthesia (7.5%). According to the questionnaire responses, the consistent top preferences across all cohorts are General Practice (28%), Internal Medicine (14%), Surgery (11%), Anaesthesia (9%), and Paediatrics and Child Health (6%), although the order of preference varies across each cohort. The top vocational scopes indicated by the workforce linked data are a more accurate representation, as the linked data covers 92% of the total cohort.

¹ Statistics New Zealand. 2018 Census ethnic group summaries.

<https://www.stats.govt.nz/tools/2018-census-ethnic-group-summaries/>, Retrieved 22/08/2022

About 85% of respondents indicated that they had been involved in, or expressed an interest in, medical teaching, while involvement or interest in medical research was indicated by 59% of respondents.

Eight years after graduation, respondents indicate both external and internal factors influence their specialty preference, with the highest ranked factors being *atmosphere/work culture typical of the discipline, self-appraisal of own skills / aptitudes, influence of training experiences as a doctor (e.g. consultants/mentors), and work experiences since graduation* in addition to *interest in helping people*, with over 68% of respondents indicating these factors were significant influences to them. By comparison, the least influential factors influencing specialty preference include *financial costs of medical school education and/or debt, financial costs of vocational training, risk of litigation and associated insurance costs, and influence of parents/relatives*, with fewer than 10% of respondents reporting these to be significant influences to them.

A new section of this report links individuals' responses to earlier questionnaires. About 89% of respondents had answered an MSOD Exit Questionnaire, at the time of graduation, eight years prior. Of these, 54% had changed their first preference of future region of practice, and 35% had changed their preference to a region they had not considered amongst their top three picks at graduation.

Around 39% of those who responded to both questionnaires had changed their preference of size of population of their future practice. Of these, 75% changed their preference towards a larger population centre.

Over 57% of those who responded to both questionnaires had changed their first preference of future medical specialty. Nearly 51% of those who had declared that they had decided upon their future specialty at graduation changed that medical specialty by PGY8. Of those who had not decided upon their future specialty at graduation, about 46% had chosen a first preference at PGY8 which was not one they considered amongst their top three picks at graduation.

For the cohort of total MSOD participants for which we can link survey response data to workforce outcomes data, 80% hold an active annual practicing certificate (APC). Similarly, 80% of MSOD participants are either actively enrolled in a vocational training programme, or are registered specialists, though not all registered specialists held an APC at the time of collation of the workforce data. The most common specialisation is General Practice, which accounts for nearly 36% of those who are training or registered, including those with multiple specialisations.

INTRODUCTION

The Medical Schools Outcomes Database and Longitudinal Tracking Project (MSOD) is an ongoing collaborative longitudinal study instigated by Medical Deans Australia and New Zealand (MDANZ)². The project has been operating in New Zealand (NZ) since 2005 and has appropriate ethics committee approvals. The purpose of the MSOD is to gain a better understanding of the factors that influence career choices from selection to medical school, and throughout the continuum of training, to inform policy decisions of the various stakeholders in medical education and training.

In New Zealand, students are invited to complete surveys at entry to their medical school/ programme (Year 2) through the Commencing Medical Students Questionnaire (CMSQ); at the end of their final year of medical school through the Exit Questionnaire (EQ); and one, three, five, and eight year(s) after graduation (PGY1, PGY3, PGY5, PGY8). For each survey after graduation, respondents may not be at the same stage of their medical careers, as some may opt to take time out or be working part time, which may affect career progression. Actual career choices can be determined by linking MSOD data to workforce outcomes data collated by Health New Zealand.

This report presents summary and trend data for five years of students who graduated 8 years earlier from the University of Auckland and the University of Otago, between 2011 and 2015. For more details on response rates and methods, see Appendices A and B.

² Poole P, Wilkinson TJ, Bagg W, Freegard J, Hyland F, Jo E, Kool B, Roberts E, Rudland J, Smith B, Verstappen A. Developing New Zealand's medical workforce: realising the potential of longitudinal career tracking. *NZ Med J* 2019;132:1495

RESULTS

Some table cells in this report represent small numbers of respondents. Cells reporting on fewer than three respondents have been suppressed (indicated by a “..C” entry, see Figure 1). To protect respondents’ privacy, frequencies in all tables have been randomly rounded to a multiple of three.

The total frequency and percentage columns for each table do not include suppressed cells. Where a row only contains suppressed cells, the total cell will also be suppressed. Care has been taken to ensure the proportions presented here are a reasonable reproduction of the original data. The methods used are detailed in Appendix B.

Figure 1. Example table with low frequency cells that have been suppressed.

Table 2. Gender of respondents									
Gender		Survey year							
		2019†		2020		2021		Total	
		n	%	n	%	n	%	n	%
Female		69	62.2%	108	57.1%	132	64.7%	309	61.3%
Gender diverse		..C	..C	-	-	-	-	..C	..C
Male		42	37.8%	81	42.9%	72	35.3%	195	38.7%
Base: all respondents. Question response rate: 97.1%									

Not all respondents answered each question, so the numbers in each table vary. Where respondents can provide multiple responses to a question, an additional header line indicating the number of respondents that answered the question (n) is included.

Figure 2. Example table where multiple responses are allowed per respondent.

Table 5. Self-identified ethnicity of respondents. Percentages total more than 100% as respondents may identify with more than one ethnicity. The total number of respondents for each year are provided.

Ethnicity	Survey year							
	2019†		2020		2021		Total	
	n = 114		n = 195		n = 201		n = 510	
	n	%	n	%	n	%	n	%
Māori	9	7.9%	18	9.2%	12	6.0%	39	7.6%
Pacific people	..C	..C	3	1.5%	3	1.5%	6	1.2%
New Zealand European	78	68.4%	138	70.8%	138	68.7%	354	69.4%
Other	36	31.6%	60	30.8%	75	37.3%	171	33.5%

Base: all respondents. Question response rate: 98.3%

Column headings refer to the year in which the questionnaires were completed, except for tables with low total frequencies, where only total columns are presented.

Response rates

The PGY8 questionnaire was first issued to University of Otago graduates in 2019, before proceeding to be administered nationally from 2020. The number of students graduating from these New Zealand medical school cohorts between 2011 and 2015 was 1,947. This is the total cohort who were eligible to respond to the PGY8 questionnaires. Every effort was made to contact all those in the cohort.

The number of respondents across the survey period (2019 to 2023) was 942 giving an overall response rate of 48.6%. The response rates for each graduating year are presented in Table 1.

Table 1. Response rate by university of students completing study (cohort) and questionnaires

Medical School / Programme		Survey year											
		2019†		2020		2021		2022		2023		Total	
		n	%	n	%	n	%	n	%	n	%	N	%
University of Auckland	Responses	-	-	63		78		66		108		315	
	Cohort			159	39.9%	189	41.9%	192	34.4%	195	55.7%	735	43.1%
University of Otago	Responses	114		132		126		120		135		627	
	Cohort	237	48.9%	243	54.3%	246	51.4%	237	50.6%	249	53.8%	1212	51.9%
Total	Responses	114		195		204		186		243		942	
	Cohort	237	48.9%	402	48.6%	435	47.3%	429	43.4%	444	54.6%	1947	48.6%

A large proportion of the total cohort have completed at least one MSOD survey between commencing medical school (CMSQ) and PGY8. Of those who graduated from medical school between 2011 and 2015, 96.9% are participants in the MSOD Project, as shown in Table 2.

Table 2. Total participation rate in the MSOD project from the 2011-2015 graduating cohorts

Participating in MSOD Project		PGY8 Survey year											
		2019†		2020		2021		2022		2023		Total	
		n	%	n	%	n	%	n	%	n	%	N	%
Responded to one or more MSOD surveys		225	94.9%	384	95.5%	426	97.9%	417	97.2%	435	98.0%	1887	96.9%
Cohort		237		402		435		429		444		1947	

† University of Otago data only in 2019.

Survey responses for MSOD participants can be linked both longitudinally to prior or subsequent MSOD responses, and to workforce outcomes data collated by Health New Zealand. Current and historical annual practicing certificate status, current vocational training programme information, and current vocational registration status are presented in this report, at a cross-sectional snapshot taken at 31 July 2024. Workforce outcomes data can be linked to 92.3% of total MSOD participants from the 2011-2015 graduating cohorts.

Table 3. Number of participants with linked workforce outcomes data

		PGY8 Survey year											
		2019†		2020		2021		2022		2023		Total	
Linked to workforce data		n	%	n	%	n	%	n	%	n	%	N	%
Linked to workforce data		213		357		402		402		423		1797	
			89.9%		88.1%		91.8%		93.7%		96.6%		92.3%
Total MSOD participants		225		384		426		417		435		1887	

Further details on response rates are available in Appendix A.

† University of Otago data only in 2019.

Linked MSOD-HNZ workforce data

Annual Practicing Certificate

Table 4. Number of MSOD participants with linked workforce data (as per **Table 3** above)

	PGY8 survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Linked to workforce data	213	89.9%	357	88.1%	402	91.8%	402	93.7%	423	96.6%	1797	92.3%

Base: MSOD Project participants

Table 5. Annual Practicing Certificate (APC) status of MSOD participants at PGY8 year, at 31 July each year

Annual Practicing Certificate status	PGY8 survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Current APC in PGY8	177	78.7%	300	78.7%	354	83.1%	354	83.7%	372	85.5%	1557	82.4%
No current APC in PGY8	48	21.3%	81	21.3%	72	16.9%	69	16.3%	63	14.5%	333	17.6%

Base: MSOD Project participants with linked workforce data

Vocational status

Table 6. Vocational training status of MSOD participants, at 31 July 2024

Vocational training status	PGY8 survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Vocationally registered (in at least one specialty)	138	63.9%	219	61.3%	183	45.2%	156	38.8%	111	26.2%	807	44.8%
Training in first specialty	36	16.7%	72	20.2%	141	34.8%	168	41.8%	225	53.2%	642	35.6%
Not vocationally registered or training	42	19.4%	66	18.5%	81	20.0%	78	19.4%	87	20.6%	354	19.6%

Base: MSOD Project participants with linked workforce data

† University of Otago data only in 2019.

Table 7. Specialty of training programme or vocational registration held by doctors at 31 July 2024. Percentages total more than 100% as doctors may enrol in multiple training programmes.

