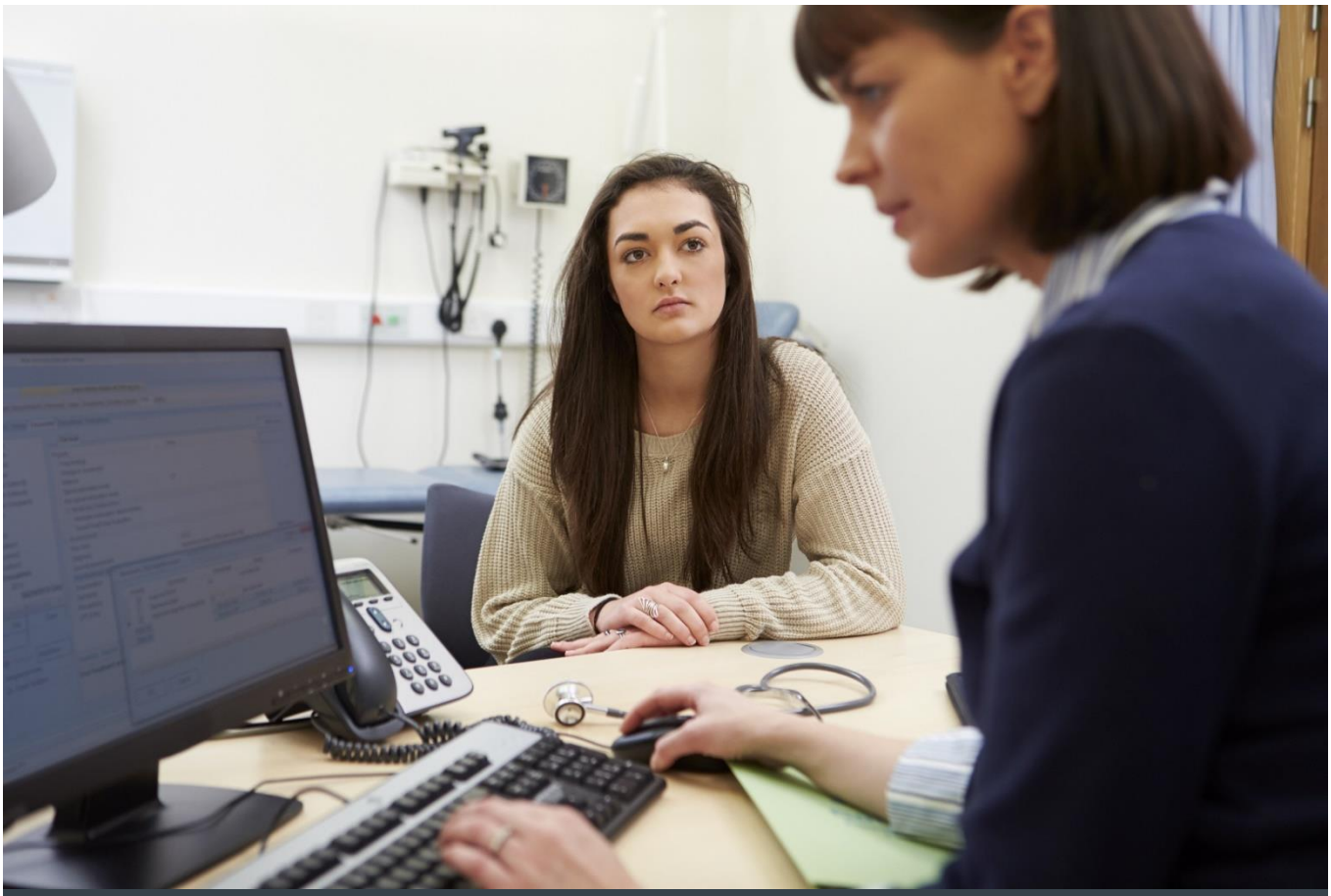

2020 General Practice Workforce Survey

Equity report – Final

22 December 2020

ALLEN+CLARKE

ACKNOWLEDGEMENTS

We would like, first and foremost, to thank the members of the Royal New Zealand College of General Practitioners and Division of Rural Hospital Medicine who gave freely of their time to participate in this survey. We would also like to thank the College staff, in particular Donna Jones and Susan Knox, who contributed significantly to the development and successful completion of the survey. We also acknowledge Dr John Marwick for his valuable clinical and professional insights, and the College's Advisory Group members (Dr Jennifer Keys, Dr Jo Scott-Jones, Dr Rachel Mackie, Dr Bryan Betty and Emmanuel Jo) for their guidance on emerging topics of interest.

REVIEW

We thank Emmanuel Jo and Keri McArthur (Health workforce Directorate, Ministry of Health) for providing external peer review of this report.

Document status:	Final
Version and date:	20/01/2021
Author(s):	Brendan Stevenson, Danny Tu
Filing Location:	W:\RNZCGP\2020 Workforce Survey\04 Deliverables\Reports\Report drafting\Report 3 - Equity
Peer / technical review:	John Marwick
Verification that QA changes made:	Danny Tu
Proof read:	Greg Martin
Formatting:	Danny Tu
Final QA check and approved for release:	Kirsten Lovelock

INSIGHTS

Gender

Overall, there are more female GPs in the workforce (58 percent) with a large female cohort that entered the GP workforce between 2014 and 2016 (at the ages of 25-34) contributing to the high proportion of female GPs in older cohorts. However, lower numbers of female GPs entering the workforce since 2016 will affect the overall proportion of female GPs in the future.

Male GPs are paid 14.6 percent more than female GPs, with the gender pay gap being much larger for employees/contractors (12 percent) than for owners/partners (4 percent).

The income gap between male and female GPs is approximately $25,000 after controlling for the significant variables of: employment status, weekly working hours, Fellowship status and years since gaining MCNZ registration. Importantly, ethnicity is not statistically significant in contributing to gender income differences.

44 percent of male GPs reported being an owner or practice owner compared to 26 percent of females.

Māori and Pacific Peoples

GPs reporting a Māori (4 percent), or Pacific Peoples' (1.7 percent) ethnicity are present in the GP workforce at a much lower rate than is found in the general population (17 and 8.1 percent respectively).

Māori are less likely to be in partnership or to be an owner of a practice (22 percent of Māori versus 36 percent European), as are GPs reporting a Pacific Peoples' ethnicity (21 percent).

Rurality

The proportion of urban Māori GPs (3.6 percent) is lower than the general urban population (14 percent in the 2018 Census) with GPs reporting a Pacific Peoples' ethnicity also underrepresented (2.1 percent in the survey and 9.5 percent in census general urban population). Similarly, for GPs reporting working in rural practices, the proportion of Māori GPs (4.1 percent) is less than in the general rural population (18 percent) as is are GPs reporting a Pacific peoples' ethnicity (0.5 percent compared to 2.1 percent in the 2018 Census).

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EXECUTIVE SUMMARY

This is the third in a series of reports from The Royal New Zealand College of General Practitioners' (the College's) 2020 Workforce Survey. In this equity report, we have examined GPs' annual income, hourly pay rate, and practice ownership/partnership by gender, ethnicity, and rurality.

The survey results have been collated and analysed by *Allen + Clarke* with support from College staff. Over 5,000 Fellows, Members and Associates of the College and the Division of Rural Hospital Medicine were surveyed (almost all doctors working in New Zealand general practice and rural hospital medicine), with a response rate of 60 percent.

Gender

Overall, there are more female GPs in the GP workforce (58 percent). There has been a demographic shift in the GP workforce as we see more female GPs in the workforce generally and a large female cohort entering the GP workforce between 2014 and 2016 (at the ages of 25-29 and 30-34) which is contributing to the high proportion of female GPs in the current 30-34 and 35-39 year-old cohort. However, the proportion of female GPs in this cohort will change over time, as some leave the workforce and older GPs enter the workforce, for example the proportion of female GPs in the 25-29 age group in 2015 has reduced from 69 percent to 65 percent by 2020 (30-34 in 2020) and reducing from 73 percent for the 30-34 age group in 2015 to 68 percent by 2020 survey (35-39 age group). The proportion of female GPs entering the workforce has been steadily reducing since 2016, which will influence the gender balance of the GP workforce in coming years.

Female GPs earn less than male GPs, and respondents who report a diverse gender identity or do not specify have the lowest hourly pay rate. The gender pay gap for female GPs (14.6 percent) is higher than the population average (9.3 percent), but lower than for professionals in general (16.7 percent) and for technicians/trades workers (16.2 percent).

The gender pay gap for the 24 to 39 age group is 6 percent for part-time, 23 percent for GPs working 36 to 40 hours per week, and 15 percent for those working more than 40 hours. The pay gap for 40-54 year-old female GPs ranges from 22 percent for part-time GPs and around 18 percent for those working fulltime or more. For GPs aged 55 to 64 years, the gender pay gap is between 13 and 18 percent. The gender pay gap is much larger for employees/contractors (12 percent) than for owners/partners (4 percent).

A more sophisticated analysis to untangle the multiple influences on income was undertaken using a regression analysis of gender, age, prioritised ethnicity, years since gaining MCNZ

registration, hours worked per week, employment status, and Fellowship status on the annual income variable. After controlling for confounding variables, the income gap between male and female GPs is approximately $25,000, with the most important attributes accounting for the gender difference in income being employment status, weekly working hours, Fellowship status and years since gaining MCNZ registration. The results also revealed that prioritised ethnicity was found not to be statistically significant in contributing to the income differences. This means that GPs' annual income is similar among different ethnic groups.

In 2020, 44 percent of male GPs report being a practice owner or partner compared to 26 percent of females, reflecting a consistent gap for female GPs over the last 6 years. However, there are indications of the younger cohort of female GPs becoming owners or partners as the GP population ages.

Māori and Pacific Peoples

Māori and Pacific peoples participate in the GP workforce at a proportionally lower rate. GPs reporting a Māori (4 percent), or Pacific Peoples' (1.7 percent) ethnicity are at a much lower rate than is found in the general population (17 and 8.1 percent respectively). There is larger proportion of younger Māori GPs in the 24 to 39-year-old range (8 percent), but this is still lower than the general population (16 percent). Māori are less likely to be in partnership or to be an owner of a practice (22 percent of Māori versus 36 percent European), as are GPs reporting a Pacific Peoples' ethnicity (21 percent).

In terms of remuneration, GPs reporting a Māori or Pacific peoples' ethnicity have the lowest hourly pay rate ($79 and $77 respectively) compared to GPs reporting a European ethnicity; after controlling for other factors however, ethnicity was not significantly related to any differences in income.

Rurality

GPs who report a Māori or Pacific Peoples' ethnicity are not well represented in urban practices when compared to the 2018 census ethnic urban distribution. The proportion of Māori GPs (3.6 percent) is less than is seen in the general urban population (14 percent) and GPs reporting a Pacific Peoples ethnicity are also underrepresented (2.1 percent and 9.5 percent respectively). Similarly, GPs reporting a Māori or Pacific Peoples' ethnicity are also underrepresented in rural practices. The proportion of Māori GPs (4.1 percent) is less than is seen in the general rural population (18 percent) and Pacific Peoples' GPs 0.5 percent compared to 2.1 percent (2018

census). There is very little difference in the hourly pay rate or in practice ownership/partnership between urban and rural GPs.

1. INTRODUCTION

1.1. Context

The Royal New Zealand College of General Practitioners (the College) works to improve the health of all New Zealanders through high quality general practice care. The College is a professional membership organisation that works to strengthen the professionalism and practice of its members. The College provides education, assessment, quality and support services for general practice and rural hospital medicine; and represents its members by providing advice and expertise to government and within the wider health sector.

The College works to achieve its strategic aims of:

- Growing the GP workforce
- Setting quality standards for practices
- Representing its members
- Contributing to equitable health care for all New Zealanders
- Becoming a contemporary and sustainable organisation.

