



2021 GP Future Workforce Requirements Report

October 2021



ALLEN+CLARKE

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EXECUTIVE SUMMARY

The New Zealand government, through its commitment to the Health and Disability System Review findings and implementation, have reaffirmed that the future and sustainability of delivering first class healthcare for all New Zealanders is dependent on the provision of medical care in the community. This medical care is delivered primarily by Specialist General Practitioners in collaboration with, and supported by, multi-disciplinary health care teams.

The shortage of Specialist GPs is likely to worsen in the next decade

The Royal New Zealand College of General Practitioners (the College) states that Specialist GPs are a workforce in crisis, which is set to worsen in the next decade if action is not taken to support workforce expansion and development.

Current GP workforce shortages are compounded by an ageing cohort with an increasing proportion approaching or past retirement age. Fifty percent of the current GP workforce intend to retire within the next ten years.

GP workload and complexity of care has increased

The GP workload has increased, with its sensitivity to population growth, and elevated demand for complex care in the community. The number of GPs per 100,000 has declined impacting on patient access to care, and GP vulnerability, as they report a high rate of burnout and struggle to keep pace with the rapidly growing demand, growing complexity and additional administrative expectations. GPs deliver 14 million consultations per year while experiencing unprecedented increases in the number of general practice visits for co-morbidity, long-term conditions, mental health problems, and a high number of young Māori and Pacific people disproportionately affected by complex health conditions.

Attainment of the vocational qualification of Specialist GP (Fellow) signifies an advanced level of broad diagnostic skills and a depth of medical knowledge. However, the College has identified that there are no perceived or tangible benefits to becoming a Specialist GP, including earning capacity, career pathway or standing within other specialist areas, the Ministry of Health, or the health system profession. In New Zealand, a Fellow having completed three years of Specialist GP training and serving their communities for many years, while completing required ongoing Continued Professional Development requirements, is valued the same as a doctor who has just arrived in the country, or a non-vocationally registered doctor working in general practice.

New Zealand is heavily reliant on international medical graduates and there is clear evidence of ethnic inequity in the GP workforce

New Zealand is not training sufficient Specialist GPs to meet current or future community based medical needs, making general practice highly reliant on International Medical Graduates (IMG). This conflicts with New Zealand's commitment to health equity by developing whanau orientated medical capacity and capability to improve Māori health, and materially improve health equity.

Currently there is very stark evidence of ethnic inequity in the GP workforce, with Māori and Pacific people significantly under-represented.

There are multiple barriers to attracting more graduate doctors to choose Specialist GP as their vocation.

These barriers include:

- Insufficient medical graduates
- Lack of exposure to General Practice in undergraduate training programmes
- Lack of access to General Practice, and financial support for training in the community during post graduate tenures
- Large disparity of remuneration for GP registrars entering training, compared to other medical specialist registrars in a hospital setting
- The perceived unattractiveness of general practice as a viable career option, in comparison to other medical specialties
- The widening and large disparity in financial remuneration and benefits for Specialist GPs, in comparison to other medical specialties
- Lack of proactive and timely interventions to address the acknowledged workload and workforce issues

The College has identified an urgent need for a strategy and roadmap of how the government will proactively and sustainably address the Specialist GP workforce crisis.

KEY FINDINGS

- An increasing proportion of Specialist GPs are approaching retirement age. According to the most recent GP Workforce Survey (2020), half of the current GP workforce intend to retire within the next 10 years
- The proportion of Specialist GPs intending to retire within the next two years has increased steadily year on year, rising dramatically from 4 percent in 2014 to 14 percent in 2020.
- There is clear evidence of significant ethnic inequity in the existing GP workforce. 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).
- A recent upward trend in the total number of Specialist GPs masks concerning underlying trends that undermines the profession's ability to meet the demand for general practice services in the coming decade. These demands include a growing and ageing population and a large increase in complex health needs.
- In 2020, nearly one-third (31 percent) of GP respondents rated themselves 'high' on the burn-out scale. This percentage has been steadily increasing over the past four years. In 2016, 22 percent of respondents rated themselves as 'high' on the burn-out scale. Identified major causes of burn-out include increasing patient need (ageing, mental health, complex conditions), administrative burden, and underfunding.
- Men dominate the profession at older ages, while women dominate at younger ages, so men more than women are likely to retire and exit the profession. In addition, the number of predominantly ageing male GPs traditionally are working longer hours per week than the GPs entering the workforce.
- With female GPs typically working fewer hours per week, the expected increase in the proportion of female GPs (up from 51% currently to 59% in 2031) means that the hours worked by GPs will increase at a slower rate than suggested by simply counting heads.
- Point estimates of numbers of Specialist GPs per 100,000 population are highly sensitive to population projection assumptions. The number of GPs per 100,000 New Zealanders is projected to fall from 74 in 2021 to 70 by 2031, and with a higher pace of population growth could potentially fall to below 66. In comparison the Australian Government Department of Health report the national 2020 GP rate per 100,000 population as 116¹. (Direct comparisons, however, should be made with caution as there are differences between jurisdictions in the ways data are collected, and the Australian data includes non-specialist GPs working in general practice).
- The 2019/2020 New Zealand Health Survey indicates that close to one million people reported that they were unable to obtain an appointment at their usual medical centre within 24 hours, at least once during the previous 12 months.
- The 2019/20 New Zealand Health survey also shows the unmet need for GP services varies across ethnic groups. Māori adults had the highest prevalence of being unable to get an appointment at their usual medical centre within 24 hours, which is significantly

¹ <https://hwd.health.gov.au/resources/data/gp-primarycare.html>

higher than non-Māori adults. Unmet need for both Māori and Pacific children was significantly higher than non-Māori and non-Pacific children. The prevalence of being unable to get an appointment among Māori and Pacific adults have increased steadily year-on-year. Additionally, the inequity in demand for GP services among Māori adults has worsened in the past five years.