Vocational specialty	PGY8 survey year											
	2019†		2020		2021		2022		2023		Total	
	n = 174		n = 291		n = 324		n = 324		n = 336		n = 1449	
	n	%	n	%	n	%	n	%	n	%	n	%
General Practice	54	31.0%	114	39.2%	105	32.4%	123	38.0%	120	35.7%	516	35.6%
Internal Medicine	30	17.2%	42	14.4%	63	19.4%	51	15.7%	54	16.1%	240	16.6%
Surgery	15	8.6%	27	9.3%	48	14.8%	30	9.3%	42	12.5%	162	11.2%
Anaesthesia	15	8.6%	24	8.2%	21	6.5%	21	6.5%	27	8.0%	108	7.5%
Radiology	15	8.6%	12	4.1%	9	2.8%	15	4.6%	12	3.6%	63	4.3%
Obstetrics & Gynaecology	9	5.2%	9	3.1%	12	3.7%	15	4.6%	15	4.5%	60	4.1%
Paediatrics	6	3.4%	12	4.1%	15	4.6%	12	3.7%	12	3.6%	57	3.9%
Emergency Medicine	6	3.4%	6	2.1%	9	2.8%	12	3.7%	12	3.6%	45	3.1%
Psychiatry	-	-	9	3.1%	6	1.9%	15	4.6%	12	3.6%	42	2.9%
Pathology	6	3.4%	6	2.1%	9	2.8%	12	3.7%	6	1.8%	39	2.7%
Urgent Care	3	1.7%	12	4.1%	6	1.9%	9	2.8%	9	2.7%	39	2.7%
Ophthalmology	6	3.4%	6	2.1%	3	0.9%	6	1.9%	6	1.8%	27	1.9%
Rural Hospital Medicine	3	1.7%	3	1.0%	6	1.9%	6	1.9%	9	2.7%	27	1.9%
Intensive Care Medicine	6	3.4%	3	1.0%	3	0.9%	..C	..C	12	3.6%	24	1.7%
Public Health Medicine	6	3.4%	6	2.1%	3	0.9%	3	0.9%	6	1.8%	24	1.7%
Radiation Oncology	-	-	6	2.1%	3	0.9%	3	0.9%	3	0.9%	15	1.0%
Dermatology	..C	..C	3	1.0%	3	0.9%	3	0.9%	3	0.9%	12	0.8%
Occupational Medicine	-	-	-	-	3	0.9%	-	-	3	0.9%	6	0.4%
Palliative Medicine	3	1.7%	..C	..C	-	-	-	-	3	0.9%	6	0.4%
Rehabilitation Medicine	-	-	3	1.0%	3	0.9%	-	-	-	-	6	0.4%
Medical Administration	-	-	-	-	3	0.9%	-	-	-	-	3	0.2%
Musculoskeletal Medicine	3	1.7%	..C	..C	-	-	..C	..C	-	-	3	0.2%
Sport and Exercise Medicine	-	-	-	-	3	0.9%	-	-	..C	..C	3	0.2%
Pain medicine	-	-	-	-	-	-	-	-	..C	..C	..C	..C
Sexual Health Medicine	-	-	..C	..C	-	-	..C	..C	-	-	..C	..C

Base: MSOD Project participants with linked workforce data

† University of Otago data only in 2019.

Symbol ..C indicates suppression of frequencies less than three

MSOD PGY8 survey responses

Demographics

Table 8. Gender of respondents

Gender	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Female	72	63.2%	108	57.1%	132	63.8%	108	59.0%	138	58.2%
Gender diverse	..C	..C	-	-	-	-	..C	..C	-	-
Male	42	36.8%	81	42.9%	75	36.2%	75	41.0%	99	41.8%
									558	60.0%
									..C	..C
									372	40.0%

Base: all respondents. Question response rate: 98.3%

Table 9. Age range of respondents. Age is calculated at 30 November in the year surveyed, and grouped into five-year ranges.

Age group	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
30-34 years	102	87.2%	174	90.6%	165	83.3%	147	89.1%	174	82.9%
35-39 years	12	10.3%	15	7.8%	21	10.6%	15	9.1%	27	12.9%
40 years and over	3	2.6%	3	1.6%	12	6.1%	3	1.8%	9	4.3%
									30	3.4%

Base: all respondents. Question response rate: 93.8%

Table 10. Median age and range of respondents. Age is calculated at 30 November in the year surveyed.

Age in years	Survey year					
	2019†	2020	2021	2022	2023	Total
Minimum	30.5	30.7	30.8	30.9	30.5	30.5
First Quartile	31.9	32.0	31.9	32.0	32.0	32.0
Median	32.5	32.4	32.4	32.4	32.4	32.4
Third Quartile	34.0	33.5	33.9	33.8	34.2	33.9
Maximum	41.5	48.3	50.6	55.4	47.7	55.4

Base: all respondents. Question response rate: 93.8%

† University of Otago data only in 2019.

Table 11. Self-identified ethnicity of respondents. Percentages total more than 100% as respondents may identify with more than one ethnicity. The total number of respondents for each year are provided.

Ethnicity	Survey year									
	2019†		2020		2021		2022		2023	
	n = 117		n = 192		n = 201		n = 186		n = 240	
	n	%	n	%	n	%	n	%	n	%
Māori	9	7.7%	21	10.9%	12	6.0%	21	11.3%	24	10.0%
Pacific people	3	2.6%	6	3.1%	3	1.5%	6	3.2%	6	2.5%
New Zealand European	81	69.2%	138	71.9%	138	68.7%	132	71.0%	165	68.8%
Other	39	33.3%	60	31.2%	72	35.8%	54	29.0%	78	32.5%

Base: all respondents. Question response rate: 99.3%

Table 12. Citizenship of respondents

Citizenship	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
New Zealand citizen	102	87.2%	180	92.3%	192	94.1%	177	95.2%	231	95.1%
New Zealand permanent resident	9	7.7%	12	6.2%	9	4.4%	6	3.2%	3	1.2%
Australian citizen	3	2.6%	..C	..C	-	-	-	-	3	1.2%
Visa holder	-	-	-	-	..C	..C	-	-	3	1.2%
Other	3	2.6%	3	1.5%	3	1.5%	3	1.6%	3	1.2%

Base: all respondents. Question response rate: 100.0%

† University of Otago data only in 2019.

Symbol ..C indicates suppression of frequencies less than three

Table 13. Relationship status of respondents

Relationship status	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Single	21	18.4%	27	13.8%	36	17.1%	21	11.1%	30	12.7%
In a relationship but not living with partner	9	7.9%	6	3.1%	18	8.6%	9	4.8%	6	2.5%
Living with partner	24	21.1%	51	26.2%	54	25.7%	45	23.8%	57	24.1%
Married	57	50.0%	111	56.9%	102	48.6%	111	58.7%	144	60.8%
Separated, divorced, widowed	3	2.6%	..C	..C	..C	..C	3	1.6%	-	-
									6	0.6%

Base: all respondents. Question response rate: 100.0%

Table 14. Respondents' number of children and other dependants

	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Children										
0	63	55.3%	114	57.6%	117	55.7%	96	51.6%	135	56.2%
1	30	26.3%	36	18.2%	51	24.3%	54	29.0%	57	23.8%
2 or more	21	18.4%	48	24.2%	42	20.0%	36	19.4%	48	20.0%
Other dependants										
0	96	86.5%	159	85.5%	177	88.1%	141	75.8%	201	84.8%
1	15	13.5%	24	12.9%	18	9.0%	33	17.7%	33	13.9%
2 or more	..C	..C	3	1.6%	6	3.0%	12	6.5%	3	1.3%
									24	2.6%

Base: all respondents. Question response rate: 99.9%

† University of Otago data only in 2019.

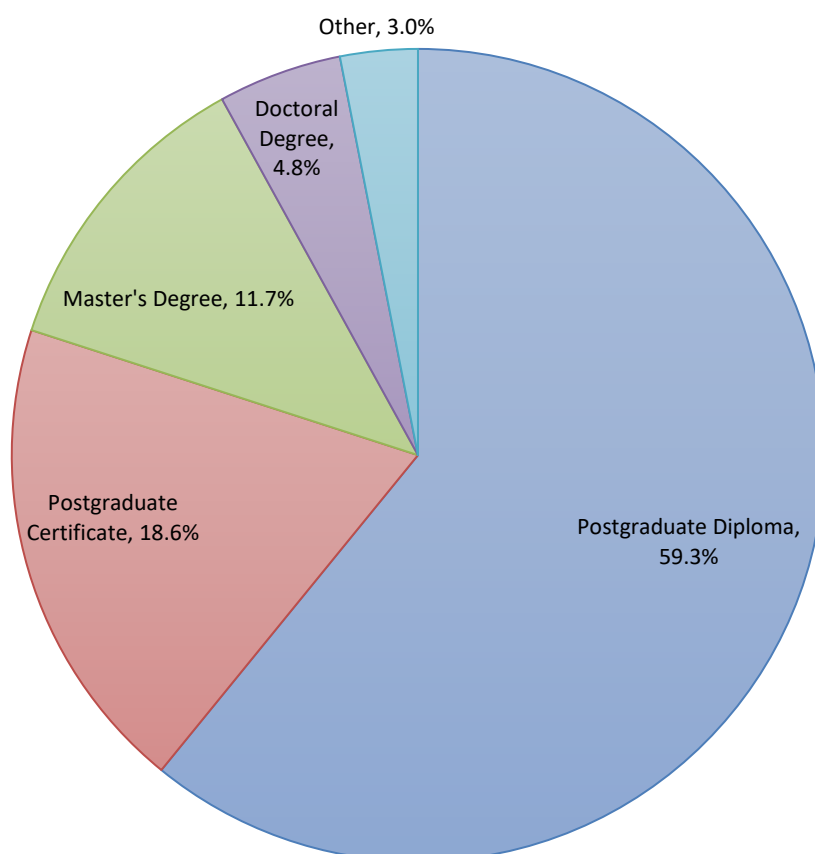
Additional tertiary qualifications

Table 15. Respondents undertaking or completing additional tertiary qualifications since medical school

Additional tertiary qualifications	Survey year											
	2019+		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
No additional qualifications	54	47.4%	81	41.5%	84	40.6%	84	45.2%	111	45.7%	414	43.8%
One additional qualification	39	34.2%	81	41.5%	87	42.0%	69	37.1%	96	39.5%	372	39.4%
Two or more additional qualifications	21	18.4%	33	16.9%	36	17.4%	33	17.7%	36	14.8%	159	16.8%

Base: all respondents. Question response rate: 99.9%

Figure 3. Additional tertiary qualifications undertaken or completed by respondents while at medical school (n = 693 qualifications, from 531 respondents).



Base: respondents with one or more additional qualifications since graduation. Question response rate: 97.9%

† University of Otago data only in 2019.

Table 16. “My basic medical degree prepared me for my work as a doctor.”