The College is the largest professional medical college in New Zealand and provides ongoing professional development to approximately 5,700 GPs and Rural Hospital Medicine practitioners.

Every two years the College conducts a workforce survey among its members. The survey aims to provide the College (and the wider health sector) with a strong evidence base that will help inform future decisions about general practice in New Zealand, track trends over time, and respond in a timely manner to emerging issues.

Allen + Clarke was commissioned by the College to co-design and conduct the 2020 General Practice Workforce Survey. In addition to core questions that have been included in previous workforce surveys, it was decided to add content to the 2020 Survey relating to 'new ways of working'. This included timely reporting on changes to service delivery models related to COVID-19 lockdown restrictions. New Zealand went into COVID-19 Alert Level 4 lockdown in March 2020; this may have influenced some of the findings of this report.

1.2. Objective

The aim of this work is to add to the College's evidence base to inform quality standards, and programmes to improve general practice workplace and clinical systems in general practice for the benefit of practices and patients.

1.3. Limitations

Due to the lack of access to the full historical workforce survey datasets, *Allen + Clarke* has adopted a 'Single Source of Truth' approach and extracted the previous surveys' results from the 2014 to 2018 GP Workforce reports.

2. DEMOGRAPHICS

2.1. Gender and age

Overall, there are more female GPs in the GP workforce (58 percent) and an average age of 50 years for the total sample, 48 years for the female GPs and 54 years for male GPs. As noted in earlier reports on the 2020 GP workforce survey, there is a shift to more female GPs across the entire workforce. There was a large female cohort entering the GP workforce between 2014 and 2016 (at the ages of 25-29 and 30-34) which contributed to the high proportion of female GPs in the current 35-54 year-old cohort, which will change over time as some leave the workforce and as older GPs enter the workforce (from other countries or training as GPs later in life). Since 2016 there has been a reduction in the extent to which females outnumber males at early career stages (age 25-29 and 30-34), decreasing from 65 percent of female GPs in 2017 to 62 percent in 2020.

Table 1. Proportion of female GPs by age across the GP workforce surveys 2014 - 2020.

Percentage Female	2018 Census	General Practice Workforce Survey					
		2014	2015	2016	2017	2018	2020
25-29 Years	50%	75%	69%	72%	65%	64%	62%
30-34 years	51%	70%	73%	75%	63%	68%	65%
35-39 years	51%	65%	63%	66%	71%	68%	68%
40-44 years	52%	62%	64%	63%	63%	67%	70%
45-49 years	52%	63%	62%	65%	64%	62%	67%
50-54 years	51%	50%	53%	54%	61%	62%	68%
55-59 years	51%	44%	46%	50%	49%	53%	56%
60-64 years	51%	29%	32%	38%	39%	43%	49%
65-69 years	51%	27%	23%	24%	23%	24%	32%
70-74 years	52%	16%	9%	14%	15%	23%	21%
Total (25+)	**51%**	**52%**	**53%**	**54%**	**54%**	**55%**	**58%**

Note: There were very small sample size in the 75+ age category so these were excluded.

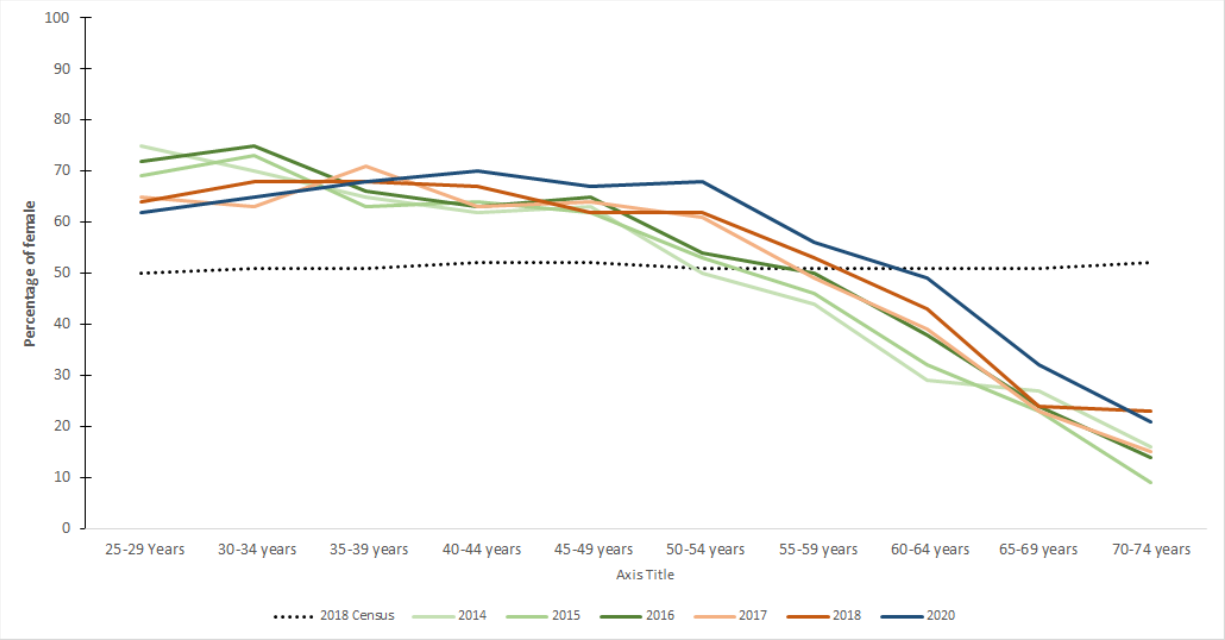
Looking in more detail at how the proportion of female GPs in each 2020 cohort has changed since 2015, there has been a reduction in the proportion of female GPs in the 25-29 age group in 2015 (69 percent) and were now 30-34 in 2020 (65 percent). A reduction was also seen in the next older cohort with the proportion of female GPs in the 30-34 age group in 2015 (73 percent) and dropping to 68 percent in the 2020 survey (35-39 age group). The 2015 cohorts between the ages of 35 and 59 all showed an increase in the proportion of female GPs.

Table 2. Proportion of female GPs by cohort across the GP workforce surveys 2015 and 2020.

Age in 2015	2015	2020
25-29 Years	69%	65%
30-34 years	73%	68%
35-39 years	63%	70%
40-44 years	64%	67%
45-49 years	62%	68%
50-54 years	53%	56%
55-59 years	46%	49%
60-64 years	32%	32%
65-69 years	23%	21%
70-74 years	27%	-

Note: There were very small N's in the 75+ age category so these were excluded.

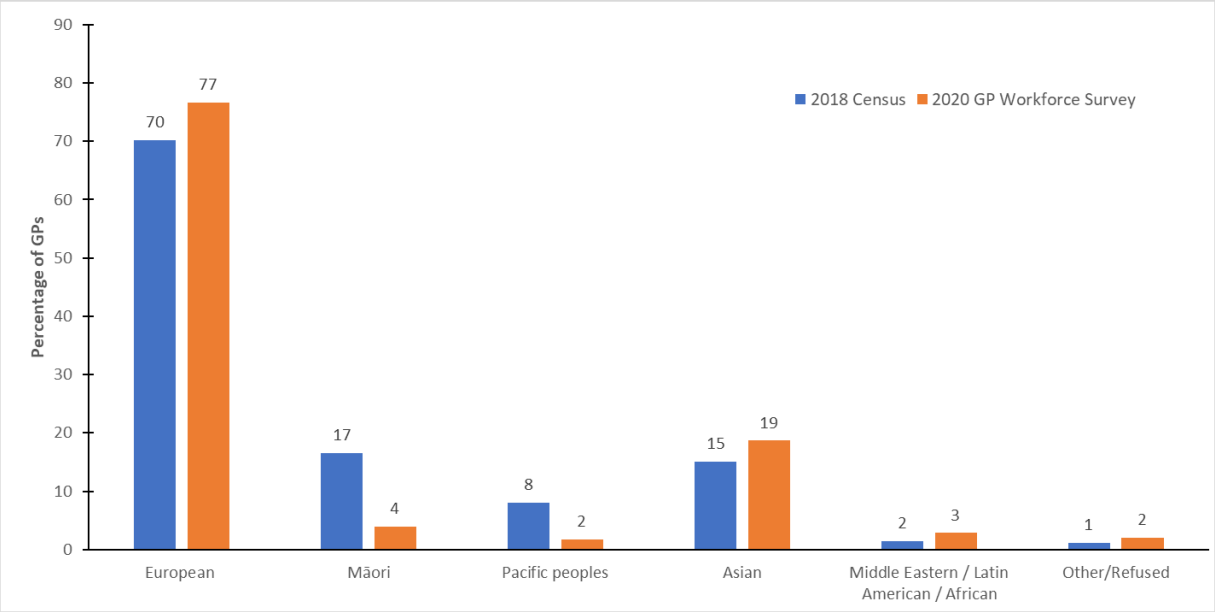
Figure 1. Percentage female by age for the GP workforce surveys since 2014.



2.2. Ethnicity

Figure 2 shows that GPs reporting a European (77 percent) or Asian (19 percent) ethnicity make up a greater share of the workforce than in the 2018 census (70 and 15 percent respectively). GPs reporting a Māori (4 percent), or Pacific Peoples' (1.7 percent) ethnicity are at much lower proportions than was found in the general population (17 and 8.1 percent respectively).

Figure 2. Comparison between the ethnicity of GPs and that of the New Zealand population in general.



Total may be greater than 100% as respondents could identify with more than one ethnicity.

3. GENDER PAY EQUITY

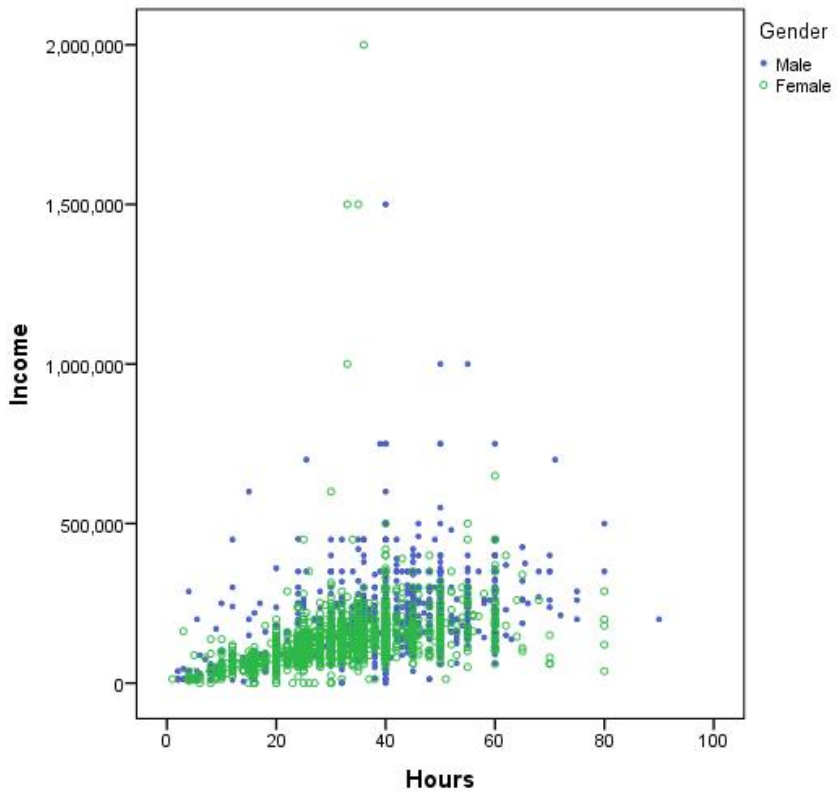
3.1. Pay Rate

3.1.1. Hourly Rate

In this report we have used an estimate of hourly pay rate to describe gender pay equity for practicing GPs. Hourly pay is a good base unit of measurement because it measures pay for a fixed amount of work (one hour). In this way, pay for women and men can be compared without being affected by how many hours a person works, or by periods without pay, so you can compare part-time and full-time employees on an equal basis. The methods used to calculate hourly pay rate are dealt with in more detail in the methodology section on page 38.