- With population ageing, increased mental health presentations, and increasing complexity of patient health needs, the proportion of high needs patients is likely to increase in the coming decade. Combined with increased Specialist GP retirements, the shortfall of GPs is expected to increase by a further 300 full time equivalent GPs by 2031.
- Increasing the GP training intake from 200 to 300 per year from 2023 onwards would be sufficient to mitigate this GP shortfall, however there are substantial barriers to attracting more doctors to choose GP as their vocation.
- Our modelling suggests that increasing the training intake to 300 per year is potentially a minimum requirement in order for the profession to be able to meet the demand for GP services in the 2030s.
- An initial high level cost benefit analysis suggests that the benefits of avoiding a GP shortfall would yield \$4 of national benefit for every additional dollar spent on training extra GPs.

CONTEXT

There is considerable uncertainty in the health sector, with the ongoing impact of COVID-19 and the unknown impacts of the Health and Disability Systems Review implementation.

The most recent RNZCGP Workforce Survey (2020) suggest that the GP workforce in New Zealand is facing a looming crisis. There are high levels of reported burnout, and half of the current workforce intends to retire within the next ten years. Approximately a third of the workforce intends to retire in the next five years.

There is also an increasing trend, supported by the Health and Disability Report (2020), to devolve more healthcare services from secondary care to primary care, which will place an even greater service delivery burden on general practice.

Looking at the broader health system, the Health and Disability Report (2020) notes that Māori health outcomes are significantly worse than those for other New Zealanders and that this represents a failure of the health and disability system and does not reflect Te Tiriti commitments. Designing a health and disability system that will produce better results in the future requires a recognition that change has to happen right across the system.

New Zealand has a significant reliance on internationally trained doctors and does not produce enough medical graduates to meet current demand across specialties, including general practice. COVID-19 border restrictions has further highlighted the reliance on internationally trained doctors, that has led to substantial gaps across the entire health sector.

Does NZ need to be training or importing more doctors to meet emerging workforce challenges? There is clearly room for a policy debate to occur on whether NZ should be growing or importing doctors and what is the optimal mix. Existing health inequities for Māori (and Pacific peoples) would suggest that training more could address, to some extent, both equity and workforce issues.

OBJECTIVES

To explore options for the specialist General Practice (GP) workforce for the next 10 years and provide costed estimates for various scenarios, including the opportunity cost of not funding additional training places.

ECONOMIC ASSESSMENT OF CASE FOR INCREASING GP TRAINING LEVELS

Introduction

This report investigates to what extent there is justification for increasing the current rate of training medical specialists in general practice. Fellowship in general practice is attained after completing three years as a general practice registrar, which in turn follows six years of medical school and a minimum of two years of pre-vocational medical training. Recently the College has attained a small increase in first year applicants to approximately 200 per annum entering general practice vocational training. The annual number of graduating GP Fellows is typically around 165-170, interruptions, say for maternity reasons, mean that not all complete their specialist GP training within the minimum three-year advanced training period. The College has identified that the optimal intake of GP registrars needs to increase to 300 per year. A continuation of a 15%

attrition rate would mean that graduating Fellows would therefore increase, over a three-year period, to around 250 per year.

The analysis presented below first investigates supply prospects for GPs in New Zealand, presuming a continuation of recent trends. We then explore the evidence for a mismatch between this supply and likely demand levels for GP services. This analysis suggests that although the supply of GPs has been growing faster than population growth in recent years, the demography of both the population and the pool of GPs is likely to result in an increasing risk of GP supply being insufficient to meet inherent demand. The intake of 300 doctors into GP training would appear to be sufficient to mitigate this risk, however the College is struggling to have sufficient annual applicants that meet the entry criteria to maintain the recently achieved 200 registrars per year.

In addition, we undertake an initial high level cost benefit analysis which indicates that the potential national benefit from a higher density of GPs is likely to justify the additional national expense from increased training activity.

The analysis presented here is from an aggregate national perspective. We are interested in whether the national supply of GPs is likely to meet the likely national demand for GP services. We note that even if this condition is met, this does not preclude regional supply and demand mismatches, but addressing such remaining mismatches goes beyond the scope of the current report.

Supply of General Practitioners

Our modelling of supply prospects builds off the health workforce modelling conducted by the Ministry of Health (Jo, 2021). The baseline projections presume that new Fellows and doctors returning to general practice continue at their five-yearly average rates within five-year age bands. An allowance for ageing has two key impacts on the demographic nature of GPs:

- The proportion of GPs aged over 64, which increased from 10.8% in 2013 to 18% in 2021, is projected to increase to over 21% by 2031.
- The proportion of female GPs is projected increase from 51% in 2021 to 59% by 2031.