Response	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Strongly agree	18	16.7%	24	12.5%	27	13.4%	21	12.1%	36	15.8%
Agree	75	69.4%	120	62.5%	144	71.6%	111	63.8%	144	63.2%
Neutral	9	8.3%	39	20.3%	18	9.0%	30	17.2%	30	13.2%
Disagree or Strongly disagree	6	5.6%	9	4.7%	12	6.0%	12	6.9%	18	7.9%

Base: all respondents. Question response rate: 95.3%

Table 17. “My medical work and training since graduation has prepared me for my work as a doctor.”

Response	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Strongly agree	63	58.3%	105	54.7%	126	61.8%	96	54.2%	123	54.7%
Agree	42	38.9%	75	39.1%	72	35.3%	69	39.0%	96	42.7%
Neutral	3	2.8%	9	4.7%	6	2.9%	9	5.1%	3	1.3%
Disagree or Strongly disagree	-	-	3	1.6%	-	-	3	1.7%	3	1.3%

Base: all respondents. Question response rate: 95.3%

† University of Otago data only in 2019.

Situation eight years after graduation (the PGY8 year)

Table 18. Main location eight years after graduation

Main activity during the PGY8 year	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Working in New Zealand	99	91.7%	162	84.4%	186	91.2%	165	90.2%	213	91.0%
Working outside New Zealand	9	8.3%	30	15.6%	18	8.8%	18	9.8%	21	9.0%
Total	825	89.6%	825	89.6%	825	89.6%	825	89.6%	825	89.6%

Base: all respondents. Question response rate: 97.7%

Table 19. Main activity eight years after graduation

Main activity during the PGY8 year	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
A Registrar	90	78.9%	132	67.7%	150	74.6%	126	68.9%	174	71.6%
A vocationally registered specialist	12	10.5%	42	21.5%	30	14.9%	39	21.3%	45	18.5%
Not working medically as a doctor	9	7.9%	15	7.7%	18	9.0%	12	6.6%	18	7.4%
Undertaking other medical work	3	2.6%	6	3.1%	3	1.5%	3	1.6%	6	2.5%
A House Officer	-	-	-	-	..C	..C	3	1.6%	..C	..C
Total	672	71.8%	672	71.8%	672	71.8%	672	71.8%	672	71.8%

Base: all respondents. Question response rate: 99.3%

Table 20. Current situation of those not working medically as a doctor in PGY8. Percentages total to more than 100% as multiple options could be selected.

Situation of those not working medically as a doctor	Total (all years)	
	n = 72	
	n	%
Parental leave	33	45.8%
Doing medically-related work that is non-clinical (e.g., medico-legal, teaching, research, committee work)	18	25.0%
Have permanently left the medical profession	15	20.8%
Home duties / childcare / family responsibilities	12	16.7%
Working in a non-medical role	9	12.5%
Enrolled as a student	6	8.3%
Other extended leave (e.g., sick leave, long service leave, travel, sabbatical)	6	8.3%

Base: respondents not working medically as a doctor in PGY8. Question response rate: 100.0%

† University of Otago data only in 2019.

Table 21. Region of hospital / clinic based at when working as a Registrar / House officer / Vocationally-registered specialist in PGY8

Region of workplace	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Auckland	24	22.9%	54	29.5%	60	33.3%	57	32.8%	84	38.9%
Bay of Plenty	6	5.7%	6	3.3%	9	5.0%	3	1.7%	12	5.6%
Canterbury	21	20.0%	33	18.0%	30	16.7%	33	19.0%	27	12.5%
Gisborne	-	-	3	1.6%	..C	..C	-	-	-	-
Hawke's Bay	3	2.9%	..C	..C	6	3.3%	6	3.4%	3	1.4%
Manawatu-Whanganui	..C	..C	3	1.6%	6	3.3%	12	6.9%	6	2.8%
Marlborough	-	-	..C	..C	-	-	3	1.7%	-	-
Nelson	-	-	3	1.6%	3	1.7%	3	1.7%	3	1.4%
Northland	6	5.7%	9	4.9%	3	1.7%	..C	..C	6	2.8%
Otago	6	5.7%	9	4.9%	6	3.3%	6	3.4%	18	8.3%
Southland	3	2.9%	..C	..C	3	1.7%	..C	..C	3	1.4%
Taranaki	..C	..C	3	1.6%	6	3.3%	3	1.7%	3	1.4%
Tasman	-	-	6	3.3%	..C	..C	..C	..C	..C	..C
Taupo	..C	..C	-	-	-	-	-	-	-	-
Waikato	6	5.7%	9	4.9%	9	5.0%	12	6.9%	21	9.7%
Wellington Region	21	20.0%	21	11.5%	27	15.0%	15	8.6%	15	6.9%
Westland	-	-	-	-	-	-	3	1.7%	3	1.4%
Country other than New Zealand	9	8.6%	24	13.1%	12	6.7%	18	10.3%	12	5.6%

Base: respondents working medically as a doctor in PGY8. Question response rate: 97.9%

Table 22. Working full-time or part-time in PGY8

Work hours	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Full-time	90	85.7%	132	75.9%	144	77.4%	132	77.2%	177	79.7%
Part-time	15	14.3%	42	24.1%	42	22.6%	39	22.8%	45	20.3%

Base: respondents working medically as a doctor in PGY8. Question response rate: 98.4%

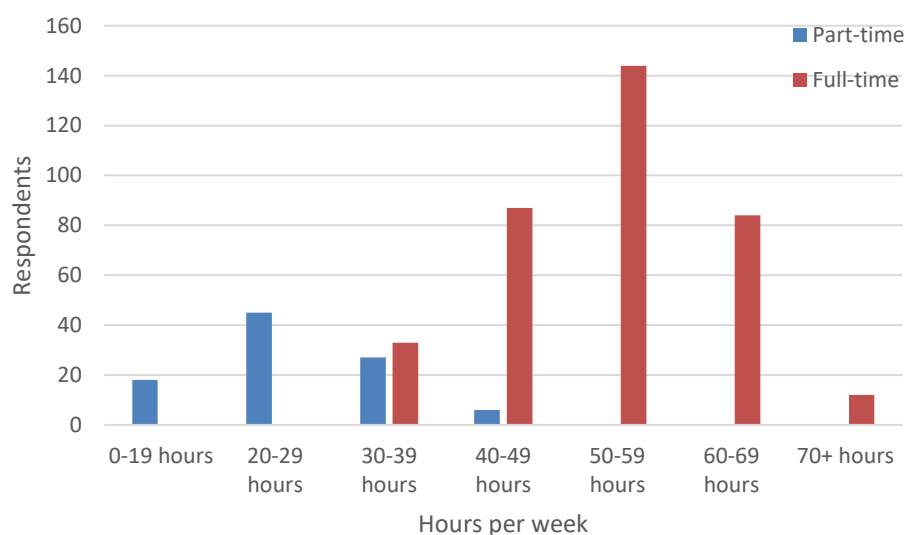
† University of Otago data only in 2019.

Symbol ..C indicates suppression of frequencies less than three

Table 23. Number of hours worked in a typical week during PGY8

Work hours per week	Survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
0-19 hours	3	2.9%	9	5.1%	6	3.3%	6	3.6%	9	4.1%	33	3.9%
20-29 hours	6	5.9%	18	10.2%	18	9.8%	15	9.1%	12	5.4%	69	8.1%
30-39 hours	9	8.8%	30	16.9%	24	13.1%	24	14.5%	39	17.6%	126	14.8%
40-49 hours	24	23.5%	33	18.6%	39	21.3%	42	25.5%	60	27.0%	198	23.3%
50-59 hours	42	41.2%	51	28.8%	54	29.5%	48	29.1%	60	27.0%	255	30.0%
60-69 hours	18	17.6%	30	16.9%	36	19.7%	24	14.5%	36	16.2%	144	17.0%
70+ hours	..C	..C	6	3.4%	6	3.3%	6	3.6%	6	2.7%	24	2.8%

Base: respondents working medically as a doctor in PGY8. Question response rate: 97.4%

Figure 4. Number of hours worked in a typical week during PGY8.

Base: respondents working medically as a doctor in PGY8. Question response rate: 95.6%

Table 24. Medical work / placements by geographical location in PGY8. Percentages total more than 100% as respondents can indicate multiple placement locations.

Location	Survey year											
	2019+		2020		2021		2022		2023		Total	
	n = 105		n = 177		n = 189		n = 171		n = 219		n = 861	
	n	%	n	%	n	%	n	%	n	%	n	%
Major city	75	71.4%	120	67.8%	144	76.2%	132	77.2%	159	72.6%	630	73.2%
Regional centre	18	17.1%	30	16.9%	36	19.0%	33	19.3%	42	19.2%	159	18.5%
Small town / community	6	5.7%	18	10.2%	9	4.8%	15	8.8%	27	12.3%	75	8.7%

Base: respondents working medically as a doctor in PGY8. Question response rate: 98.7%

† University of Otago data only in 2019.

Symbol ..C indicates suppression of frequencies less than three

Table 25. Enrolment in a college training programme in PGY8

	Survey year											
	2019+		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Enrolled												
Yes	93	86.1%	138	76.7%	153	82.3%	135	80.4%	189	85.1%	708	81.9%
No, I have not enrolled in a College training programme	9	8.3%	33	18.3%	24	12.9%	27	16.1%	27	12.2%	120	13.9%
No, I have completed a College training programme	3	2.8%	6	3.3%	6	3.2%	6	3.6%	6	2.7%	27	3.1%
No, I have withdrawn from a College training programme	3	2.8%	3	1.7%	3	1.6%	..C	..C	..C	..C	9	1.0%

Base: respondents working medically as a doctor in PGY8. Question response rate: 99.2%

† University of Otago data only in 2019.