Before conducting the analysis, we looked for unusual values and three responses with extreme values for the average hours worked per week question (120 and 168 hours) were excluded from all pay rate analyses. The scatter graph below shows how gender differences are distributed by income and hours worked per week. While there were a few very high incomes (19 respondents reported over $500,000) the great majority of incomes clustered below $500,001 per year (99%) and more male GPs reported higher incomes. The following analyses will look at these gender difference in greater detail.

Figure 3. Scatter graph of income by hours and gender.



The primary statistical methods used in the following analyses are median, mean, and quartile measures which in combination provide the most balanced overview of the gender pay gap.

Median pay is the middle amount of pay earned – half the employees earn less, and half earn more than the median amount. Medians are calculated by listing all members from highest to lowest paid and finding the midpoint. New Zealand's national gender pay gap (produced by Stats NZ) is based on median hourly earnings, so using the median allows the College to compare their results with this measure. While the mean or average of pay is also a common measure (calculated by summing all incomes and dividing by the number of valid incomes) it can be influenced by extreme values and is less useful for the purposes of this report.

For the New Zealand GP workforce in 2020, the median hourly income was $82, and mean was $92 (a small number of high hourly rates pushed the mean $10 higher than the median), with respondents reporting a range from $0 to $1,382 per hour. While such a high pay rate seems high, it is a function of the method of calculating hourly pay rate and reflects the very high total incomes earned by practice owners or partners. Compared to male GPs, female GPs earned less on average, and respondents who reported a diverse gender identity or did not specify have the lowest hourly pay rate. In the following section, we will look at the differences between male and female GPs. The gender diverse/not specified category won't be examined further as the sample size is too small (n=16).

Table 3. Hourly rate summary.

Descriptive statistics	Total	Female	Male	Gender diverse/ not specified
Frequency	2,679	1,555	1,108	16
Mean	$91.51	$83.87	$102.58	$67.41
Median	$81.73	$76.92	$90.08	$67.55
Minimum	$0	$0.04	$0.03	$0.00
Maximum	$1382.21	$1068.38	$1382.32	$114.47

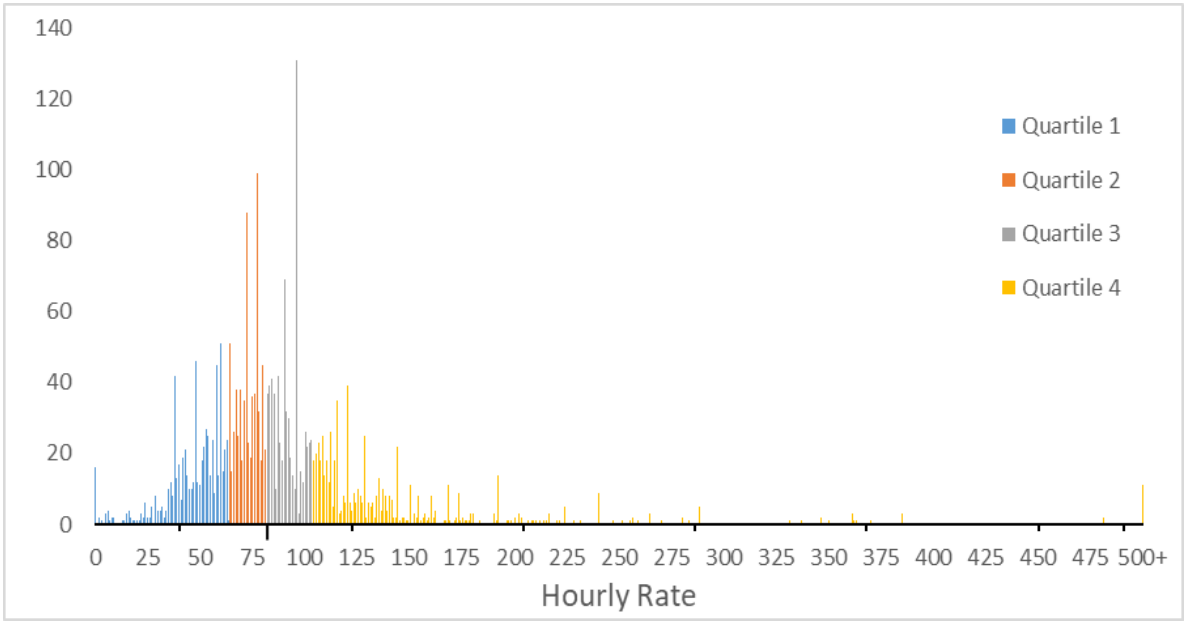
Quartiles are formed by dividing all people into four equal groups, ranked from lowest to highest pay. The bottom quartile is the lowest-earning group of employees, while the upper quartile is the highest-earning group. Table 4 summarises the quartile breakdown of hourly pay rate by mean, median, and the range (minimum and maximum). The first three quartiles, equating to the lowest 75 percent of those GPs working in general practice in the last three months or more, ranged from a minimum of $0 to a maximum of $103. The 4th quartile or the highest earning GPs have a wide pay rate spread, although the median was only $35 higher than the third quartile ($91). The

income distribution mapped to the quartile range is shown below (Figure 4). Overall, the median hourly rate is at the point between the second and third quartiles ($82).

Table 4. Hourly pay rate summary.

Quartile	Mean	Median	Minimum	Maximum	
1st	45.85	$48	$0	$64	
2nd	72.85	$72	$64	$82	←Median
3rd	91.75	$91	$82	$103	←Mean
4th	155.19	$126	$104	$1,382	

Figure 4. Hourly rate distribution by quartile.

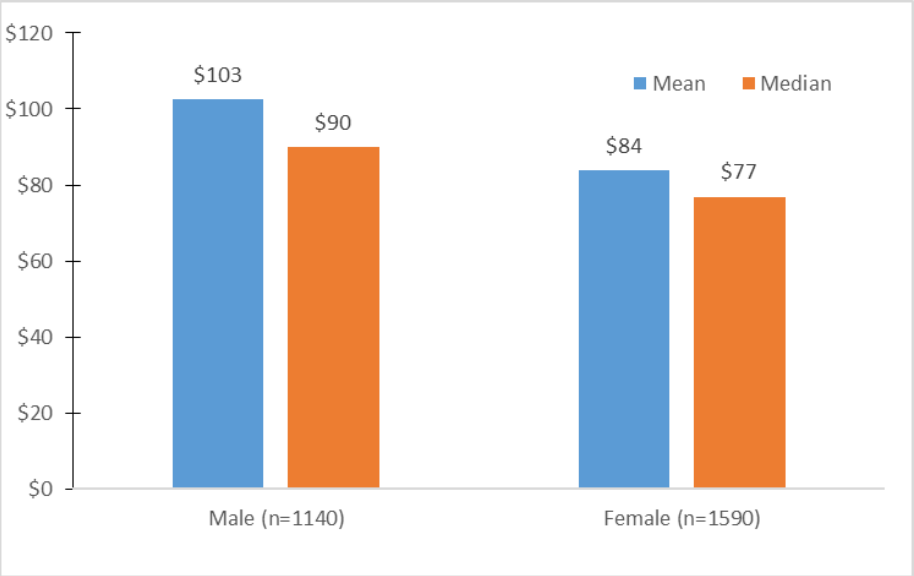


3.2. Pay Gap

3.2.1. Average hourly pay rate

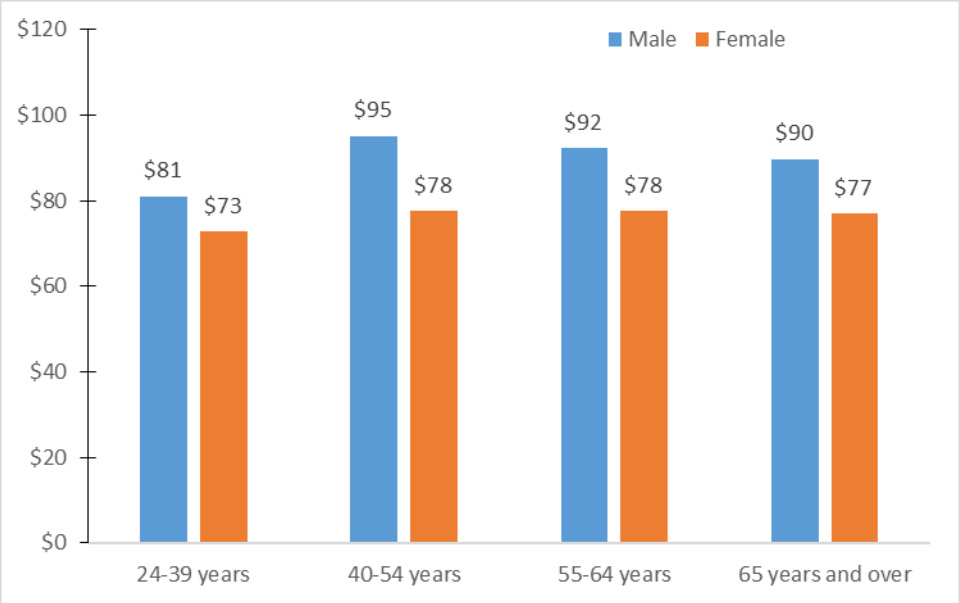
Overall, there is large discrepancy in both the mean and median hourly pay rate between male and female. Males (mean $103 and median $90) earned more than females (mean $84 and median $77).

Figure 5. Mean and median hourly pay rate by gender.



Looking at how median hourly pay rate varied by age and gender, while males earned more across all age groups, the difference between male and female GPs is greatest for the 40-54 and 55-64 age groups.

Figure 6. Median hourly pay rate by gender and age.



Looking at hourly pay rate by quartile, there are more male GPs in the two highest quartiles (27 percent and 33 percent respectively) than female GPs (24 percent and 20 percent); and a trend for female GPs to be in the lower income quartiles than males.

Table 5. Hourly pay rate quartiles by gender.

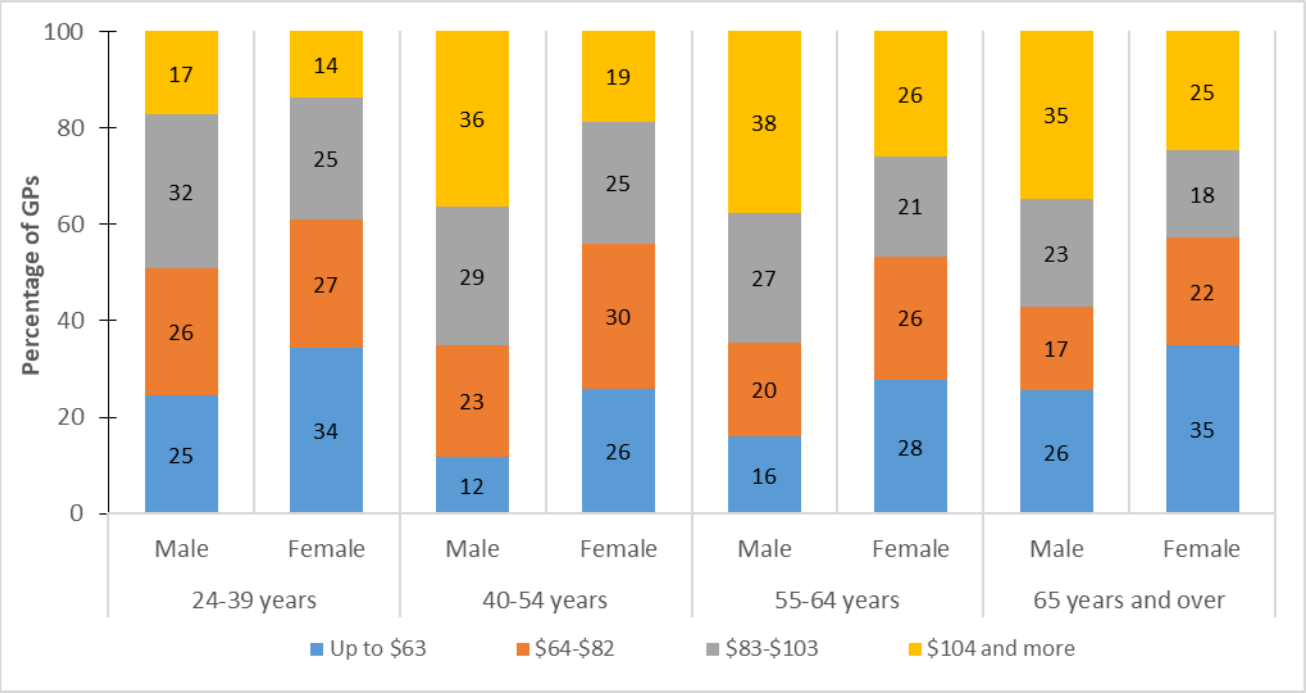
Hourly pay-rate quartile	≤$63	$64-$82	$83-$103	$104 and above	Total
Male	19%	21%	27%	33%	100%
Female	29%	27%	24%	20%	100%
Total	25%	25%	25%	25%	100%

Looking at the hourly pay rate quartiles by age and gender, there is a clear trend for female GPs to be overrepresented in the lower quartiles. For the 24-39 age group, more female GPs (34 percent) than male GPs (25 percent) are in the lowest hourly pay rate quartiles, and fewer female GPs in the highest quartile (14 percent) compared to male GPs (17 percent).