Overall, the pace of growth in GP numbers is expected to stagnate at just under 3,950 from the mid-2020s (see Figure 1). The increasing proportion of female GPs contributes to further falls in the average hours worked by GPs. In 2013 the 2,991 GPs are estimated to have had a full time equivalent (FTE) count of 2,610, implying an FTE/head count ratio of 87.2%. By 2021 this ratio had declined to 84.8% and it is expected to fall to 82.2% by 2031. The implication is that under current policy settings the FTE of GPs is expected to peak at around 3,270 in 2025, with modest declines thereafter (see Figure 1).

The College has noted some potential flaws in the current Ministry of Health workforce modelling that has the effect of understating the existing shortfall, and predictions of future GP workforce to meet patient need. Where individual GPs work in excess of average weekly FTE hours, the modelling counts this as if there were multiple GPs working these hours. So when, say a GP working in excess of 36 FTE hours retires, the model assumes a single GP working average FTE hours to be their full replacement. This is particularly relevant in already stretched rural areas where GPs often work extremely long hours including weekends and afterhours.

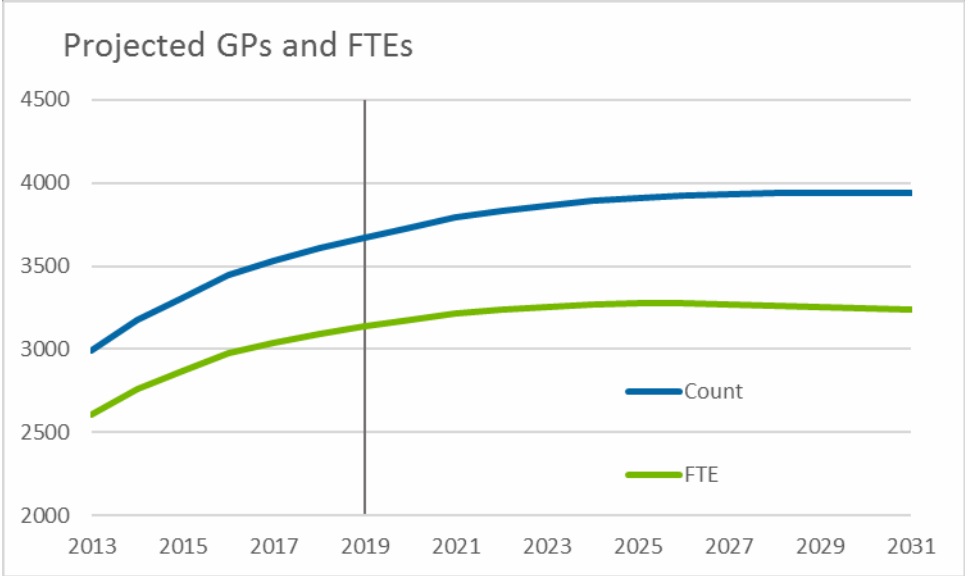
Similarly, the modelling assumes all hours recorded as GPs from the Medical Council of New Zealand annual certification returns are working clinically, despite many working in GP-

related activity that is non-patient facing such as research, medical tutelage, management and governance activities. These model limitations may impact on the projections of future workforce requirements.

Ethnic Inequity Issues in the General Practitioner Workforce

There is very evident ethnic inequity in the existing GP workforce. 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). While the latest Medical School training statistics show some improvement in this area it will take time for a more representative workforce to develop. Any choices regarding increased GP training numbers will take several years to produce a real impact on the frontline workforce. This suggests that more training places would have the potential to improve workforce equity issues.