Table 26. College training programme enrolments in PGY8

Training programme	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
General Practice	30	28.6%	57	32.8%	42	24.1%	54	32.7%	63	30.9%
Adult Medicine / Internal Medicine / Physician	15	14.3%	24	13.8%	33	19.0%	24	14.5%	24	11.8%
Surgery	9	8.6%	12	6.9%	21	12.1%	15	9.1%	24	11.8%
Anaesthesia	6	5.7%	18	10.3%	15	8.6%	12	7.3%	18	8.8%
Paediatrics and Child Health	6	5.7%	9	5.2%	15	8.6%	9	5.5%	12	5.9%
Obstetrics and Gynaecology	6	5.7%	9	5.2%	12	6.9%	6	3.6%	12	5.9%
Psychiatry	3	2.9%	9	5.2%	6	3.4%	9	5.5%	6	2.9%
Radiology	9	8.6%	6	3.4%	6	3.4%	6	3.6%	6	2.9%
Emergency Medicine	6	5.7%	3	1.7%	3	1.7%	6	3.6%	6	2.9%
Public Health Medicine	3	2.9%	6	3.4%	3	1.7%	3	1.8%	6	2.9%
Dual Vocational Training programme	3	2.9%	3	1.7%	-	-	3	1.8%	3	1.5%
Pathology	..C	..C	-	-	6	3.4%	3	1.8%	3	1.5%
Rural Hospital Medicine	3	2.9%	6	3.4%	..C	..C	3	1.8%	..C	..C
Urgent Care‡	-	-	-	-	3	1.7%	3	1.8%	6	2.9%
Dermatology	-	-	3	1.7%	..C	..C	6	3.6%	..C	..C
Radiation Oncology	-	-	3	1.7%	3	1.7%	..C	..C	3	1.5%
Intensive Care Medicine	..C	..C	-	-	..C	..C	-	-	6	2.9%
Ophthalmology	3	2.9%	..C	..C	..C	..C	3	1.8%	..C	..C
Medical Administration (e.g. managing a hospital)	-	-	-	-	3	1.7%	-	-	-	-
Pain Medicine	-	-	3	1.7%	-	-	-	-	..C	..C
Palliative Medicine	..C	..C	..C	..C	..C	..C	-	-	3	1.5%
Sport and Exercise Medicine	-	-	-	-	3	1.7%	-	-	-	-
Sexual Health Medicine	-	-	-	-	-	-	..C	..C	-	-
Other	3	2.9%	3	1.7%	..C	..C	..C	..C	3	1.5%

Base: respondents enrolled in in PGY8. Question response rate: 99.5%

†Urgent Care option added in 2021

† University of Otago data only in 2019.

Table 27. Main location six, seven and eight years after graduation (all cohorts)

Main location	PGY6		PGY7		PGY8	
	n	%	n	%	n	%
Working in New Zealand	813	91.9%	825	91.1%	825	89.6%
Working outside New Zealand	72	8.1%	81	8.9%	96	10.4%

Base: all respondents. Question response rate: 95.9%

Table 28. Main activity six, seven and eight years after graduation (all cohorts)

Main activity during the year	PGY6		PGY7		PGY8	
	n	%	n	%	n	%
A Registrar	792	88.6%	789	85.9%	672	71.8%
A vocationally registered specialist	21	2.3%	60	6.5%	168	17.9%
Not working medically as a doctor	48	5.4%	42	4.6%	72	7.7%
Undertaking other medical work	18	2.0%	18	2.0%	21	2.2%
A House Officer	15	1.7%	9	1.0%	3	0.3%

Base: all respondents. Question response rate: 97.3%

Table 29. Current situation of those not working medically as a doctor in six, seven, and eight years after graduation. Percentages total to more than 100% as multiple options could be selected.

Situation of those not working medically as a doctor	PGY6		PGY7		PGY8	
	n = 48		n = 42		n = 72	
	n	%	n	%	n	%
Parental leave	21	43.8%	21	50.0%	33	45.8%
Doing medically-related work that is non-clinical (e.g., medico-legal, teaching, research, committee work)	12	25.0%	12	28.6%	18	25.0%
Have permanently left the medical profession	..C	..C	-	-	15	20.8%
Home duties / childcare / family responsibilities	3	6.2%	9	21.4%	12	16.7%
Working in a non-medical role	3	6.2%	9	21.4%	9	12.5%
Enrolled as a student	3	6.2%	6	14.3%	6	8.3%
Other extended leave (e.g., sick leave, long service leave, travel, sabbatical)	12	25.0%	3	7.1%	6	8.3%

Base: respondents not working medically as a doctor in each year. Question response rate: 96.4%

Table 30. Region of hospital / clinic based at when working as a Registrar / House officer / Vocationally-registered specialist six, seven and eight years after graduation

Region of workplace	PGY6		PGY7		PGY8	
	n	%	n	%	n	%
Auckland	258	31.4%	261	30.6%	279	32.5%
Bay of Plenty	36	4.4%	36	4.2%	36	4.2%
Canterbury	129	15.7%	138	16.2%	144	16.8%
Gisborne	3	0.4%	6	0.7%	3	0.3%
Hawke's Bay	36	4.4%	30	3.5%	18	2.1%
Manawatu-Whanganui	24	2.9%	30	3.5%	27	3.1%
Marlborough	..C	..C	6	0.7%	3	0.3%
Nelson	15	1.8%	21	2.5%	12	1.4%
Northland	21	2.6%	27	3.2%	24	2.8%
Otago	51	6.2%	51	6.0%	45	5.2%
Southland	12	1.5%	9	1.1%	9	1.0%
Taranaki	12	1.5%	18	2.1%	15	1.7%
Tasman	3	0.4%	6	0.7%	6	0.7%
Taupo	3	0.4%	3	0.4%	..C	..C
Waikato	51	6.2%	51	6.0%	57	6.6%
Wellington Region	114	13.9%	93	10.9%	99	11.5%
Westland	3	0.4%	3	0.4%	6	0.7%
Country other than New Zealand	51	6.2%	63	7.4%	75	8.7%

Base: respondents working medically as a doctor in each year. Question response rate: 95.4%

Table 31. Working full-time or part-time in PGY6, PGY7, and PGY8 (all cohorts)

Work hours	PGY6		PGY7		PGY8	
	n	%	n	%	n	%
Full-time	729	87.1%	714	82.4%	675	78.7%
Part-time	108	12.9%	153	17.6%	183	21.3%

Base: respondents working medically as a doctor in each year. Question response rate: 96.4%

Table 32. Number of hours worked in a typical week six, seven and eight years after graduation

Work hours per week	PGY6		PGY7		PGY8	
	n	%	n	%	n	%
0-19 hours	18	2.2%	15	1.8%	33	3.9%
20-29 hours	36	4.5%	57	6.8%	69	8.1%
30-39 hours	102	12.6%	135	16.0%	126	14.8%
40-49 hours	186	23.0%	183	21.7%	198	23.3%
50-59 hours	288	35.7%	270	32.0%	255	30.0%
60-69 hours	162	20.1%	162	19.2%	144	17.0%
70+ hours	15	1.9%	21	2.5%	24	2.8%

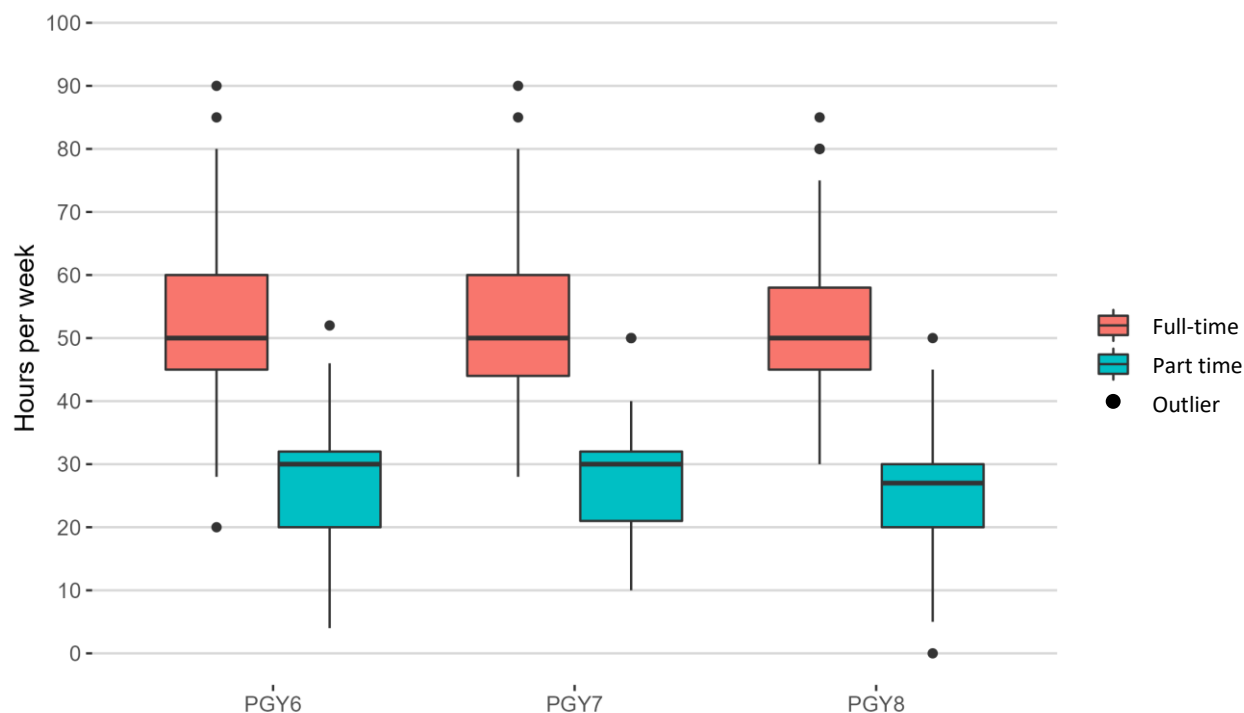
Base: respondents working medically as a doctor in each year. Question response rate: 94.2%

Table 33. Mean typical work hours per week in PGY6, PGY7, and PGY8 (all cohorts)

Full-time	PGY6	PGY7	PGY8
Mean	50.8	50.6	50.6
Standard deviation	9.7	10.1	9.9
Minimum	20	28	30
First Quartile	45	44	45
Median	50	50	50
Third Quartile	60	60	58
Maximum	90	90	85
Part-time			
Mean	27.4	27.6	26.3
Standard deviation	8.5	7.7	8.5
Minimum	4	10	0
First Quartile	20	21	20
Median	30	30	27
Third Quartile	32	32	30
Maximum	52	50	50

Base: respondents working medically as a doctor in PGY6, PGY7 or PGY8. Question response rate: 94.2%

Figure 5. Box and whisker diagram of the range of hours worked per week in PGY6, PGY7 and PGY8.



Boxes denote the inner quartiles about the median. The whiskers denote the outer first and fourth quartiles.