The difference between the lowest and highest hourly pay rate quartile is largest for the 40-54 age group, where 26 percent of female GPs and 12 percent of male GPs are in the lowest quartile, while only 19 percent of female GPs are in the highest quartile compared to 36 percent of male GPs.

The lower proportion of female GPs in the lowest and highest hourly pay rate quartiles is also seen in the 55-64 age group with 28 percent of female GPs and 16 percent of male GPs in the lowest quartile and 26 percent of female GPs are in the highest quartile compared to 38 percent of male GPs. The 65 and over age group has the largest proportion of GPs in the lowest quartile (35 percent of female GPs and 26 percent of male GPs) and similar proportions to the 55-64 age groups in the highest quartile (25 percent of female GPs and 35 percent of male GPs).

Figure 7. Hourly pay rate quartiles by age and gender.



3.2.2. Gender pay gap (GPG)

In this report we adopted the gender pay gap measurement and analysis guidelines[1] from Stats NZ. According to Stats NZ's definition, gender pay gaps are differences in pay for groups of women and men. If women and men received exactly the same pay, the gender pay gap would be zero. By standardising this difference and calculating a gender pay gap statistic, we can make comparisons across age and seniority, tenure, and to other occupations across Aotearoa New Zealand.

Median income is the middle amount of annual income – half the GPs earn less, and half earn more than the median amount. Median is calculated by listing all GPs' income from highest to lowest, and then finding the midpoint. Using the median hourly pay rate for male GPs ($90.08) and female GPs ($76.92) we can calculate the gender pay gap for female GPs. The pay gap for gender diverse/prefer not to specify was not calculated as the sample size was too small.

$$\text{Gender Pay Gap} = \frac{Median\ hourly\ pay\ rate\ for\ men - Median\ hourly\ pay\ rate\ for\ women}{Median\ hourly\ pay\ rate\ for\ men} \times 100$$

$$\text{Gender Pay Gap} = \frac{\$90.08 - \$76.92}{\$90.08} \times 100$$

[1] Stats NZ (2020). Organisational gender pay gaps: Measurement and analysis guidelines (second edition). Retrieved from www.stats.govt.nz.

Gender Pay Gap = 14.6%

By comparing the gender pay gap for GPs in 2020 to that of other occupations as of June 2019 (Household Economic Survey), it is possible to see how the GP workforce is performing. Overall, the gender pay gap for female GPs (14.6%) is higher than the population average (9.3%), around the same as community and personal service workers (14.4%), and only lower than professionals (16.7%) and technicians/trades workers (16.2%).

Table 6. Gender pay gap for GP workforce survey and by 2018 Household Economic Survey occupation.

Occupation (Household Economic Survey[2])	**Gender pay gap (GPG)**
Professionals	16.7%
Technicians and trades workers	16.2%
2020 General Practice Workforce Survey	14.6%
Community and personal service workers	14.4%
Managers	13.4%
Machinery operators and drivers	11.7%
Sales workers	10.5%
Labourers	9.7%
Clerical and administrative workers	7.1%
Total	**9.3%**

3.2.3. Gender pay gap and age

Looking at how the gender pay gap varies over age, it is lowest (10 percent) for the 24-39 age group and highest for those aged between 40 and 54 years (18 percent).

We also tested the relationship between gender pay gap and hours worked in general practice to determine if female GPs are working longer hours for the same salary (thereby lowering their pay rate). Interestingly, the opposite was the case, with male GPs working longer hours on average, indicating that males are earning more relative to their hours than female GPs.

Table 7. Gender pay gap by age and hours worked by gender.

Age groups	**Gender pay gap**	**Mean hours male**	**Mean hours female**
24-39 years	10.2%	38.3	30.5
40-54 years	18.4%	40.2	30.5
55-64 years	16.0%	39.5	34.0
65 years and over	14.3%	34.2	29.7

[2] https://www.stats.govt.nz/information-releases/household-expenditure-statistics-year-ended-june-2019

Using the same age categories as Statistics NZ in reporting the gender pay gap for the general population (Table 8), we can see that the gender pay gap for GPs is well above the population average across the nine age groups, excluding those 65 and older (where retirement and National Superannuation largely equalises income for most New Zealanders).

Table 8. Gender pay gap by age compared to population.

Age groups	Male count	Female count	NZ GP gender pay gap	Population gender pay gap (Household Labour Force Survey)[3]
25-29 years	34	59	26.0%	1.8%
30-34 years	98	190	12.7%	3.7%
35-39 years	91	195	6.7%	9.4%
40-44 years	87	208	14.2%	13.3%
45-49 years	83	170	16.7%	15.4%
50-54 years	109	232	20.0%	17.8%
55-59 years	182	227	16.5%	15.0%
60-64 years	217	214	15.0%	12.0%
65 years and over	239	95	14.3%	5.3%

Looking at the gender pay gap by age group and hours worked (Table 9) in more detail, the gender pay gap for the 24 to 39 age group, ranged from 6 percent for those working part-time, rising steeply for those fulltime (23 percent), and dropping again for those working more than fulltime hours (15 percent). The pay gap for 40-54 year-old female GPs is more consistent from 22 percent for part-time GPs dropping to 18 percent for full-time (36 to 40 hours) and 19 percent for those working over 40 hours. For GPs in the latter stages of their career (55 to 64 years), the gender pay gap is higher than the population average, from 13 percent for GPs working part-time, 18 percent for full-time workers, and 15 percent for GPs working more than a 40-hour week. The results for GPs aged 65 or older are more difficult to decipher, with part-time female GPs having a large pay gap (21 percent), dropping drastically to -23 percent (i.e., female GPs earned more than male GPs), and increasing to 15 percent for GPs working over 40 hours.

Table 9. Gender pay gap by age and hours worked.

Gender pay gap	Fewer than 36 hours	36 to 40 hours	41 hours or more
Frequency	1,494	589	663
24-39 years	6%	23%	15%

[3] http://nzdotstat.stats.govt.nz/wbos/Index.aspx?DataSetCode=TABLECODE7479#

Gender pay gap	Fewer than 36 hours	36 to 40 hours	41 hours or more
40-54 years	22%	18%	19%
55-64 years	13%	18%	15%
65 years and over	21%	-23%	15%

Looking at the fulltime 65 years and over group (Table 10) in more detail, while both male and female GPs have the same maximum hourly rate ($240), the median is higher for female GPs than male ($96 and $78 respectively). Given the small numbers of female GPs aged 65 or older in the fulltime category (12 respondents), these figures for female GPs aged 65 or older need to be treated with caution and may not reflect the whole picture.

Table 10. Hourly rate for fulltime (36 to 40 hours) 65+ GPs.

Full-time 65 years and over	Maximum	Minimum	Median	Frequency
Male	240.38	7.59	78.37	50
Female	240.38	21.63	96.15	12

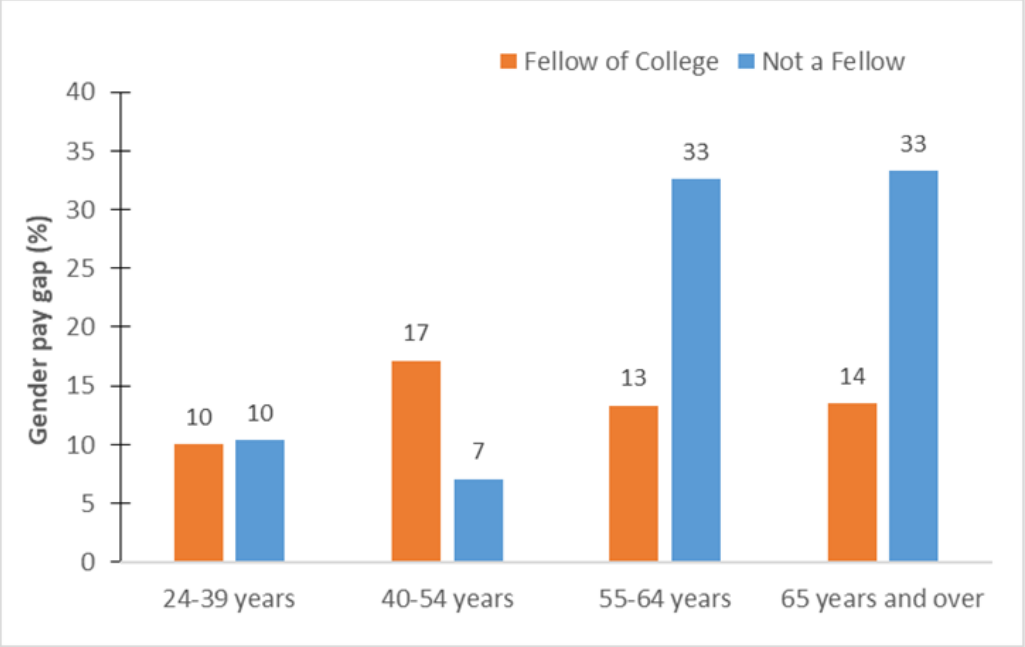
3.2.4. Gender pay gap and College fellowship

To further understand the drivers of the gender pay gap for the GP workforce, we also looked at whether College fellowship affected the gender pay gap in any way. Overall, there is larger gender pay gap for College Fellows (15 percent) than for those not fellows (11 percent). This pattern varied by age, with little difference for GPs aged 24 to 39, a much larger gender pay gap for College fellows (17 percent) than non-members (7 percent) aged 40-54, with this relationship flipping for GPs over the age of 55; the pay gap for non-Fellows is 33 percent, dropping to 13 percent for 55- to 64-year olds and 14 percent for over 65-year-old college fellows.

Table 11. Gender pay gap by age and College Fellowship.

Gender pay gap (GPG)	Frequency	Total	24-39 years	40-54 years	55-64 years	65+ years
Not a Fellow	585	11%	10%	7%	33%	33%
Fellow of College	2,137	15%	10%	17%	13%	14%

Figure 8. Gender pay gap by age and College Fellowship.