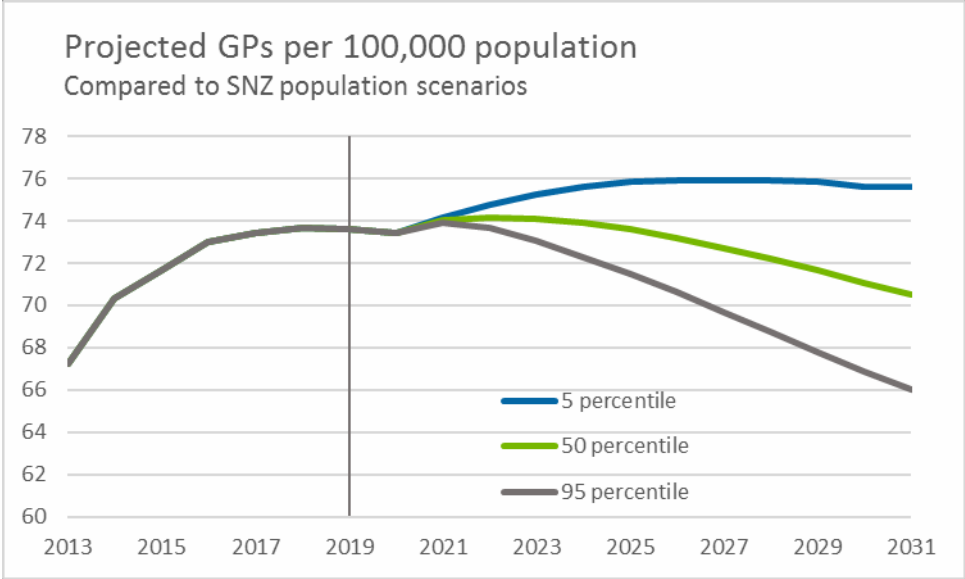
Figure 1



The size of the national population is important for assessing the adequacy of GP numbers. A commonly used metric is the count of GPs per 100,000 population. As illustrated in Figure 2, the number of GPs per 100,000 has been stable at just under 74 in the five years to 2021, after increasing from under 68 in 2013. Perspectives of the adequacy of GP projections depend on expectations about the size of the New Zealand population. If the population evolves in line with Statistics New Zealand’s central (50 percentile) population projections², then the number of GPs per 100,000 people is expected to decline to around 70 by 2031. If population growth is at the low end of expectations (for example, the 5-percentile population scenario) GP per 100,000 will potentially stabilise at around 76. But higher population growth would imply a reasonably rapid decline in the proportion of GPs, with the 95-percentile scenario implying a fall to around 66 per 100,000 by 2031.

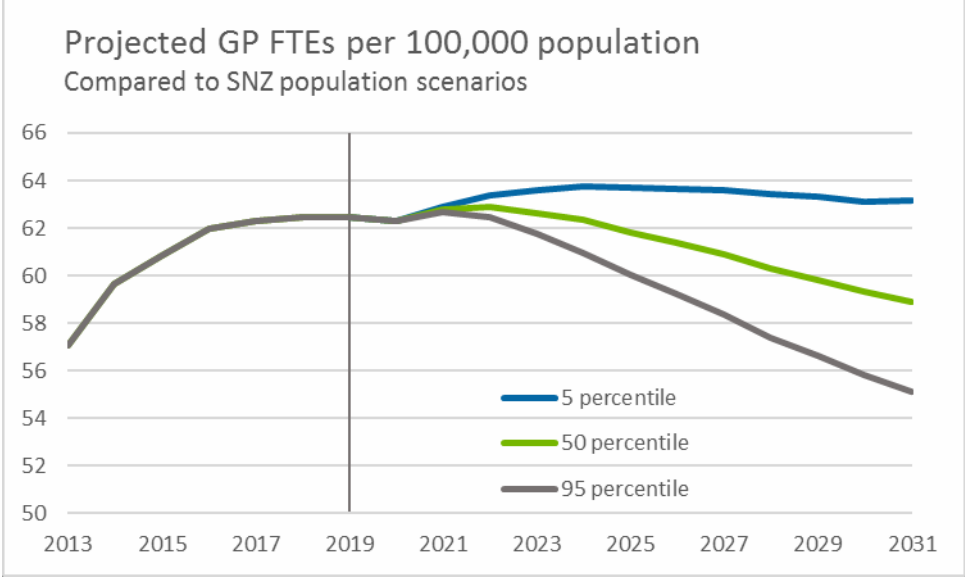
² Population projections were extracted from the NZ Stat facility on the Statistics New Zealand website: http://nzdotstat.stats.govt.nz/wbos/index.aspx? ga=2.267612686.1859429689.1630270583-1951230447.1535854869& gac=1.82382436.1628488595.CjwKCAjwgb6IBhAREiwAgMYKRllpDxdgkEiclKTI5mJUTT_FHKcmLe8blljgzskEr9KKLuxytCHFgRoCF3cQAvD_BwE

Figure 2



The adequacy of current policy settings looks more questionable when the ratio of GPs to population is expressed in terms of FTEs (i.e., accounting for expected hours of work as well as the number of trained GPs). As demonstrated in Figure 3, it would appear that only with very low population expectations (i.e., the 5-percentile projection) does the GP FTE per 100,000 ratio remain stable. If population growth was at the other extreme, the GP FTE per 100,000 is likely to decline to below 56.

Figure 3



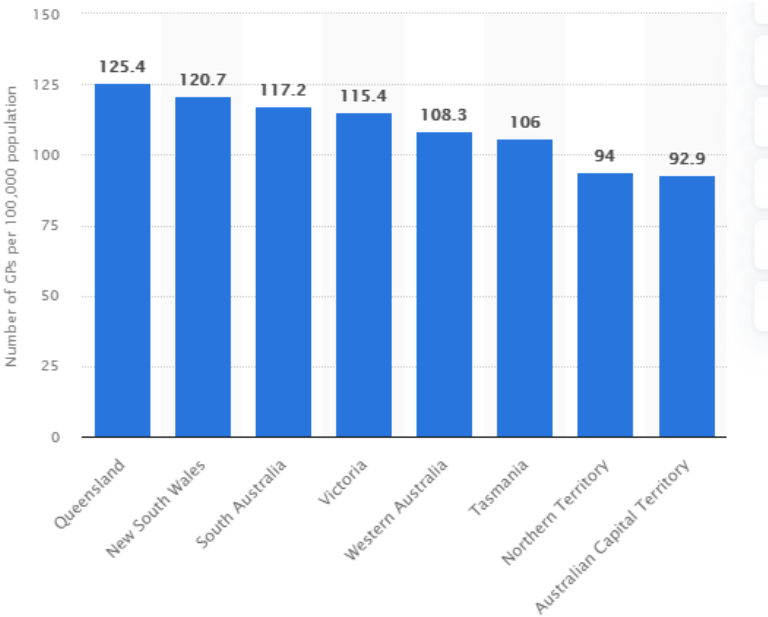
Compared with like-kind countries, New Zealand has a relatively low rate of GP FTEs per 100,000 population. Australian Government Department of Health report the national GP rate

per 100,000 population as 116 in 2020 (<https://hwd.health.gov.au/resources/data/gp-primarycare.html>)