Table 34. Medical work / placements by geographical location in PGY6, PGY7, and PGY8 (all cohorts)

	PGY6		PGY7		PGY8	
	n = 837		n = 867		n = 861	
Location	n	%	n	%	n	%
Major city	606	72.4%	633	73.0%	630	73.2%
Regional centre	171	20.4%	171	19.7%	159	18.5%
Small town / community	63	7.5%	72	8.3%	75	8.7%

Base: respondents working medically as a doctor in PGY6, PGY7 or PGY8. Question response rate: 96.7%

Table 35. Enrolment in a college training programme six, seven and eight years after graduation

	PGY6		PGY7		PGY8	
Enrolled in a college	n	%	n	%	n	%
Yes	720	86.3%	747	85.9%	708	81.9%
No, I have not enrolled in a College training programme	102	12.2%	69	7.9%	120	13.9%
No, I have completed a College training programme	12	1.4%	45	5.2%	27	3.1%
No, I have withdrawn from a College training programme	..C	..C	9	1.0%	9	1.0%

Base: respondents working medically as a doctor in each year. Question response rate: 96.9%

Symbol ..C indicates suppression of frequencies less than three

Table 36. College training programme enrolments six, seven and eight years after graduation

Training programme	PGY6		PGY7		PGY8	
	n	%	n	%	n	%
General Practice	225	31.2%	243	31.3%	246	29.9%
Adult Medicine / Internal Medicine / Physician	132	18.3%	129	16.6%	120	14.6%
Surgery	36	5.0%	57	7.3%	81	9.9%
Anaesthesia	72	10.0%	72	9.3%	69	8.4%
Paediatrics and Child Health	48	6.7%	51	6.6%	51	6.2%
Obstetrics and Gynaecology	39	5.4%	42	5.4%	45	5.5%
Psychiatry	33	4.6%	36	4.6%	33	4.0%
Radiology	30	4.2%	33	4.2%	33	4.0%
Emergency Medicine	27	3.8%	24	3.1%	24	2.9%
Public Health Medicine	6	0.8%	15	1.9%	21	2.6%
Dual Vocational Training programme	9	1.2%	9	1.2%	12	1.5%
Pathology	12	1.7%	12	1.5%	12	1.5%
Rural Hospital Medicine	15	2.1%	12	1.5%	12	1.5%
Urgent Care†	9	1.2%	9	1.2%	12	1.5%
Dermatology	3	0.4%	3	0.4%	9	1.1%
Radiation Oncology	3	0.4%	6	0.8%	9	1.1%
Intensive Care Medicine	3	0.4%	6	0.8%	6	0.7%
Ophthalmology	12	1.7%	9	1.2%	6	0.7%
Medical Administration (e.g. managing a hospital)	..C	..C	..C	..C	3	0.4%
Pain Medicine					3	0.4%
Palliative Medicine					3	0.4%
Sport and Exercise Medicine	3	0.4%	..C	..C	3	0.4%
Sexual Health Medicine					..C	..C
Other	3	0.4%	9	1.2%	9	1.1%

Base: respondents enrolled in a college each year. Question response rate: 98.9%

†Urgent Care option added in 2021

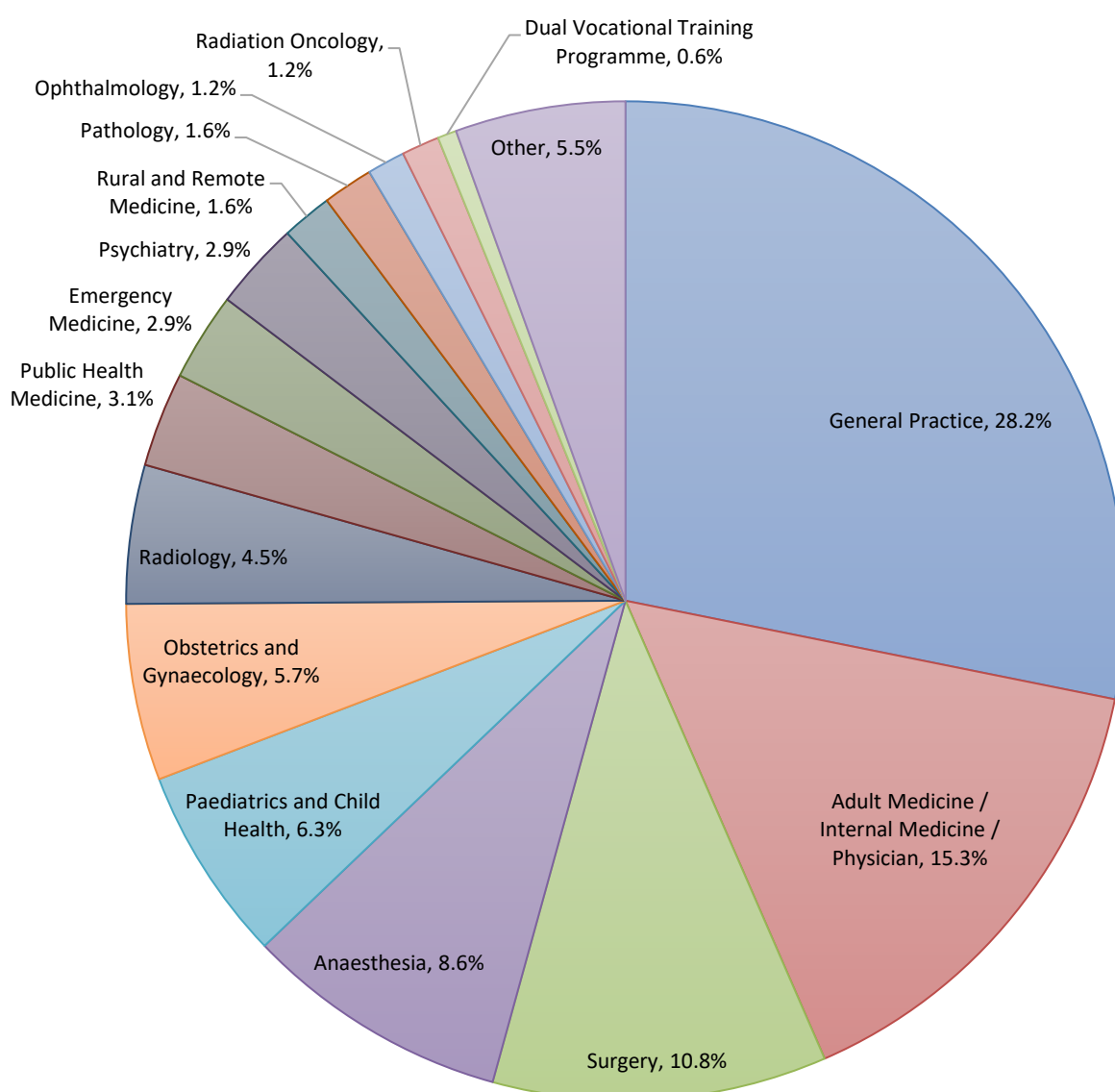
Future medical specialty

Table 37. Decided on future medical specialty

Decided on future medical specialty	Survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Yes	99	94.3%	177	93.7%	189	95.5%	159	93.0%	210	95.9%	834	94.6%
No	6	5.7%	12	6.3%	9	4.5%	12	7.0%	9	4.1%	48	5.4%

Base: respondents who have not left the medical profession. Question response rate: 95.1%

Figure 6. First preference of medical specialty irrespective of whether a future medical specialty had been decided (n = 489). This figure is based on the total column of **Table 38**.



† University of Otago data only in 2019.

Table 38. First preference of medical specialty irrespective of whether a future medical specialty had been decided (ranked by Total column). Only the top ten ranks given due to small numbers thereafter.

Medical specialty	Survey year											
	2019†		2020		2021		2022		2023		Total	
	n = 102		n = 186		n = 201		n = 165		n = 222		n = 876	
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank
General Practice	26.0%	1	35.1%	1	22.7%	1	30.5%	1	27.5%	1	28.4%	1
Adult Medicine / Internal Medicine / Physician	15.4%	2	13.3%	2	17.2%	2	14.0%	2	12.8%	2=	14.4%	2
Surgery	9.6%	3	8.5%	4	13.6%	3	7.9%	3=	12.8%	2=	10.8%	3
Anaesthesia	6.7%	5	9.6%	3	8.6%	4	7.9%	3=	8.7%	4	8.5%	4
Paediatrics and Child Health	5.8%	6=	5.9%	5	7.1%	5	5.5%	6	6.4%	5	6.2%	5
Obstetrics and Gynaecology	5.8%	6=	4.8%	6	6.6%	6	3.0%	9=	4.6%	6	4.9%	6
Radiology	7.7%	4	3.7%	7	3.5%	7	3.7%	7=	2.8%	9	3.9%	7
Psychiatry	2.9%		2.7%	8=	3.0%	8=	6.7%	5	3.7%	7=	3.8%	8
Public Health Medicine	3.8%	9=	2.7%	8=	3.0%	8=	3.0%	9=	3.7%	7=	3.2%	9
Emergency Medicine	5.8%	6=	2.1%	10=	2.0%		3.7%	7=	2.3%	10	2.9%	10
Pathology	1.0%		0.5%		3.0%	8=	1.8%		1.8%		1.7%	
Rural Hospital Medicine	1.0%		2.1%	10=	1.5%		0.6%		0.9%		1.3%	
Urgent Care‡	-	-	-	-	1.5%		1.8%		1.4%		1.0%	
Dermatology	-	-	1.1%		0.5%		2.4%		0.9%		1.0%	
Radiation Oncology	-	-	2.1%	10=	1.0%		0.6%		0.9%		1.0%	
Ophthalmology	3.8%	9=	0.5%		0.5%		-	-	0.9%		0.9%	
Intensive Care Medicine	1.0%		-	-	0.5%		-	-	1.8%		0.7%	
Palliative Medicine	1.0%		0.5%		0.5%		0.6%		0.9%		0.7%	
Dual Vocational Training programme	-	-	-	-	-	-	1.2%		1.4%		0.6%	
Sport and Exercise Medicine	-	-	-	-	1.5%		0.6%		0.5%		0.6%	
Medical Administration (e.g. managing a hospital)	1.0%		-	-	0.5%		0.6%		0.5%		0.5%	
Dual Vocational Training Programme	1.0%		1.1%		-	-	-	-	-	-	0.3%	
Addiction Medicine	-	-	0.5%		-	-	-	-	0.5%		0.2%	
Pain Medicine	-	-	-	-	-	-	-	-	0.5%		0.1%	
Sexual Health Medicine	-	-	-	-	-	-	0.6%		-	-	0.1%	
Non-Specialist Hospital Practice (e.g. career as a medical officer in a hospital)	-	-	-	-	0.5%		-	-	-	-	0.1%	
Other	1.0%		3.2%		1.0%		3.0%		1.8%		2.1%	

Base: respondents who have not left the medical profession. Question response rate: 93.6%

‡Urgent Care added as an option in 2021.

† University of Otago data only in 2019.