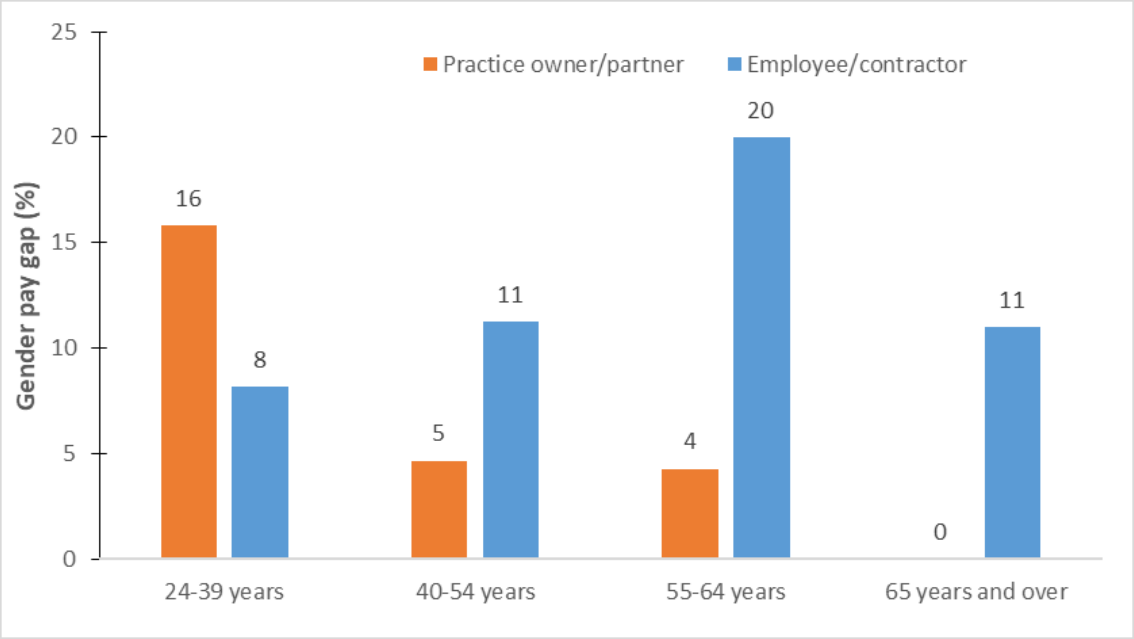
3.2.5. Gender pay gap and employment status

Looking at how the gender pay gap varied across age and practice ownership/partner status, while the gender pay gap is much larger for employees/contractors (12 percent) than for owners/partners (4 percent), this varied by age. An unexpected finding was that GPs aged 24 to 39 who are practice owners have a larger gender pay gap (16 percent) than employees or contractors (8 percent), when compared with all other age groups. For the majority of the GP work force (aged 40 years or older) the gender pay gap is much smaller for owners/partners (5 percent or less) when compared to employees or contractors; 40-54 year-old female GPs experienced a gender pay gap of 11 percent, 55-64 year-old female GPs experienced a gender pay gap of 20 percent, and 65+ female GPs who were employees/contractors experienced a gender pay gap of 11 percent.

Table 12. Gender pay gap by age and tenure.

Gender pay gap (GPG)	Frequency	Total	24-39 years	40-54 years	55-64 years	65 years and over
Practice owner/partner	928	4%	16%	5%	4%	0%
Employee/contractor (long/ short-term)	1,720	12%	8%	11%	20%	11%

Figure 9. Gender pay gap by age and tenure.



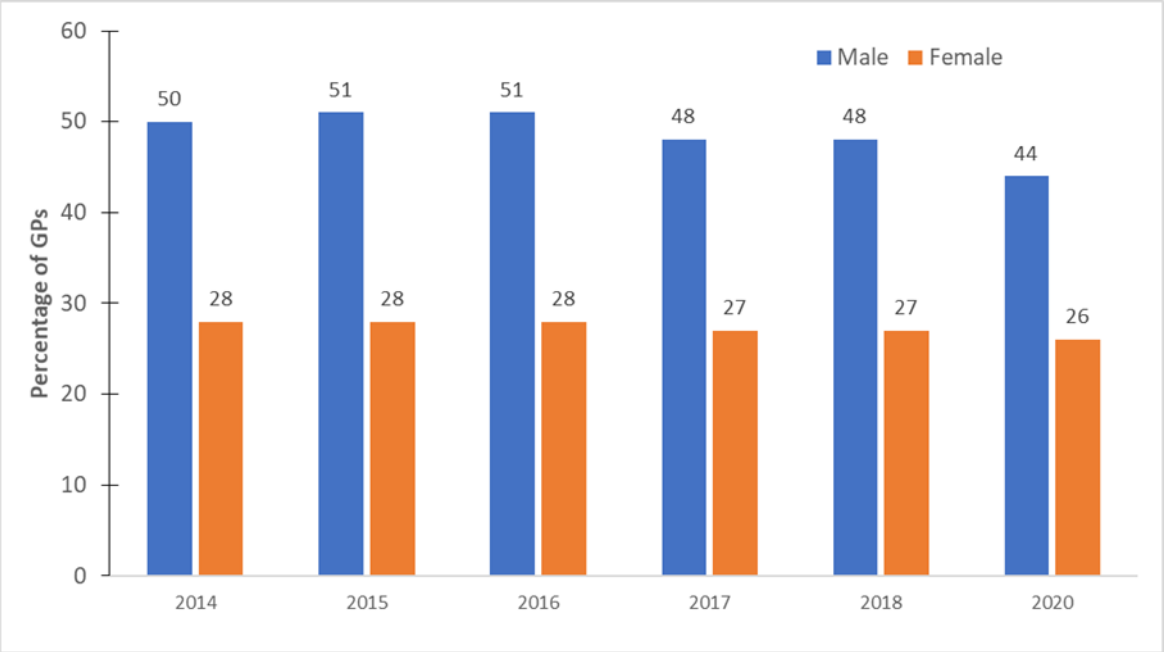
3.2.6. Gender differences in tenure and ownership

There are large differences in tenure and ownership between male and female GPs. In 2020, 44 percent of male GPs reported being an owner or practice owner compared to 26 percent of females. This reflects a consistent gap for female GPs over the last 6 years compared to male GPs. While the Workforce Surveys over the last 5 years have indicated that there is a decreasing proportion of the GP population who are partners or practice owners, it may be more a reflection of an increasing number of GPs alongside a relatively static number of practice partners and owners.

Table 13. Tenure and ownership by gender.

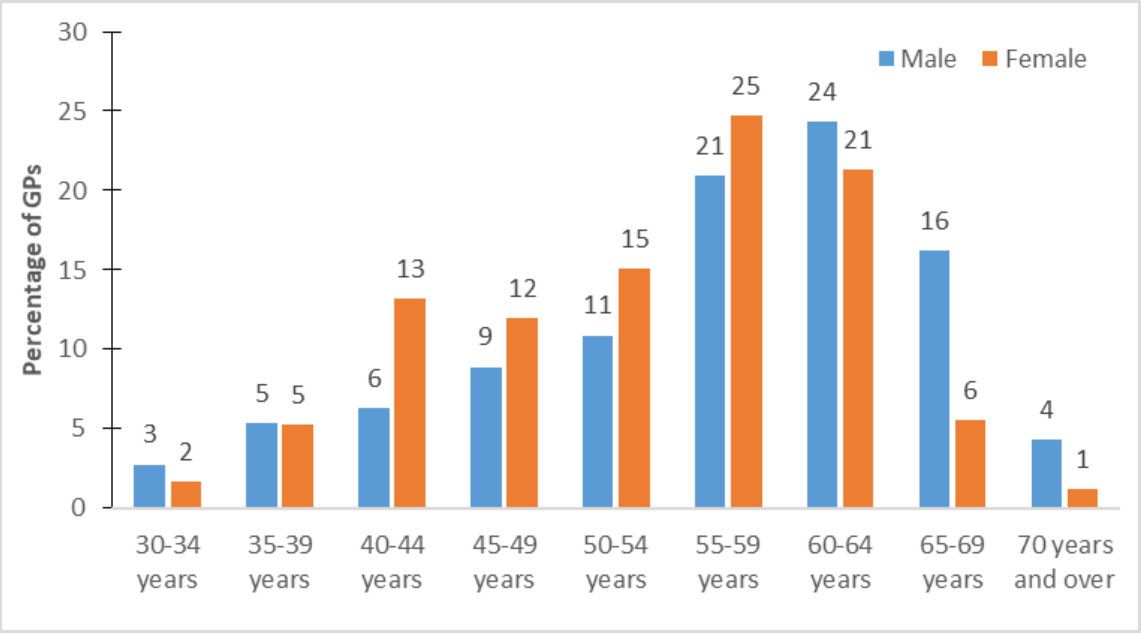
Employment Status	Frequency	Total	Male	Female
Practice owner/partner	928	33%	44%	26%
Long-term employee/contractor	1425	51%	41%	59%
Short-term employee/contractor	295	11%	10%	11%
Not stated or other employment type	136	5%	5%	4%
Total	**2784**	**100%**	**100%**	**100%**

Figure 10. Ownership/partnership over time by gender.



Looking at owner/practice profiles by age and gender, we can see the changing demographic of practice owner/partners. There are more female GPs in practice ownership or as a partner from around 40 years old to 59 years old with the pattern reversing from 60 years of age onwards. As this younger cohort of female GPs ages, female GPs may become a larger proportion of practice owners and partners in the future.

Figure 11. Practice owner/partner by age and gender.



3.3. Multiple Regression Analysis

In this study, we looked more deeply into the gender pay gap by conducting a multiple regression analysis. A multiple regression model was built-up to establish the relationship between GPs' annual income (outcome variable) and multiple predictor variables. That means we used the regression model to predict GPs' income based on their demographic characteristics and many other variables. The parameter coefficient was calculated for comparing income between genders. In addition, the coefficient was adjusted for other potential confounding factors that may affect the comparison, such as age, prioritised ethnic group, weekly working hours, employment status, years since gaining MCNZ registration as a medical practitioner and Fellowship status. This means that when comparing income across gender, we need to consider the difference in age, ethnic groups and other confounding factors between male and female GPs.

GPs' average personal annual before-tax income is approximately $158,000, the median income is $140,000, indicating a right-skewed income distribution. A square root transformation was applied to normalize the distribution of the outcome variable. All statistical analyses were taken using STATA 12.1. Statistical significance was indicated at the 5% significance level (p-value less than 0.05). The parameter coefficients, p-value and R-squared are reported in Table 14.

The results show a statistically significant difference in GP's annual income between genders after controlling all the other variables. This means that male GPs' income is significantly higher than female GPs even if we compare them among similar age, ethnic group, Fellowship status, tenure, working hours and in similar employment arrangements. This regression analysis confirms the findings in the earlier part of this report.

Regression analysis of income on gender found that, on average before accounting for the potential confounding factors, there was an income gap of approximately $48,000 between the genders. After controlling for the confounding variables, the income discrepancy decreased to approximately $25,000.

The relative importance of the four attributes found to be statistically significant in accounting for the difference in average income based on gender was as follows (most important first): employment status, weekly working hours, Fellowship status and years since gaining MCNZ registration. The adjusted R^2 can be used to determine how well this multiple regression model fits the data. The results show that our predictor variables explain 42.6% of the variability of our outcome variable. There may be other variables that are contributing to the income differential but for which data was not collected in the 2020 workforce survey. Examples of these include having parental leave had been taken in the past 10 years was considered as an important

attribute in the 2015 GP Workforce survey, and the number of weeks worked per year, which might also have been an important variable since weekly hours are being compared with the annual income in the current survey. The results show that prioritised ethnic group was found not to be statistically significant in contributing to the income differences. This means that GPs' annual income is similar among different ethnic groups.