There is also regional variation in Australia (Figure 4) with the highest rate (125) of GP FTEs per 100,000 population in Queensland and 93 in the Australian Capital Territory. As noted above, the rate for New Zealand has been stable at just under 74 per 100,000 for the past 5 years.

Figure 4

Number of GPs based on full time equivalent (FTE) per 100,000 population.



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Similarly in Canada, data from the Canadian Institute for Health Information show 122 FTE ‘family physicians’ per 100,000 population. Canada's population increased by 4.6 per cent between 2014 and 2018, while the number of physicians grew by 12.5 per cent over the same time period.

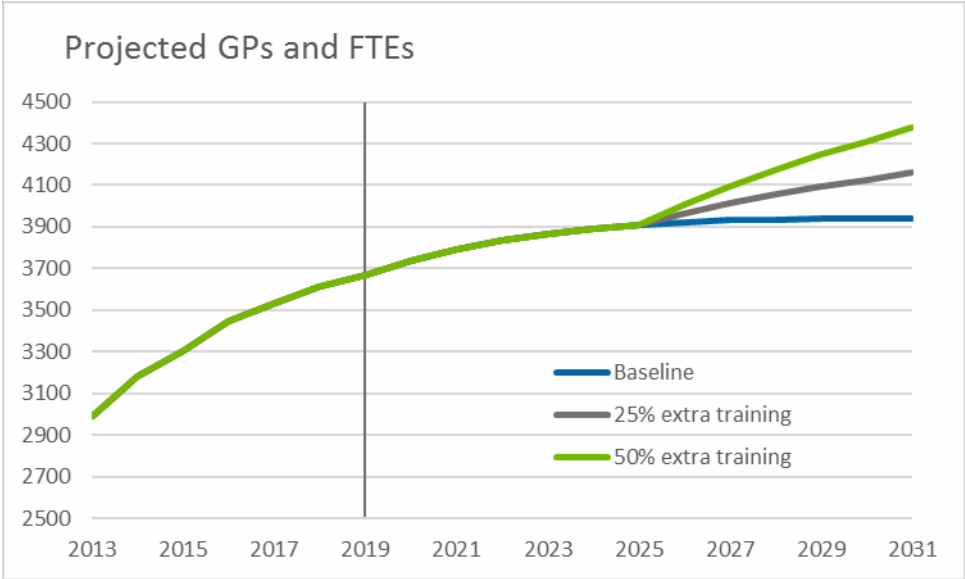
International comparisons look difficult to use for making any categorical statements about New Zealand. For example, the OECD states that the UK uses a different method to other countries, and the OECD data for Australia are estimates for most years. OECD data reported for New Zealand is mainly estimates as well and look very high compared with the data supplied by the Ministry of Health. The range of outcomes is wide from around 30 per 100,000 in the USA to 264 for Portugal. New Zealand’s measure is around the middle, but it really does not look like these are like-for-like comparisons.

More training is needed

Currently approximately 200 doctors enter the GPEP registrar training annually and the annual number of graduating Fellows is typically around 165-170. The College considers the optimal intake of GP registrars needs to increase to 300 per year. Our modelling assumes that graduating Fellows will continue to be 15% below entry levels into GPEP registrar training. Thus, an increased intake to 300 registrars per year is assumed to mean that graduating Fellows would therefore increase, over a three-year period, to around 250 per year.

If GP registrars entering training increased to 300 from 2023, then we would expect an increase in GP Fellows from 2026. By 2031, this 50% increase in GP training (from 200 to 300 registrars) would increase the expected number of GP Fellows practicing in 2031 from 3,940 to 4,380 (see Figure). The impact of a 25% increase in registrars (i.e., increasing the annual intake to 250) is also illustrated and would be expected to increase GP Fellows to 4,160 by 2031. However, we will demonstrate below that training rates below the College’s 300 per year recommendation is likely to be associated with high risks of New Zealand not having the capacity to meet the growing demand for GP services.

Figure 5



Demand for GP services and unmet need

The 2019/20 New Zealand Health Survey (discussed in more detail in Appendix 1) indicates that 17% of children and 22% of adults reported that they were unable to obtain an appointment at their usual medical centre within 24 hours at least once during the previous 12 months. Extrapolating to population levels this would imply that a population equivalent to 1 million people reported that they were unable to obtain an appointment at their usual medical centre within 24 hours, at least once during the previous 12 months. Assuming that a FTE GP sees on average 23 patients per day, this implies that there is a shortage of at least 43,390 GP days. Working off a 230-day full time year, this would imply a current shortage of 188 GPs. This estimate of the current shortage is not reflective of the actual higher shortfall as the estimate is based on the number of people reporting a lack of access to their GP but does not account for the frequency of this happening.