Table 39. Participated in medical teaching during medical career

	Survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Participated in teaching												
Yes	69	65.7%	108	56.2%	126	63.6%	105	62.5%	126	57.5%	534	60.5%
No, but interested	21	20.0%	57	29.7%	39	19.7%	39	23.2%	60	27.4%	216	24.5%
No	15	14.3%	27	14.1%	33	16.7%	24	14.3%	33	15.1%	132	15.0%

Base: respondents who have not left the medical profession. Question response rate: 94.8%

Table 40. Participated in research during medical career

	Survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Participated in research												
Yes	39	37.1%	78	40.6%	84	42.4%	66	39.3%	93	41.9%	360	40.7%
No, but interested	18	17.1%	45	23.4%	36	18.2%	27	16.1%	39	17.6%	165	18.6%
No	48	45.7%	69	35.9%	78	39.4%	75	44.6%	90	40.5%	360	40.7%

Base: respondents who have not left the medical profession. Question response rate: 95.0%

† University of Otago data only in 2019.

Table 41. Main intentions for PGY9, PGY10, and PGY11 (ranked by PGY11 column)

Main intentions	PGY9		PGY10		PGY11	
	n	%	n	%	n	%
Undertake work as a specialist	231	25.9%	360	40.4%	489	54.9%
Continue a vocational training programme	462	51.9%	342	38.4%	237	26.6%
Work outside New Zealand in a medical role	36	4.0%	42	4.7%	45	5.1%
Parental leave / home duties / childcare / family responsibilities	72	8.1%	57	6.4%	39	4.4%
Other	12	1.3%	15	1.7%	21	2.4%
Undertake research	18	2.0%	21	2.4%	21	2.4%
Change role within the medical profession	3	0.3%	3	0.3%	9	1.0%
Go on vacation / extended leave / take a break	6	0.7%	6	0.7%	9	1.0%
Do non-medical work	9	1.0%	12	1.3%	6	0.7%
Enter a vocational training programme	33	3.7%	21	2.4%	6	0.7%
Leave medicine as a career	3	0.3%	3	0.3%	6	0.7%
Continue as a house officer/ non-training registrar / medical officer	6	0.7%	6	0.7%	3	0.3%
Enrol as a student in another course	-	-	3	0.3%	-	-

Base: respondents who have not left the medical profession. Question response rate: 95.7%

Table 42. Vocational specialty of those intending to work as a specialist in PGY9, PGY10 and PGY11 (ranked by PGY11 column)

Vocational specialty	PGY9		PGY10		PGY11	
	n	%	n	%	n	%
General Practice	129	57.3%	162	45.8%	186	39.0%
Adult Medicine / Internal Medicine / Physician	15	6.7%	30	8.5%	54	11.3%
Anaesthesia	24	10.7%	39	11.0%	51	10.7%
Psychiatry	9	4.0%	18	5.1%	27	5.7%
Obstetrics and Gynaecology	-	-	6	1.7%	21	4.4%
Other specialties	48	21.3%	99	28.0%	138	28.9%

Base: respondents who have not left the medical profession. Question response rate: 97.6%

Future medical practice location

Table 43. First preference of country of future practice

First preference of country of future practice	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
New Zealand	93	91.2%	168	90.3%	177	93.7%	150	89.3%	210	93.3%
Country other than New Zealand	9	8.8%	18	9.7%	12	6.3%	18	10.7%	15	6.7%
Total	798	91.7%								

Base: respondents who have not left the medical profession. Question response rate: 92.9%

Table 44. Preferred population centre size of future practice

First preference of population centre size of future practice	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Major city (pop. 100,000 or greater)	72	64.9%	123	64.1%	129	67.2%	117	69.6%	156	69.3%
Regional centre or large town (pop. 25,000 – 100,000)	24	21.6%	45	23.4%	51	26.6%	33	19.6%	45	20.0%
Town (pop. 10,000 – 24,999)	6	5.4%	9	4.7%	3	1.6%	..C	..C	9	4.0%
Small town (pop. 10,000 or fewer)	3	2.7%	6	3.1%	3	1.6%	6	3.6%	9	4.0%
Not applicable, not intending to work in New Zealand	6	5.4%	9	4.7%	6	3.1%	12	7.1%	6	2.7%
Total	597	67.2%								

Base: respondents who have not left the medical profession. Question response rate: 94.7%

† University of Otago data only in 2019.

Symbol ..C indicates suppression of frequencies less than three

Table 45. First preference for region of future practice

First preference of region of future practice	Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
Auckland	24	23.5%	51	27.4%	57	30.2%	48	28.6%	72	32.0%
Bay of Plenty	9	8.8%	15	8.1%	9	4.8%	12	7.1%	15	6.7%
Canterbury	21	20.6%	24	12.9%	30	15.9%	33	19.6%	39	17.3%
Gisborne	-	-	3	1.6%	3	1.6%	-	-	-	-
Hawke's Bay	3	2.9%	12	6.5%	12	6.3%	3	1.8%	6	2.7%
Manawatu-Wanganui	..C	..C	6	3.2%	3	1.6%	6	3.6%	3	1.3%
Marlborough	-	-	-	-	-	-	..C	..C	-	-
Nelson	-	-	3	1.6%	9	4.8%	3	1.8%	6	2.7%
Northland	6	5.9%	9	4.8%	6	3.2%	3	1.8%	3	1.3%
Otago	6	5.9%	12	6.5%	9	4.8%	6	3.6%	18	8.0%
Southland	3	2.9%	..C	..C	-	-	3	1.8%	-	-
Taranaki	3	2.9%	3	1.6%	3	1.6%	6	3.6%	6	2.7%
Tasman	-	-	3	1.6%	-	-	3	1.8%	3	1.3%
Taupo	3	2.9%	-	-	-	-	..C	..C	-	-
Waikato	3	2.9%	6	3.2%	6	3.2%	12	7.1%	21	9.3%
Wellington Region	12	11.8%	21	11.3%	30	15.9%	12	7.1%	15	6.7%
West Coast	-	-	-	-	-	-	-	-	3	1.3%
Country other than New Zealand	9	8.8%	18	9.7%	12	6.3%	18	10.7%	15	6.7%

Base: respondents who have not left the medical profession. Question response rate: 92.9%

† University of Otago data only in 2019.

Symbol ..C indicates suppression of frequencies less than three

Table 46. First, second, and third preferences of region of future practice (all cohorts, ordered by first preference)

Preferences for region of future practice	Total		
	n = 870	n = 747	n = 651
	1 st Pref	2 nd Pref	3 rd Pref
Auckland	29.0%	16.5%	12.0%
Canterbury	16.9%	10.4%	11.1%
Wellington Region	10.3%	12.0%	12.9%
Bay of Plenty	6.9%	10.4%	9.7%
Otago	5.9%	6.4%	6.5%
Waikato	5.5%	7.2%	4.6%
Hawke's Bay	4.1%	5.6%	6.5%
Northland	3.1%	5.6%	6.5%
Nelson	2.4%	4.4%	5.5%
Taranaki	2.4%	3.2%	2.8%
Manawatu-Whanganui	2.1%	2.0%	2.8%
Tasman	1.0%	1.6%	1.4%
Gisborne	0.7%	0.8%	1.8%
Southland	0.7%	0.8%	1.4%
Taupo	0.3%	1.6%	0.9%
West Coast	0.3%	0.8%	1.8%
Marlborough	..C	1.2%	0.9%
Country other than New Zealand	8.3%	9.2%	11.1%

Background shading increases with increasing percentage of column total.

Symbol ..C indicates suppression of frequencies less than three

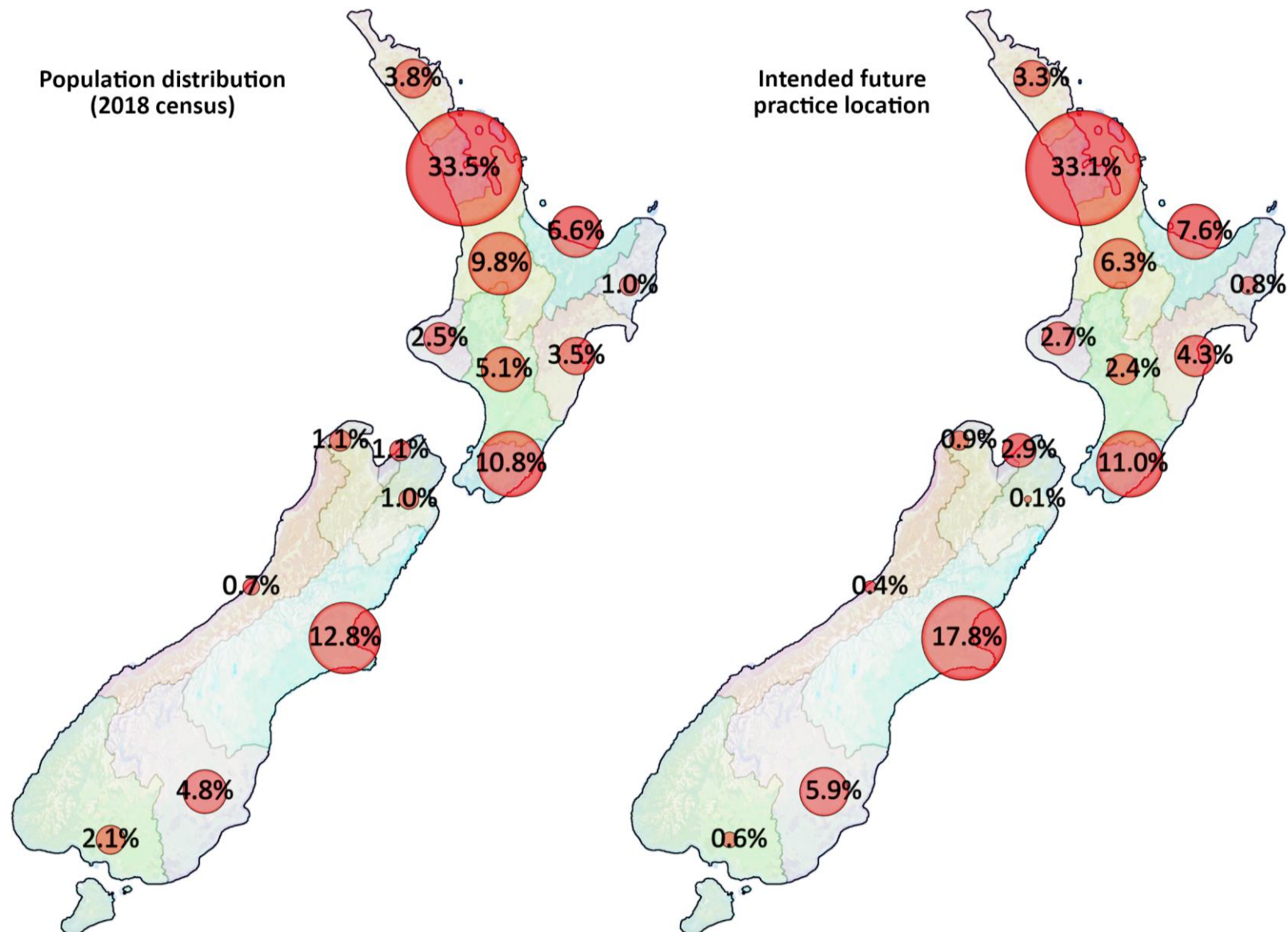


Figure 7. Geographical distributions of population (2018 census), and of first preference of intended future practice location. These values have been corrected for response rate.