Table 14. Multiple regression analysis results (n=2655)

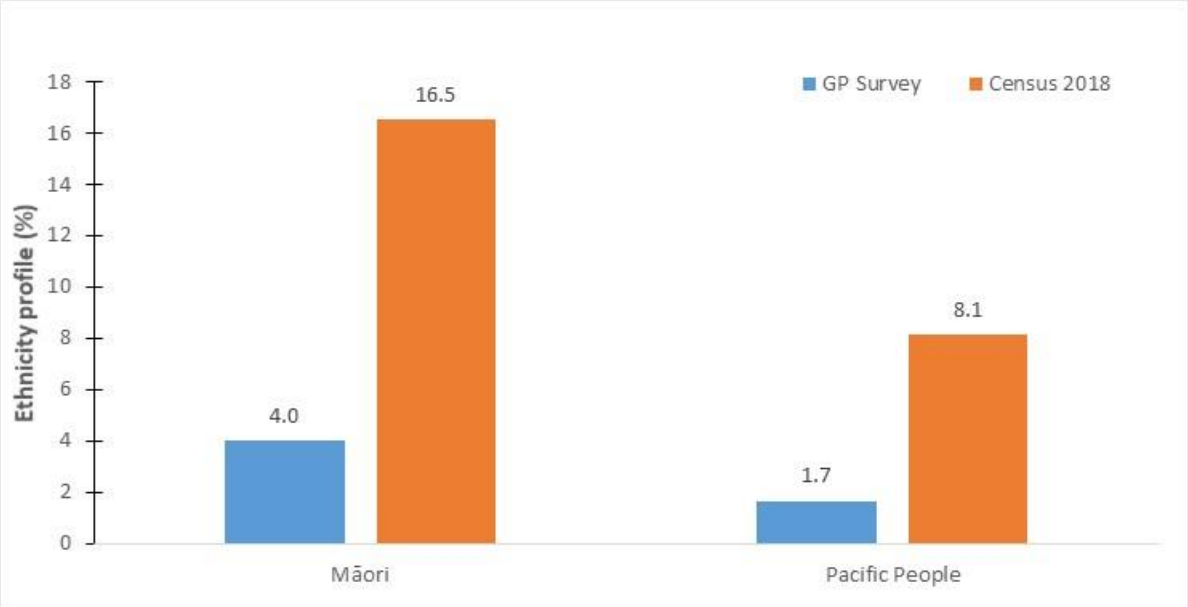
	Unstandardized coefficient	Standard Error	t value	Pr > |t|	Standardized coefficients
Gender					
Female (*reference group*)	0				
Male	36.22	3.84	9.43	0.000	0.30
Age	-0.11	0.18	-0.62	0.535	-0.01
Prioritised ethnicity					
Māori	5.85	9.34	0.63	0.531	0.05
Pacific Peoples'	1.11	14.30	0.08	0.938	0.01
Asian	6.74	4.69	1.44	0.151	0.06
European/Other (*reference group*)	0				
Years since gaining MCNZ registration	-0.03	0.01	-2.45	0.014	-0.04
Worked hours per week	3.65	0.16	23.32	0.000	0.39
Employment status					
Short-term employee/contractor (*reference group*)	0				
Practice owner/partner	119.96	6.86	17.48	0.000	0.41
Long-term employee/contractor	57.08	6.05	9.44	0.000	0.99
Other employment type	49.41	12.24	4.04	0.000	0.47
Fellowship status					
Not a Fellow (*reference group*)	0				
Fellow of College	13.01	5.27	2.47	0.014	0.11

$F(11, 2643) = 179.67$, $p < .0005$, adjusted $R^2 = 0.426$

4. MĀORI AND PACIFIC PEOPLES

Compared to the 2018 census, GPs reporting a European or Asian ethnicity represent a greater share of the workforce than Māori (4 percent) or Pacific Peoples' (1.7 percent). This lack of representation also limited our ability to do more detailed analyses on the Māori and Pacific Peoples' ethnic groups as there are insufficient numbers for Māori (n=107) and Pacific Peoples' (n=45) to disaggregate by multiple demographic variables (e.g., age and gender).

Figure 12. Māori and Pacific Peoples' proportions for 2018 Census and 2020 GP Workforce Survey

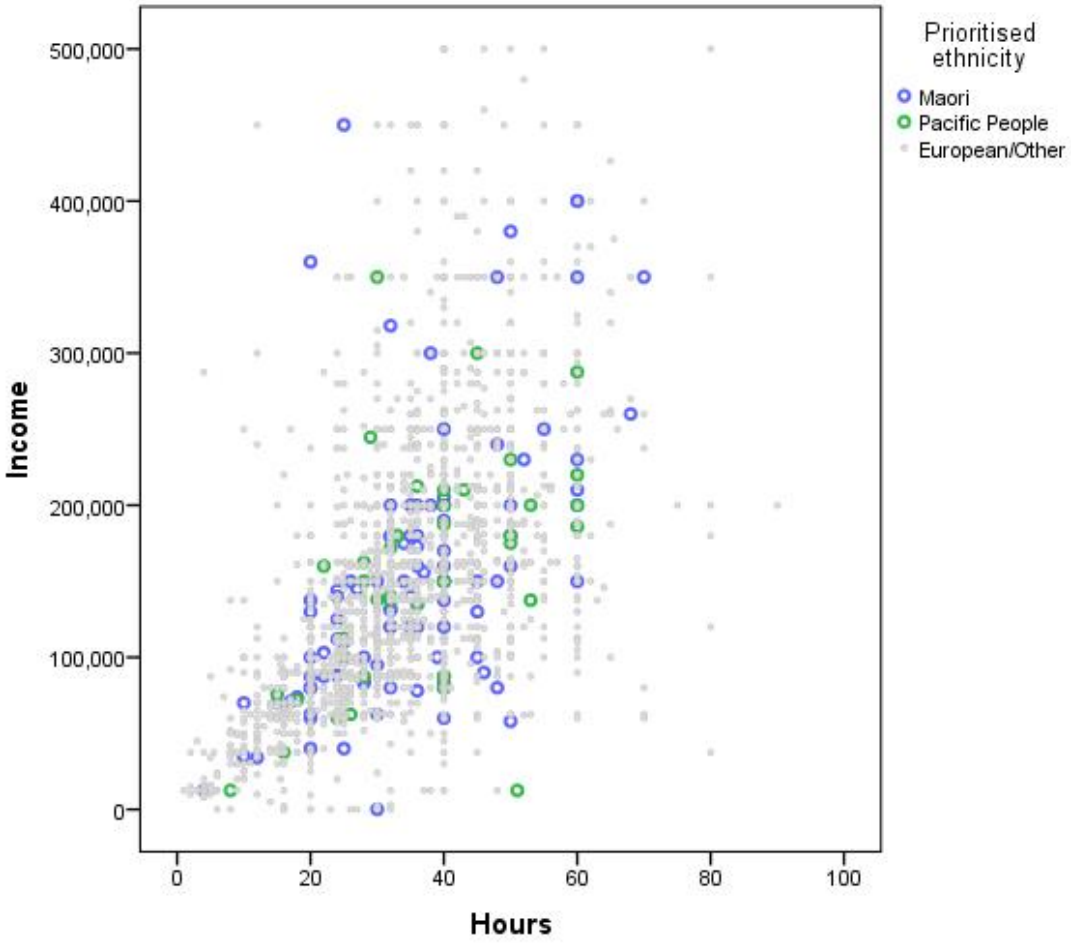


4.1. Hourly pay rate

To prevent some extreme values from skewing the results of the analysis, those working over 100 hours per week (3 cases) were excluded from the analysis. This left 2,679 cases for the pay equity analysis. Examining the scatter graph of income and hours by prioritised ethnicity[4] (Figure 13), there are no obvious differences in the distribution of income by hours for Māori or Pacific Peoples compared to European/Other GPs.

[4] Prioritised ethnicity refers to where each respondent is allocated to a single ethnic group, in the prioritised order of Māori, Pacific, European/Other. For example, if someone identified as being both Chinese and Māori, their prioritised ethnicity is Māori for the purpose of analysis. The prioritised ethnicity group European/Other effectively refers to non-Māori, non-Pacific people.

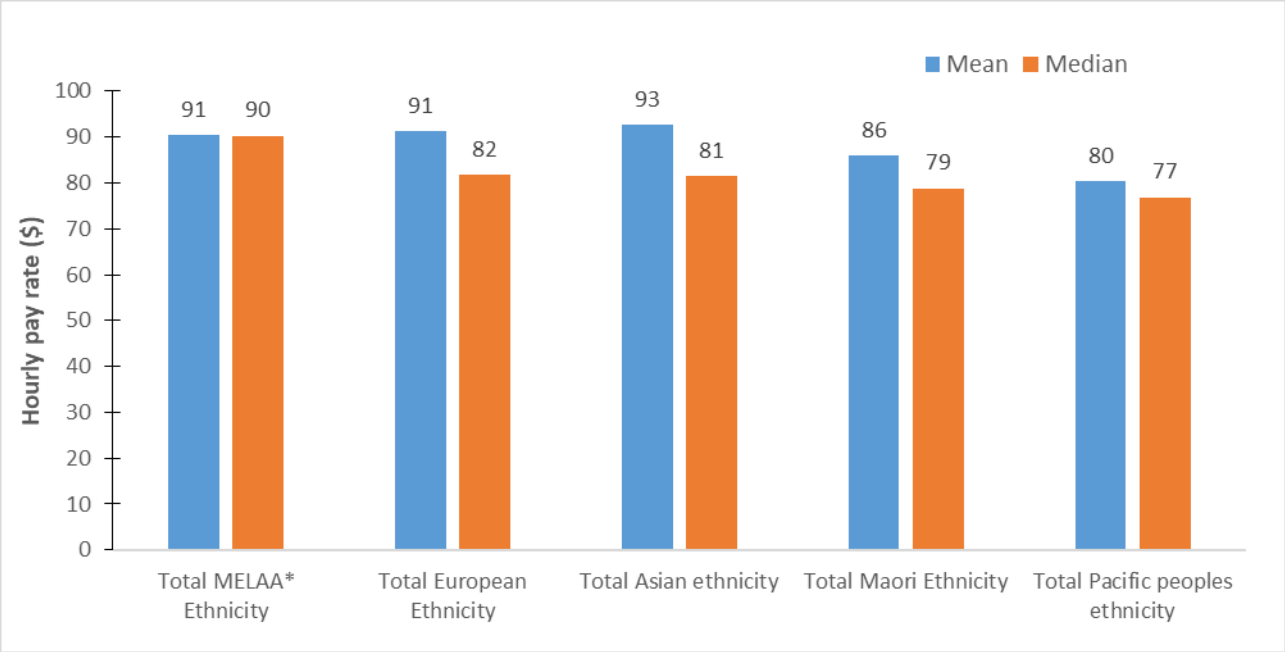
Figure 13. Scatter graph of income and hours by prioritised ethnicity.



Looking at how mean and median hourly pay rate was distributed across the five ethnic groups using total ethnicity[5] measure, all but the MELAA (Middle Eastern/Latin American/African) ethnic group have a higher mean than median (indicating some relatively high hourly pay rates skewing the incomes). Respondents reporting one of the MELAA ethnic groups have the highest median pay rates ($90), GPs reporting a European or Asian ethnicity the next highest median hourly pay rate ($82 and $81 respectively), with GPs reporting a Māori or Pacific Peoples' ethnicity the lowest hourly pay rate ($79 and $77 respectively).

[5] Total-response ethnicity involves each respondent being allocated to all ethnic groups that they have identified with. A respondent may fit into more than one ethnicity group. For example, a person who identifies as both Chinese and Māori will appear in both the Māori group and the Asian group. Consequently, the Māori and Asian groups should not be directly compared; Māori can only be compared with the non-Māori group and Asian can only be compared with non-Asian.