Ethnic inequity in demand for GP services

The 2019/20 NZHS survey’s results show the unmet need varies across ethnicity group. Māori adults aged 15 years and over had the highest prevalence (29.2%) of being unable to get an appointment at their usual medical centre within 24 hours, which is equivalent to an estimated 140,000 Māori adults. A fifth of Pacific adults (19.6%) had the same experience in the past 12 months, which is equivalent to an estimated 50,000 Pacific adults. Māori adults were significantly

(1.4 times) more likely to experience the inability to get an appointment compared with non-Māori adults, after adjusting for age and gender differences. Both Māori and Pacific children were significantly more likely to be unable to get an appointment compared with non-Māori and non-Pacific children. The time-series results indicate the prevalence of being unable to get an appointment within 24 hours among Māori and Pacific adults has increased steadily year-on-year since 2014/15. In addition, the inequity in demand for GP services among Māori adults has become worse in the past five years.

Population growth and increasing complexity of needs

Moving forward there are concerns that the complexity of dealing with public health needs associated with an ageing population, increased burden of non-communicable diseases (e.g., diabetes, and heart failure), and increasing demand for mental health services are contributing to the growing intensity of demand for GP services, as described in the 2020 GP Workforce Survey.

Matching GP growth to population growth is not enough, it also has to match the hours that GPs are available and an increasing proportion of the population that have increasingly higher needs. The greater complexity of the issues faced by high needs patients means that there are likely to be benefits from continuity of care by Specialist GPs. High needs patients require substantially increased treatment time. The report 'Workforce and Resources for Future General Practice' (2019) assessed that while 5.5 GPs are required for 10,000 general need patients, 7.9 GPs per 10,000 are required to treat high needs patients.

To investigate the potential magnitude of changes in the needs of patients for the demand for GP services we develop a very simple "rule of thumb" model based on expected demographic changes and the general/high needs patient requirements identified in 'Workforce and Resources for Future General Practice' (2019). To operationalise these rules of thumb we have defined "high needs" as relating to the population aged 0-4 and over 64, to investigate the "excess capacity" of GPs under different population projection and GP training scenarios. This assumption is obviously a gross simplification but is used here in an attempt to capture potential demographic pressures on the demand for GP services relating to the greater likelihood of more intense medical requirements at young and older ages. Figure 6 presents the results of this analysis based on subtracting the baseline projection of fulltime equivalent GPs from the demand for GPs implied by applying the general/high needs rules of thumbs to the population make up of different Statistics New Zealand population projection scenarios³. We recognise that this simple model does not take into account evidence of a significant increase of younger populations and Māori and Pasifika young people with complex health needs, including long term conditions and mental health issues.

This model suggests that demand for GP services exceeded the supply of GPs by an amount equivalent to 62 FTE GPs in 2013; this recovered to a surplus equivalent to 148 FTE GPs by 2018 but is projected to fall to a shortfall of 177 by 2031 (using the 50 percentile population projections and assuming no change in training levels). Strong population growth, equivalent to Statistics New Zealand's 95 percentile scenario could imply a shortfall of GPs equivalent to 400 FTEs.

Of course, this is just a simple "rule of thumb" model, so using the expressions "surplus" and "spare capacity" may be misleading as it is debatable if there is actually any spare capacity in general

³ We accept that this approach represents a gross simplification on factors influencing the demand for GP services, ignoring many factors underpinning increases in the complexity of patient needs. In its favour it provides a relatively simple way of exploring the way that known demographic changes (population ageing) are potentially going to impact on the demand for GP services.

practice at present. If we take the evidence from the New Zealand Health Survey discussed above, there could be at present a shortfall of around 200 GPs. The implication of this is that the rule of thumb approach potentially understates GP requirements by about 300. In which case the 50 percentile population projections would be consistent with a shortfall of 500 FTE GPs by 2031 (assuming no change in training rates).