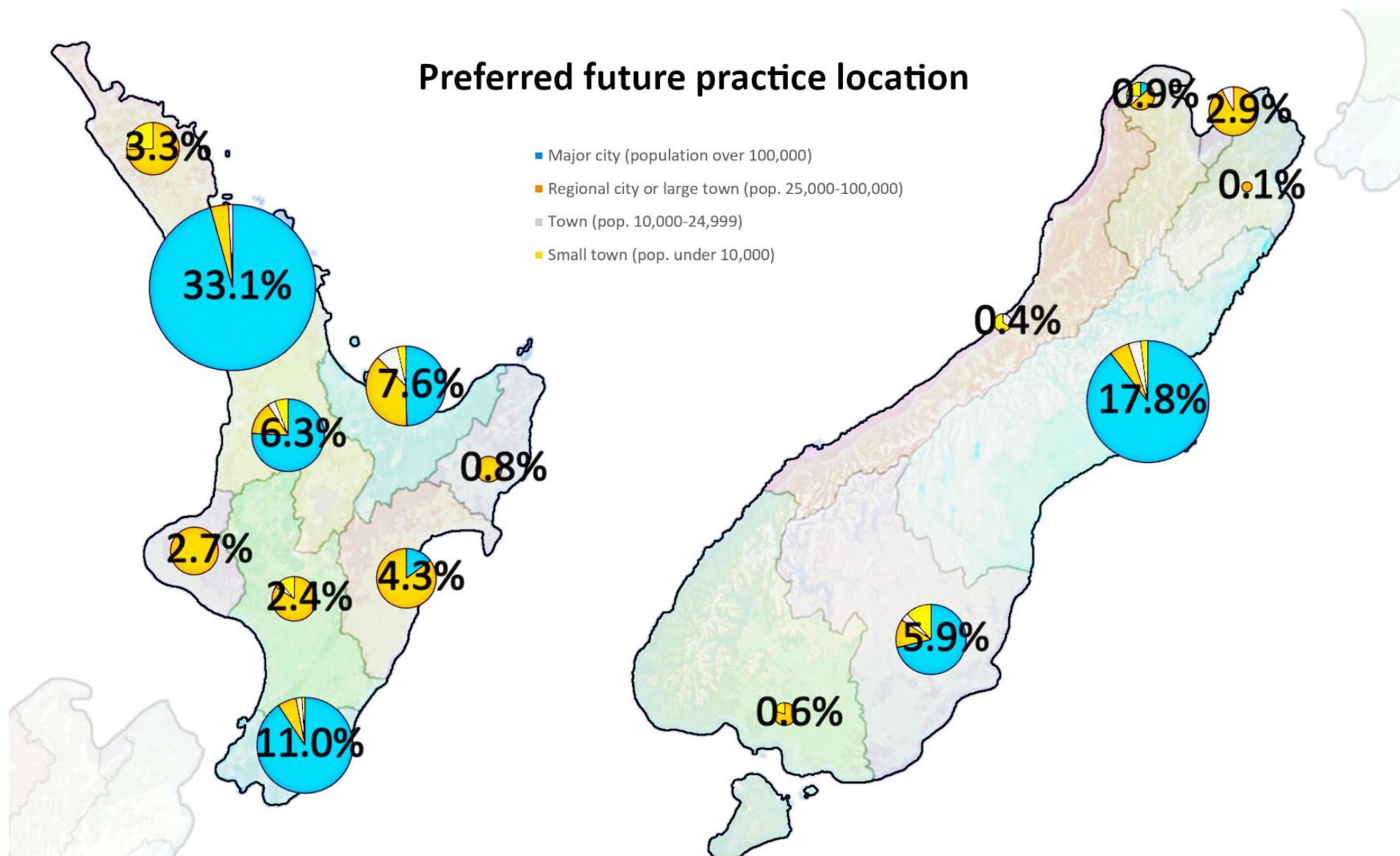


Figure 8. First preference of intended future practice location, and preferred population of geographical location. These values have been corrected for response rate.

Factors influencing specialty choice

Respondents were asked to rate on a scale from 1 (=not at all) to 5 (=a great deal) how a certain factor would influence their most preferred type of medical practice. Each factor was then ranked by the percentage of those responding with a '4' or '5' to that factor (% Sig.).

Table 47. Factors influencing choice of specialty (ranked by Total column)

Factor influencing choice of specialty	Survey year											
	2019†		2020		2021		2022		2023		Total	
	% Sig.	Rank	% Sig.	Rank	% Sig.	Rank	% Sig.	Rank	% Sig.	Rank	% Sig.	Rank
Atmosphere / work culture typical of the discipline	77.4%	1	77.5%	1	77.9%	1	79.0%	1	82.0%	1	79.0%	1
Self-appraisal of own skills / aptitudes	72.6%	3	76.4%	2	74.9%	3	71.9%	3	73.3%	4	74.0%	2
Influence of training experiences as a doctor (e.g., mentors / consultants)	68.9%	4=	70.2%	4=	76.4%	2	76.0%	2	75.6%	3	73.9%	3
Interest in helping people	75.5%	2	70.7%	3	72.9%	5	68.9%	4	77.0%	2	73.0%	4
Work experience since graduation	62.3%	7=	68.6%	7	74.4%	4	66.5%	5	67.7%	5=	68.5%	5
Intellectual content of the specialty	68.9%	4=	70.2%	4=	67.8%	6	62.3%	8	67.7%	5=	67.4%	6
Perceived opportunity to work flexible hours	68.9%	4=	69.6%	6	64.8%	7	64.7%	6	67.7%	5=	67.0%	7
Perceived amount of working hours	62.3%	7=	64.9%	8	59.8%	8	62.9%	7	64.5%	8	63.0%	8
Type of patients typical of the discipline	60.4%	9	61.3%	9	56.8%	9	52.7%	9	62.7%	9	58.9%	9
Self-appraisal of own domestic circumstances	50.0%	11=	54.5%	10	48.2%	11	50.9%	10	47.0%	11	50.0%	10
Opportunity for procedural work	50.0%	11=	47.6%	12	49.2%	10	44.9%	11	50.7%	10	48.5%	11
Perceived job security	50.9%	10	49.7%	11	46.7%	12	40.7%	12	46.1%	12	46.6%	12
Experience of specialty as a medical student	36.8%	13=	37.7%	15	42.7%	13	34.1%	15	42.4%	13	39.2%	13

Table continues next page

Factor influencing choice of specialty	Survey year											
	2019†		2020		2021		2022		2023		Total	
	% Sig.	Rank	% Sig.	Rank	% Sig.	Rank	% Sig.	Rank	% Sig.	Rank	% Sig.	Rank
Availability of a vocational training placement	36.8%	13=	42.9%	13	36.7%	14=	37.1%	14	40.1%	14	39.0%	14
Perceived career advancement prospects	32.1%	15	38.2%	14	34.7%	17	30.5%	16	35.5%	16	34.5%	15
Geographical location of most preferred specialty	27.4%	16	36.1%	16	36.2%	16	37.7%	13	29.0%	17	33.6%	16
General medical school experiences (e.g., mentors, discipline placements)	25.5%	17	28.8%	17	36.7%	14=	25.7%	18	36.4%	15	31.5%	17
Number of years required to complete training	21.7%	18	25.1%	19	27.1%	18	29.3%	17	23.5%	19	25.6%	18
Opportunity for research and / or teaching	17.9%	19	25.7%	18	22.6%	19	25.1%	19	24.0%	18	23.5%	19
Perceived financial prospects	16.0%	20	22.0%	20	18.6%	20	16.8%	20	21.7%	20	19.4%	20
Perceived prestige of the discipline	11.3%	21	12.6%	21	12.6%	21	10.8%	21	15.7%	21	12.8%	21
Influence of parents / relatives	9.4%	22	8.4%	22	12.1%	22	7.8%	22	7.8%	22	9.1%	22
Risk of litigation and associated insurance costs	3.8%	23	6.8%	23	2.5%	25	4.2%	24=	5.5%	23=	4.7%	23
Financial costs of vocational training	2.8%	24=	5.8%	24	3.5%	23	4.2%	24=	5.1%	24	4.4%	24
Financial costs of medial school education and / or debt	2.8%	24=	4.7%	25	3.0%	24	4.8%	23	5.5%	23=	4.3%	25

Base: respondents who have not left the medical profession. Question response rate: 97.6%

Comparison with EQ responses at Graduation

Where respondents had also completed an Exit Questionnaire (EQ) upon graduation from medical school, those responses were linked to the responses given for the PGY8 survey to observe any changes over the eight-year early career interval.

Table 48. Number of PGY8 respondents who also completed an Exit Questionnaire eight years prior

	PGY8 Survey year											
	2019+		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Responses linked to EQ	102	87.2%	171	87.7%	195	94.2%	153	81.0%	225	92.6%	846	89.0%

Base: all respondents.

Table 49. Number of PGY8 respondents with the same first preference of intended practice region at both EQ and PGY8

First preference of region of future practice	PGY8 Survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
No change of preference	42	48.3%	57	35.8%	90	49.2%	69	51.1%	93	47.0%	351	46.1%
Change of preference	45	51.7%	102	64.2%	93	50.8%	66	48.9%	105	53.0%	411	53.9%

Base: respondents who responded to both PGY8 and EQ, and have not left medicine in PGY8. Question response rate: 90.1%

Table 50. Number of PGY8 respondents whose first preference of future practice region was one of their top three picks at EQ

First preference of region of future practice	PGY8 Survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
First preference is one of three previously indicated	60	69.0%	90	56.6%	117	63.9%	93	68.9%	135	68.2%	495	65.0%
First preference was not one previously indicated	27	31.0%	69	43.4%	66	36.1%	42	31.1%	63	31.8%	267	35.0%

Base: respondents who responded to both PGY8 and EQ, and have not left medicine in PGY8. Question response rate: 90.1%

† University of Otago data only in 2019.