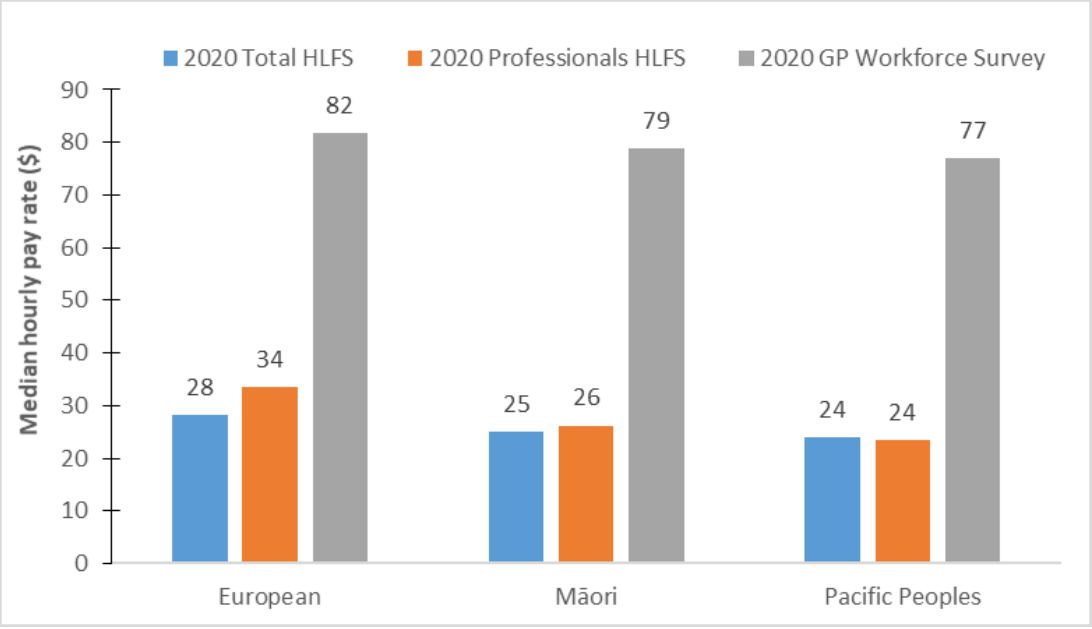
Figure 14. Mean and median hourly pay rate by ethnicity.



* Middle Eastern/Latin American/African

Comparing the median hourly pay rate for GPs who report a European, Māori, or Pacific Peoples' ethnicity to that found in 2020 Household Labour Force Survey[6], it is clear that the GPs' median hourly pay rate was far higher than the total population or for those in professional and administrative services, and that this difference held for GPs reporting Māori or Pacific Peoples' ethnicity.

Figure 15. Median hourly pay rate for 2020 Household Labour Force Survey (total and professionals) by European, Māori, Pacific Peoples.



[6] http://nzdotstat.stats.govt.nz/

To enable comparisons to be made, the ethnic pay gap was calculated (in the same manner as the gender pay gap) using the total European ethnic group as the reference group. This showed a smaller pay gap for Māori and Pacific Peoples' respondents in the General Practice Workforce survey (3.5 percent and 2.3 percent respectively) than is found in the 2020 Household Labour Force Survey - for Māori in professional occupations this was 22 percent and for Pacific Peoples' 8.1 percent.

Table 15. 2020 Ethnic pay gap for total NZ population, professional occupations, GP workforce survey.

Ethnic pay gap (European median hourly pay rate as base)	2020 Total population - Household Labour Force Survey	2020 Professional occupations - Household Labour Force Survey	2020 Survey
Māori	11%	22%	3.5%
Pacific Peoples	3.5%	8.1%	2.3%

5. MĀORI REPRESENTATION

Overall, Māori are not well represented within the current GP workforce, with a very small percentage from the ages 40 to 54 (3 percent Māori GPs compared to 14 percent in the general population) and dropping even lower for GPs over 55 years of age. There is larger proportion of younger Māori GPs in the 24-39 year-old range (8 percent), but this is still lower than the population (16 percent).

Table 16. 2018 Census and 2020 RNZCGP survey for Māori by age and gender.

	2018 Census: Total Māori	2020 Survey: Total Māori
24-39 years	16%	8%
40-54 years	14%	3%
55-64 years	12%	2%
65 years and over	7%	1%
Male	49%	42%
Female	51%	58%

5.1. Differences in hourly rate for Māori

To prevent some extreme values from skewing the results of the analysis, those working over 100 hours per week (3 cases) are excluded from the analysis. While Māori GPs tend to be paid less (3.5

percent less than the European GPs median income) overall, only those in the 55-64 age-group are paid less than European GPs (7 percent less per hour), with other age-groups paid slightly more (24-39 year-olds earned 3 percent more, 40-54 year-olds 4 percent more, and 65 and over 7 percent more). Reflecting the persistent gender pay gap, Māori male GPs are paid 7 percent more than European male GPs, with female Māori GPs paid 4 percent less than female European GPs. However, the regression analysis performed as part of the gender pay gap section (Table 14) found that other factors explained any difference in gender pay gap (gender, employment status, weekly working hours, Fellowship status and years since gaining MCNZ registration), with ethnicity not a significant factor in explaining income differences.

Table 17. Median hourly pay rate and ethnic pay gap for Māori.

Median hourly pay rate	European	Māori	Pay gap
24-39 years	75	76.92	-3%
40-54 years	82.42	86.01	-4%
55-64 years	85.47	79.28	7%
65 years and over	85.47	91.35	-7%
Male	90.14	96.15	-7%
Female	76.92	73.53	4%

5.2. Differences in tenure and ownership for Māori

Māori are less likely to be in partnership or to be an owner of a practice than respondents reporting a European ethnicity (22 percent versus 36 percent) and more likely to be an employee or contractor (71 percent and 59 percent respectively).

Table 18. Tenure by European and Māori ethnicity.

	European	Māori
Count	2129	110
Practice owner/partner	36%	22%
Employee/contractor	59%	71%
Other employment type	4%	5%
Not stated	1%	2%
Total	100%	100%

6. PACIFIC PEOPLES' REPRESENTATION

The number of respondents who reported a Pacific Peoples' ethnicity was small (n=47), so we are limited in how we can disaggregate this population group.

6.1. Differences in hourly rate for Pacific Peoples

To prevent extreme values from skewing the results of the analysis, those working over 100 hours per week (3 cases) were excluded from the analysis.

Overall, GPs reporting a Pacific Peoples' ethnicity report being paid 2.3 percent less than European GPs, with some difference existing between reported gender, with male GPs reporting a Pacific Peoples' ethnicity earning 2 percent less than male European GPs and female GPs reporting a Pacific Peoples' ethnicity earning 3 percent less than female European GPs.

Table 19. Median and ethnic pay gap for Pacific Peoples by age and gender.

Median hourly pay rate	European	Pacific Peoples	Pay gap
Male	90.14	88.46	2%
Female	76.92	74.52	3%

6.2. Differences in tenure and ownership for Pacific Peoples

In a near identical pattern to Māori tenure, 21 percent of GPs reporting a Pacific Peoples' ethnicity are a practice owner or partner compared to 36 percent of European GPs, with most (72 percent) reporting being an employee or contractor compared to 59 percent of European GPs.

Table 20. Tenure by European and Pacific Peoples' ethnicity.

	European	Pacific Peoples
Frequency	2,129	47
Other	4%	4%
Practice owner/partner	36%	21%
Employee/contractor	59%	72%
Not stated	1%	2%
Total	100%	100%

7. RURALITY

Looking at how the GP workforce is distributed across rural and urban locations, three quarters (76 percent) are working in urban practices, 15 percent in rural practices, and 9 percent in areas that are not clearly urban or rural.

Table 21. Urban/rural distribution.

	Frequency	Valid Percent
Urban	2,033	76%
Rural	414	15%
Not clearly urban or rural	245	9.1%
Total	2,692	100%

7.1. Demographics

Based on Statistics NZ current classification system used to group New Zealand locations into rural or urban areas, estimates of Māori, Pacific Peoples, and European urban/rural distribution were calculated to enable a rough comparison with the GP workforce urban/rural distribution (and which closely resembled that reported by the GP workforce). There are clear differences in reported ethnicity across both urban and rural settings. Within urban practices, three-quarters (74 percent) report a European ethnicity, 22 percent an Asian ethnicity, 3.6 percent a Māori ethnicity, 2.5 percent a MELAA ethnicity, and 2.1 percent a Pacific Peoples' ethnicity. By comparison in rural practices there is a greater proportion of European (85 percent), a considerably smaller proportion of Asian (9.2 percent), slightly higher Māori (4.1 percent), similar MELAA (2.4 percent), and much lower proportion of Pacific Peoples' (0.5 percent).

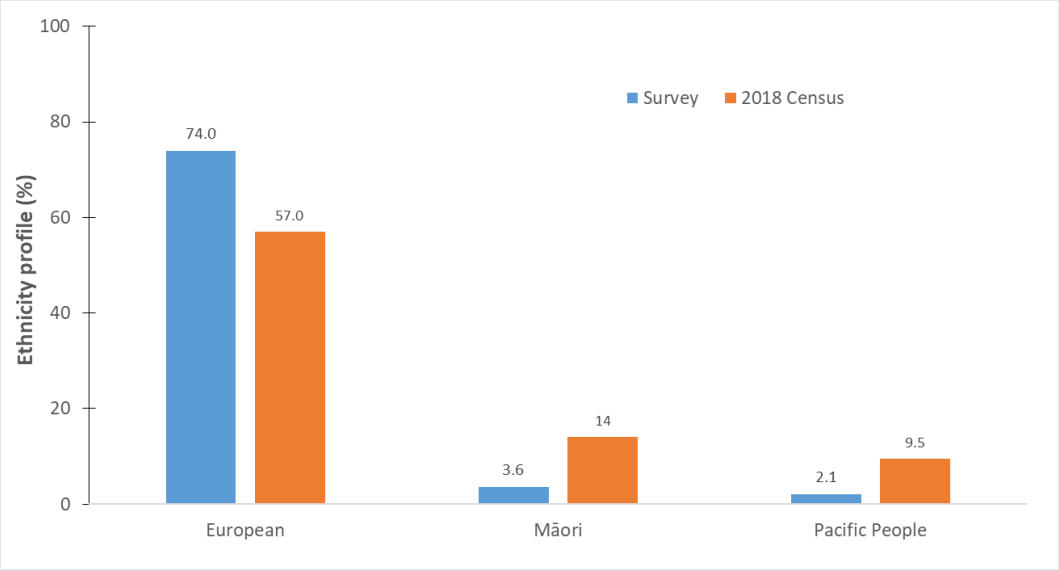
Table 22. Urban/rural distribution by ethnicity.

	Urban		Rural		Not clearly urban or rural	
	Survey	Census**	Survey	Census**	Survey	Census**
Percent of Survey	75%	76%	15%	15%	9%	9%
European	74%	57%	85%	77%	84%	69%
Asian	22%	18%	9.2%	2.9%	11%	4.1%
Māori	3.6%	14%	4.1%	18%	5.3%	24%
MELAA*	2.5%	1.6%	2.4%	0.4%	3.7%	0.5%
Pacific Peoples	2.1%	9.5%	0.5%	2.1%	0.4%	3.2%
Total within location**	104%	100%	101%	100%	104%	100%

*Middle Eastern/Latin American/African.
**Totals to more than 100% as respondents could report more than one ethnicity
**Aged 24 or older. Urban was categorised as Large urban area + Major urban area + Medium urban area; Rural was categorised as Rural other + Rural settlement; Not clearly urban or rural was categorised as Water + Small urban area.