Figure 6

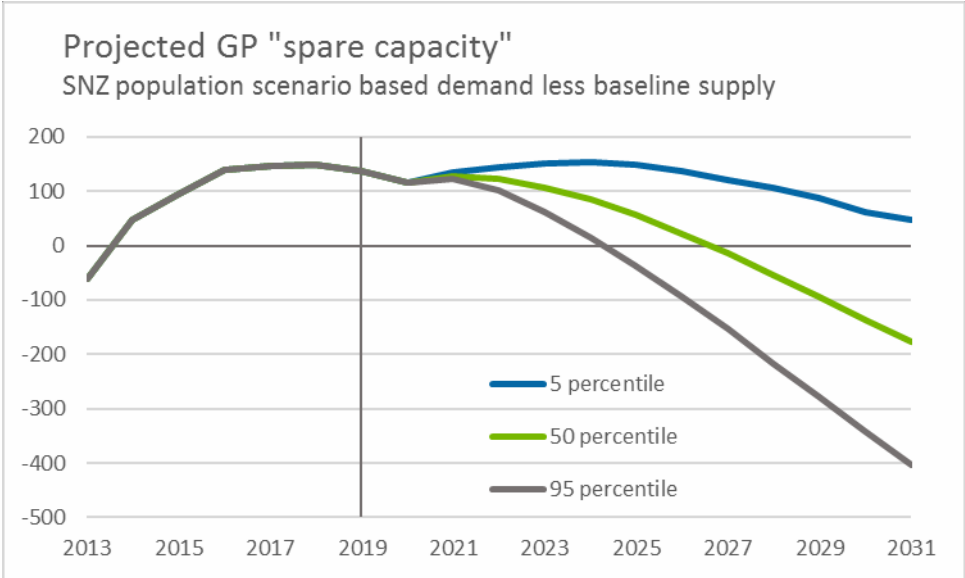
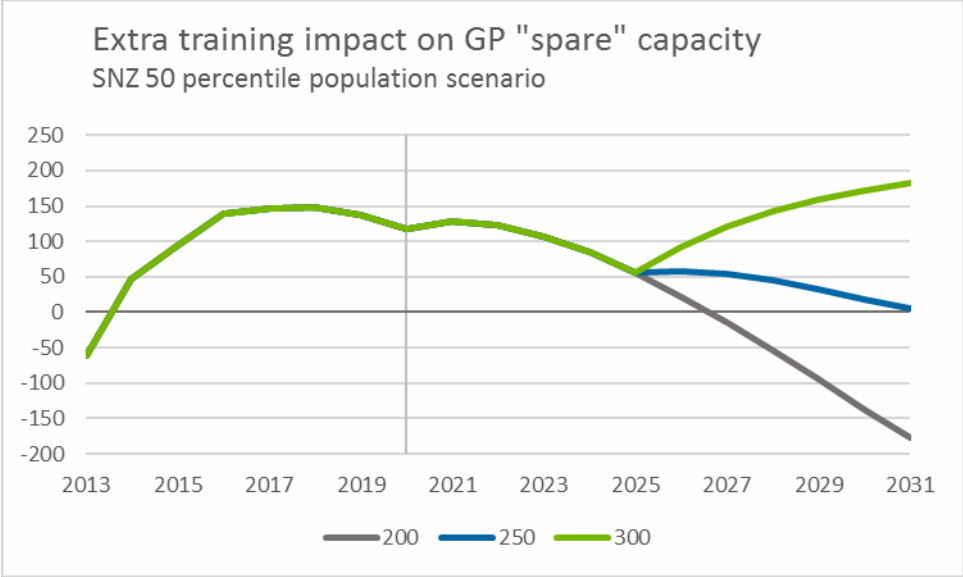


Figure 7 presents the “rule of thumb” assessment of increasing the GP training intake from 2023 to the Statistics New Zealand 50 percentile population scenario. As stated above, the rule of thumb model is not sufficiently robust to provide an accurate assessment of the extent that GP numbers match the demand for GP services, but we think that there is information in the direction of travel. This indicates that increasing the training intake to 250 registrars by 2023 would potentially be sufficient to slow the pace at which the demand for GP services is outstripping GPs ability to supply these services. An increase in the training intake to 300 per year from 2023 is likely to be a more robust response to the supply shortfall risk, with our modelling indicating that this would be sufficient to reverse a projected shortfall of 177 FTE GPs by 2031 to a “surplus” of 180 by 2031.

This would suggest that increasing training intake to 300 per year is potentially a minimum requirement for the profession to be able to meet the demand for general practice services in the 2030s.

Figure 7



Economics of increasing GP training

So, what is the economics of undertaking extra GP training? A US study (Basu et al. 2019) suggests that counties with higher GP densities have lower age adjusted mortality rates than counties with low GP densities. In particular, 10 extra GPs per 100,000 population reduces the probability of cancer, respiratory and cardiovascular deaths by around 1%. We assess that increasing GP training levels by 100 per year is likely to increase the GP density per 100,000 in New Zealand by 6.5 relative to the baseline projection. Based on Institute for Health Metrics and Evaluation data (see <https://vizhub.healthdata.org/gbd-compare/>) such a risk reduction would reduce deaths from cancers, respiratory and cardiovascular illnesses by around 30 per year. Using the Treasury recommended value of Statistical life of \$4.56m, implies the value to society from such mortality reductions would be around \$150m per year (with low and high valuations ranging \$100m to \$200m based on confidence levels on the impact of GPs on mortality and estimates of the health importance of these illnesses).

From a cost basis, we assume that the increase in training begins at the GPEP year 1 level, with an extra 100 training in 2023 resulting an increase of 85 GP Fellows in 2026 (allowing for apparent historical attrition rates). The fiscal costs of this extra training include the payment of salaries for year 1 GPEP1 placements as well as training and administrative costs of delivery of the GPEP three year programme through the College. This is likely to have a fiscal cost of \$10.4m per year, assumed to begin in 2023.⁴

⁴ Our calculations are made on the basis that the alternative to extra training of GPs would be training in other specialties. So, no allowance has been made here for increases in medical school enrolments and graduate numbers.