Table 51. Number of PGY8 respondents with the same preference of population size of future practice location at both EQ and PGY8

	PGY8 Survey year											
First preference of population size	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
No change of preference	57	63.3%	99	62.3%	108	61.0%	87	65.9%	114	56.7%	465	61.3%
Change of preference	33	36.7%	60	37.7%	69	39.0%	45	34.1%	87	43.3%	294	38.7%

Base: respondents who responded to both PGY8 and EQ, and have not left medicine in PGY8. Question response rate: 89.7%

Table 52. Direction of change of intended population size for PGY8 respondents whose preference has changed since EQ

	PGY8 Survey year											
Change of intended population size	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
Preference changed towards a larger population centre	24	80.0%	42	77.8%	45	71.4%	30	71.4%	60	74.1%	201	74.4%
Preference changed towards a smaller population centre	6	20.0%	12	22.2%	18	28.6%	12	28.6%	21	25.9%	69	25.6%

Base: respondents who changed intended population size between PGY8 and EQ, and did **not** indicate “Not applicable”. Question response rate: 89.7%

Table 53. Number of PGY8 respondents with the same first preference of future medical specialty at both EQ and PGY8

First preference of intended medical specialty	PGY8 Survey year											
	2019†		2020		2021		2022		2023		Total	
	n	%	n	%	n	%	n	%	n	%	n	%
No change of preference	27	33.3%	69	43.4%	81	45.0%	51	38.6%	90	49.2%	318	43.3%
Change of preference	54	66.7%	90	56.6%	99	55.0%	81	61.4%	93	50.8%	417	56.7%

Base: respondents who responded to both PGY8 and EQ, and have not left medicine in PGY8. Question response rate: 86.9%

† University of Otago data only in 2019.

Table 54. Number of PGY8 respondents with the same first preference of future medical specialty at both EQ and PGY8, who **had decided** upon their specialty preference at EQ

First preference of intended medical specialty	PGY8 Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
No change of preference	12	57.1%	30	50.0%	36	46.2%	21	35.0%	60	58.8%
Change of preference	9	42.9%	30	50.0%	42	53.8%	39	65.0%	42	41.2%
									159	49.5%
									162	50.5%

Base: respondents who were decided upon their intended specialty at EQ, and have not left medicine in PGY8. Question response rate: 86.9%

Table 55. Number of PGY8 respondents with the same first preference of future medical specialty at both EQ and PGY8, who **had not decided** upon their specialty preference at EQ

First preference of intended medical specialty	PGY8 Survey year									
	2019†		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
No change of preference	18	28.6%	39	39.4%	42	43.8%	27	39.1%	33	39.3%
Change of preference	45	71.4%	60	60.6%	54	56.2%	42	60.9%	51	60.7%
									159	38.7%
									252	61.3%

Base: respondents who were not decided upon their intended specialty at EQ, and have not left medicine in PGY8. Question response rate: 86.9%

† University of Otago data only in 2019.

Appendix A: Response rate

Additional analyses were undertaken to assess the whether the respondents were representative of the total cohort.

Response rates by institution

As shown in Table 1, the response rates are substantially different between the two universities. As the two universities have different cohort sizes, this further skews the imbalance of responses.

Table 56. Number of respondents by university

Medical School / Programme	Survey year									
	2019		2020		2021		2022		2023	
	n	%	n	%	n	%	n	%	n	%
University of Auckland	-	-	63	32.3%	78	38.2%	66	35.5%	108	44.4%
University of Otago	114	100.0%	132	67.7%	126	61.8%	120	64.5%	135	55.6%
Total responses	114	100.0%	195	100.0%	204	100.0%	186	100.0%	243	100.0%

Responder/non-responder analysis

PGY8 responders/non-responders

Responder/non-responder analysis was undertaken to determine whether responders were representative of the cohort. The gender composition of both groups (responders and non-responders) were slightly different to that of the 2011 to 2015 graduating cohort, with a greater proportion of male non-responders. The ethnic identity composition of the two groups also varied significantly.

Table 57. Respondents/non-respondents by gender

Gender	Responders†		Non-responders		Total	
	n	%	n	%	n	%
Female	567	60.2%	498	49.6%	1065	54.7%
Male	375	39.8%	507	50.4%	882	45.3%

†Numbers differ from those of Table 8, which only includes respondents who answered the gender question in this survey. Table 57 is compiled from medical school data.

Table 58. Respondents/non-respondents by age group

Age group	Responders†		Non-responders		Total	
	n	%	n	%	n	%
30-34 years	807	85.7%	849	84.5%	1656	85.1%
35-39 years	99	10.5%	117	11.6%	216	11.1%
40 years and over	36	3.8%	39	3.9%	75	3.9%

†Numbers differ from those of Table 9, which only includes respondents who answered the date of birth question in this survey. Table 58 is compiled from medical school data.

Table 59. Respondents/non-respondents average and median ages

Statistic	Responders	Non-responders	Total
Mean	33.4	33.7	33.5
Standard deviation	2.9	2.8	2.9
Minimum	30.5	30.2	30.2
First quartile	32.0	32.0	32.0
Median	32.4	32.7	32.5
Third quartile	33.9	34.1	34.1
Maximum	55.4	55.7	55.7

Table 60. Respondents/non-respondents by ethnicity

Ethnicity	Responders†		Non-responders		Total	
	n = 942		n = 1005		n = 1947	
	n	%	n	%	n	%
Māori	90	9.6%	72	7.2%	162	8.3%
Pacific people	33	3.5%	66	6.6%	99	5.1%
New Zealand European	624	66.2%	402	40.0%	1026	52.7%
Other	306	32.5%	534	53.1%	840	43.1%

†Numbers differ from those of Table 11, which only includes respondents who answered the ethnic identity question in this survey. Table 60 is compiled from medical school data, and as such may not match respondents' current ethnic identity at the time of the survey.

[Linked PGY8-EQ responders/non-responders](#)

Responder/non-responder analysis was undertaken to determine whether the respondents in the linked dataset were representative of the cohort. The gender compositions of both groups (responders and non-responders) were slightly different to that of the 2011 to 2015 graduating cohort, with a greater proportion of male non-responders. The ethnic identity composition of the two groups also varied significantly.

Table 61. Respondents/non-respondents by university

Medical School / Programme	Responders†		Non-responders		Total	
	n	%	n	%	n	%
University of Auckland	291	34.5%	444	40.1%	735	37.7%
University of Otago	552	65.5%	663	59.9%	1215	62.3%

Table 62. Respondents/non-respondents by gender

Gender	Responders†		Non-responders		Total	
	n	%	n	%	n	%
Female	513	60.9%	552	49.9%	1065	54.6%
Male	330	39.1%	555	50.1%	885	45.4%

†Numbers differ from those of Table 8, which only includes respondents who answered the gender question in this survey. Table 62 is compiled from medical school data.

Table 63. Respondents/non-respondents by age group

Age group	Responders†		Non-responders		Total	
	n	%	n	%	n	%
30-34 years	717	85.4%	942	84.9%	1659	85.1%
35-39 years	90	10.7%	126	11.4%	216	11.1%
40 years and over	33	3.9%	42	3.8%	75	3.8%

†Numbers differ from those of Table 9, which only includes respondents who answered the date of birth question in this survey. Table 63 is compiled from medical school data.

Table 64. Respondents/non-respondents average and median ages

Statistic	Responders	Non-responders	Total
Mean	33.5	33.5	33.5
Standard deviation	2.9	2.8	2.9
Minimum	30.5	30.2	30.2
First quartile	31.9	32.0	32.0
Median	32.4	32.6	32.5
Third quartile	33.9	34.1	34.1
Maximum	55.4	55.7	55.7

Table 65. Respondents/non-respondents by ethnicity

Ethnicity	Responders†		Non-responders		Total	
	n = 840		n = 1110		n = 1947	
	n	%	n	%	n	%
Māori	75	8.9%	87	7.8%	162	8.3%
Pacific people	30	3.6%	66	5.9%	96	4.9%
New Zealand European	561	66.8%	462	41.6%	1023	52.5%
Other	273	32.5%	570	51.4%	843	43.2%

†Numbers differ from those of Table 11, which only includes respondents who answered the ethnic identity question in this survey. Table 65 is compiled from medical school data, and as such may not match respondents' current ethnic identity at the time of the survey.

Appendix B: Method

In 2019, the University of Otago conducted the first survey of doctors eight years after graduation from medical school. From 2020 onwards, both University of Auckland and University of Otago medical graduates have been surveyed. The questionnaire has been designed to resemble the questionnaires for earlier timepoints (three- and five- years post-graduation questionnaires), but with a few changes to the available responses or exact question wording to some questions to reflect the amount of time the doctors have spent in their fields, and the progress through their specialist training or other career milestones that may have occurred in the interim.

The majority of the questions are quantitative. The career choice options that respondents can select were determined when the study was first commenced in Australia. While they have been adapted, there is still not yet complete alignment with vocational scopes of practice as determined by MCNZ. In 2021, the Urgent Care vocational training programme was added, and Indigenous Health was removed, to bring this further into alignment.

Both University of Auckland and University of Otago study data were collected and managed using the Research Electronic Data Capture (REDCap) tool hosted at the University of Otago³. REDCap is a secure, web-based application designed to support data capture for research studies, providing 1) an intuitive interface for validated data entry; 2) audit trails for tracking data manipulation and export procedures; 3) automated export procedures for seamless data downloads to common statistical packages; and 4) procedures for importing data from external sources.

The two sets of data from each year were combined to form national data sets.

From 2021 actual career choices are determined by linking MSOD data to workforce outcomes data collated by Health New Zealand. The workforce outcomes data is sourced from the Workforce Survey which MCNZ collects upon registration and renewal of practicing certificates. Data linkage is facilitated by Health New Zealand.

To protect respondents' data, Statistics New Zealand's guidelines have been adopted⁴ in the presentation of frequencies for individual years: frequencies less than three have been suppressed, as indicated by "...C" within table cells; other frequencies in these tables have been randomly rounded to a multiple of three. Unless otherwise indicated, columns total to 100%.

³ Paul A. Harris, Robert Taylor, Robert Thielke, Jonathon Payne, Nathaniel Gonzalez, Jose G. Conde, Research electronic data capture (REDCap) – A metadata-driven methodology and workflow process for providing translational research informatics support, *J Biomed Inform.* 2009 Apr;42(2):377-81

⁴ Statistics New Zealand, 2013 Census confidentiality rules and how they are applied, <http://archive.stats.govt.nz/Census/2013-census/methodology/confidentiality-how-applied.aspx>, published 3/09/2013. Retrieved 30/07/2020