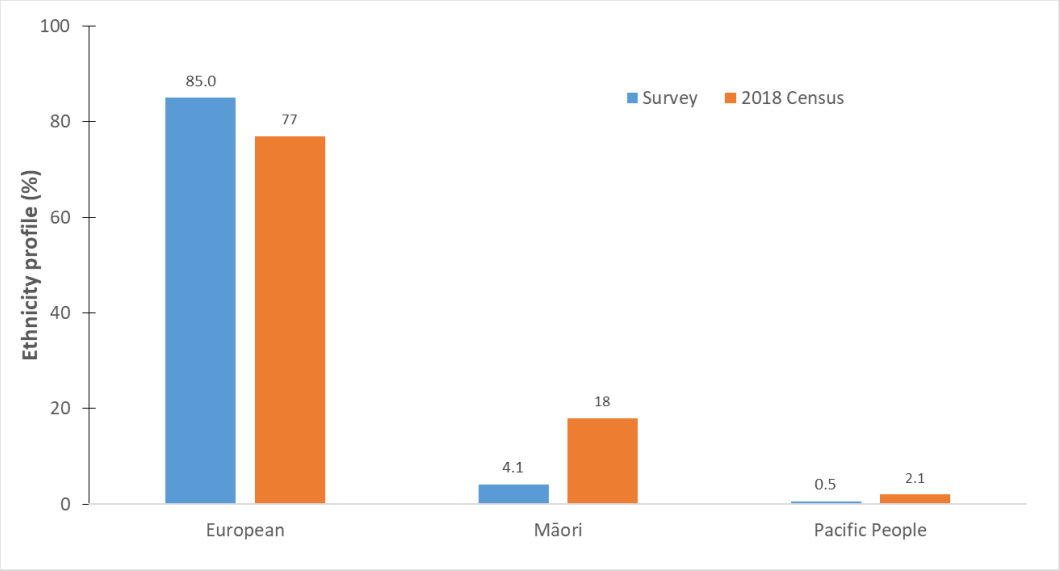
The urban/rural proportions of Māori and Pacific Peoples in the GP workforce survey and 2018 Census to European proportions, mirrored what is found for the entire GP workforce. GPs who report a Māori or Pacific Peoples' ethnicity are underrepresented in urban practices when compared to the 2018 census ethnic urban distribution.

Figure 16. Urban Māori, Pacific Peoples, and European ethnicity across 2020 GP workforce survey and 2018 Census.



Similarly, GPs who report a Māori or Pacific Peoples' ethnicity are underrepresented in rural practices when compared to the 2018 census ethnic rural distribution.

Figure 17. Rural Māori, Pacific peoples, and European ethnicity across 2020 GP workforce survey and 2018



There is little difference in the gender distribution of the GP workforce between urban, rural and the not clearly urban or rural categories. The proportion of female GPs in urban areas (49 percent) is higher than in the 2018 Census (51 percent) as well as in rural areas (54 percent in the survey compared to 49 percent in the 2018 Census).

Table 23. Gender by urban/rural practice location distribution.

	Urban		Rural		Not clearly urban or rural	
	Survey	Census**	Survey	Census**	Survey	Census**
Male	40%	49%	45%	51%	45%	49%
Female	59%	51%	54%	49%	54%	51%
Total	100%	100%	100%	100%	100%	100%

**Aged 24 or older. Urban was categorised as Large urban area + Major urban area + Medium urban area; Rural was categorised as Rural other + Rural settlement; Not clearly urban or rural was categorised as Water + Small urban area.

7.2. Pay differences

Compared to urban GPs, rural GPs are paid 1.5 percent more, while GPs working in areas not clearly urban or rural, are paid 0.4 percent more than GPs working in urban areas.

Table 24. Hourly pay rate by urban/rural practice location.

Hourly pay rate	Median	Count	Urban pay gap
Urban	81.40	2033	
Rural	82.63	414	-1.5%
Not clearly urban or rural	81.73	245	-0.4%

7.3. Tenure and ownership differences

There is little discernible difference in tenure or practice ownership/partnership across practice location, with 35 percent of urban GPs being a practice owner/partner, 32 percent of rural GPs, and 32 percent of those in an area not clearly urban a practice owner or partner.

Table 25. Tenure and ownership differences by urban/rural practice location.

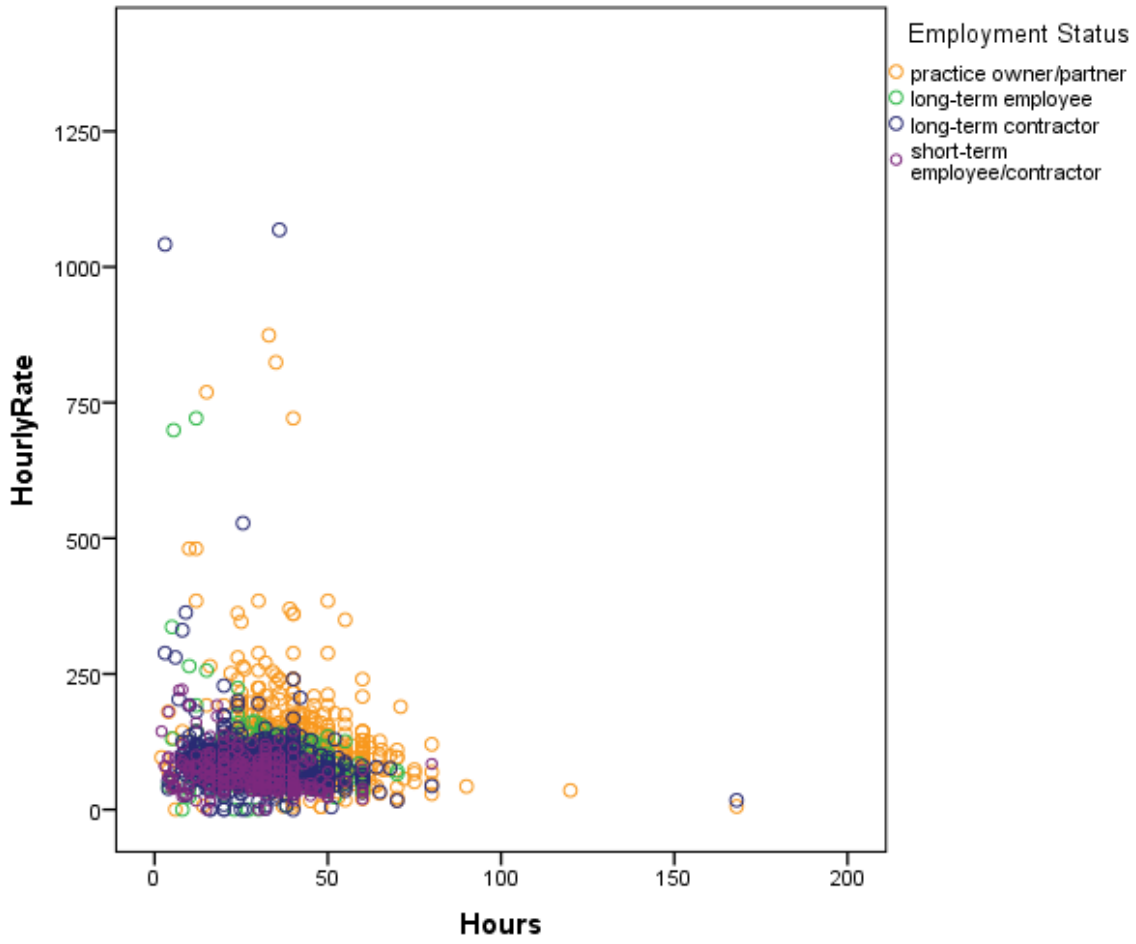
	Urban	Rural	Not clearly urban or rural
Practice owner/partner	35%	32%	32%
Employee/contractor	63%	65%	61%
Other employment type	3%	3%	7%
Total	100%	100%	100%

8. METHODOLOGY

8.1. Hourly pay rate

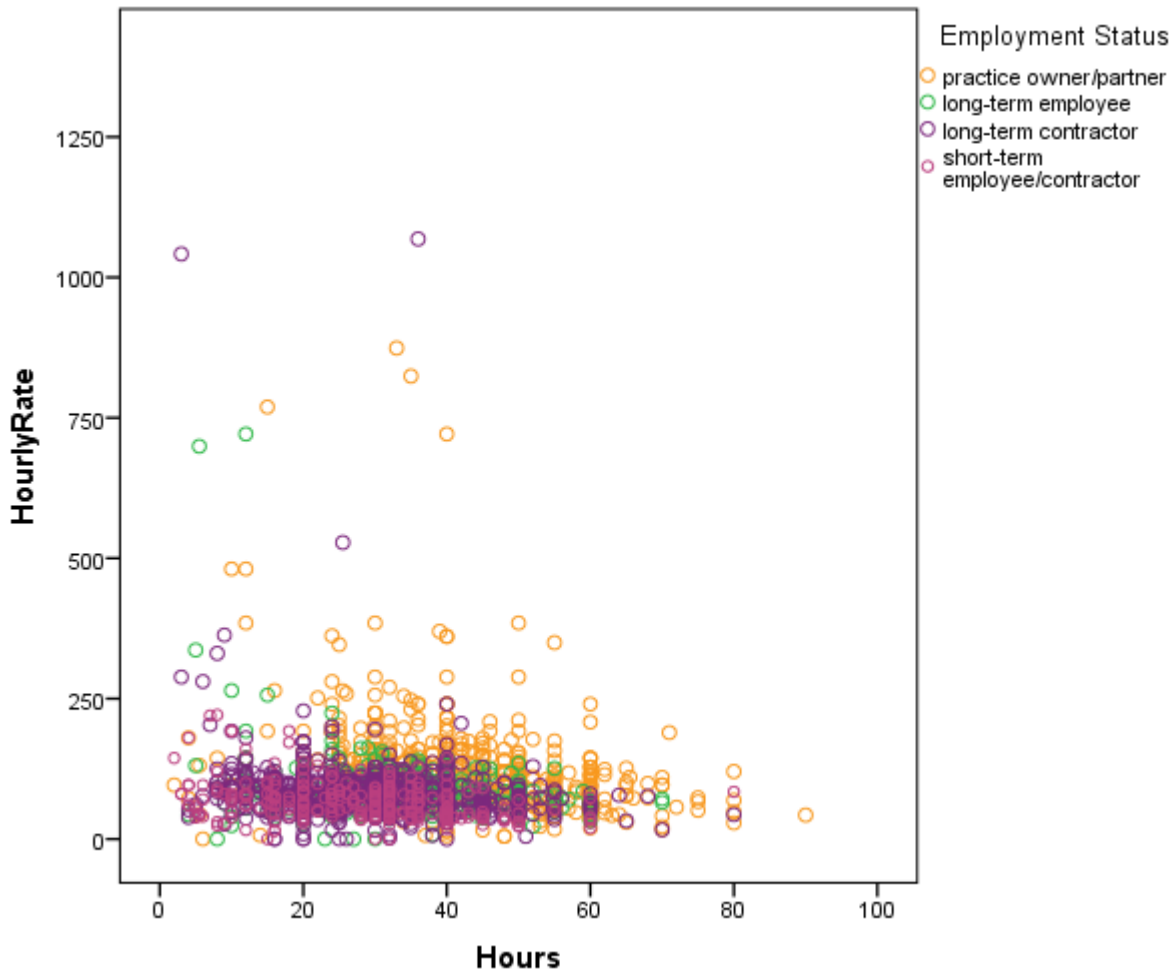
Before conducting any pay-equity analyses, the distribution of the hours worked per week was examined. This showed two unusual values for the question "How many hours per week did you usually work in general practice" – 120 and 168 hours. Given there are 168 total hours in a week (7 * 24 = 168), we can be confident these are not realistic figures. Maximum values for annual income (including practice ownership income and income earned from clinical duties) were examined with one response of $2,000,000 and three responses of $1,500,000 which were considered realistic and retained in the analysis.

Figure 18. Scatter plot of hourly rate by hours worked.



To prevent these extreme values from skewing the results of the analysis, those working over 100 hours per week (3 cases) were excluded from the analysis. This left 2679 cases for the pay equity analysis.

Figure 19. Scatter plot of hourly rate by hours worked with extreme values removed.



Before calculating the hourly pay rate, user missing values (not stated, refused, don't know) from the variable for hours worked per week were recorded as missing (n=390).

The hourly pay rate was then calculated as:

$$\text{Hourly Rate} = \frac{Annual\ Income}{52 * Hours\ worked\ per\ week}$$