Table 1: Cost assumptions underpinning training cost calculations

Cost Assumptions	\$
Average unsubsidised GP consultation fee	\$73
Locum half day fee	\$518
GPEP1 pro rata annual posting payment from RNZCGP	\$12,300
Average weekly salaries for GPEP	\$3,100

Practices face additional opportunity costs relating to the time spent by Fellows providing training and mentoring, and the potential profit losses for practices from hiring locums (who would see more patients in the same time as registrars). Partially offsetting these costs will be the income earned by registrars. Our estimates are based on the activity levels identified in the 2016 Powell Consulting report, *Evaluation of the Practice's role in teaching medical students, interns and general practice registrars*. Values have been updated to 2021 levels based on information provided by RNZCGP or by allowing for health sector specific inflationary pressures since 2016. These calculations account for:

- The opportunity cost of teaching time provided by hosting GPs
- The additional profit that practices could make if they hired a locum rather than trained a registrar
- But subtract the income that training registrars will potentially earn for the practice from treating patients, net of salary payments expected to be paid for year 2 and 3 registrars by the practice.

From 2026 these annual opportunity costs for practices are estimated to stabilise at \$21m per year in 2021 prices.

Using a 5% discount rate with training costs beginning in 2023 and benefits beginning from 2026, we present an assessment of the social return from investing in the proposal to increase the intake of GP trainees from 200 to 300 per year (see Table 2). The costs include fiscal costs and practice opportunity costs, with a total present value estimate of \$191m. The valuation of benefits depends on assumptions about the impact of GPs on mortality rates and the relative health impacts of these illnesses, with the present value of these health benefits estimated to range from \$529m to \$992m, with a central estimate of \$761m. Subtracting the training costs (\$191m) yields the net benefit estimates, which range from \$338m to \$800m, with a central estimate of \$570m.

Table 2: Cost-benefit assessment of increasing the annual GP training intake from 200 to 300

	Present Value		
Training costs	(\$m)		
Fiscal cost	70.1		
Practice opportunity cost	121.3		
Total cost	191.4		

	Present Value	Net benefits	Benefit cost
Valuation of health benefits	(\$m)	(\$m)	ratios
Low	529.4	337.9	2.8
Central	761.1	569.7	4.0
High	992.0	800.6	5.2

With a central benefit cost ratio of 4.0 (ranging from 2.8 to 5.2), this initial, high-level assessment, would suggest that there is potential for strong social returns from public investment in the expansion of training of GPs. Conversely our analysis suggests that without an expansion in training levels there are strong risks of a substantial shortfall in public access to general practice services. **The potential is that the social costs resulting from this shortfall will outweigh fiscal “savings” from not funding this training.**

There remain issues with respect to the adequate funding of GP training. To train a further 100 GPs a minimum of a further 100 General Practices will be required to agree to taking on the training of a first-year registrar. Do the current training arrangements provide the right incentives to attract the extra registrars and the practices required to host their postings? As Powell Consulting (2016) demonstrated hosting GPEP registrars impose significant opportunity costs on hosting practices. There are also pay equity issues relating to the 25% pay penalty registrars experience when choosing to train in general practice. The costs to society from a shortfall in GPs appear large enough to allow the government to offer appropriate incentives to encourage a sufficient number of registrars to train in general practice and a sufficient number of practices to host registrars.

There is a significant disparity in remuneration between GP registrars and other specialty registrars in hospital-based training settings. The difference is between \$90k vs \$120k making a real disincentive for attracting registrars to choose General Practice as a career path.

OTHER WORKFORCE ISSUES

Influence of choice of general practice as a specialty

Exposure to community medicine in the two PGY1 and PGY2 years is very limited. A greater level of exposure to community-based medicine in the early training years may make it better understood by medical graduates, and potentially more appealing as a career path. Currently the lack of exposure to general practice medicine in the PGY1 and PGY2 years is a fundamental barrier to attracting GP registrars.

DHB-based training is fully funded for the full specialist training period. This is not the case in general practice, which could be seen as a disincentive to pursue specialist training in general practice. Structural changes to the training regime for PGY1 and PGY2 could be made to allow (and financially support) training in community medicine.

It has been recognised that there is a lack of pay and conditions parity with other medical specialists. Martin Hefford (former CEO of Tu Ora/Compass Health, and deputy director of the Health and Disability Review Transition Unit) recently remarked in NZ Doctor, ‘I think if we are going to be serious about refocusing the system on primary and community care, then we need to have parity in terms and conditions for the workforce.’

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APPENDIX 1

New Zealand Health Survey: Unmet need for primary health care

Primary health care services such as general practices and medical centres are usually the patient's first contact with the health system. Good and easy access to primary care is crucial for vulnerable groups, including those who experience socioeconomic disadvantage⁵. The availability, coordination, and appropriateness of services and funding arrangements all influence how easily people can access the health and disability services they need⁶.

Definition

The indicator presents the prevalence of New Zealanders' experiencing an unmet need for primary health care as investigated in the New Zealand Health Survey from 2011/12 to 2019/20. Unmet need for primary health indicator is defined as people who had experienced one or more of the following five barriers to accessing primary health care in the last 12 months:

1. Unmet need for a GP due to cost,
2. Unmet need for a GP due to lack of transport,
3. Unmet need for after-hours services due to cost,
4. Unmet need for after-hours services due to lack of transport,
5. Inability to get an appointment (see a GP, nurse or other health care worker) at their usual medical centre within 24 hours.

Time-series analysis

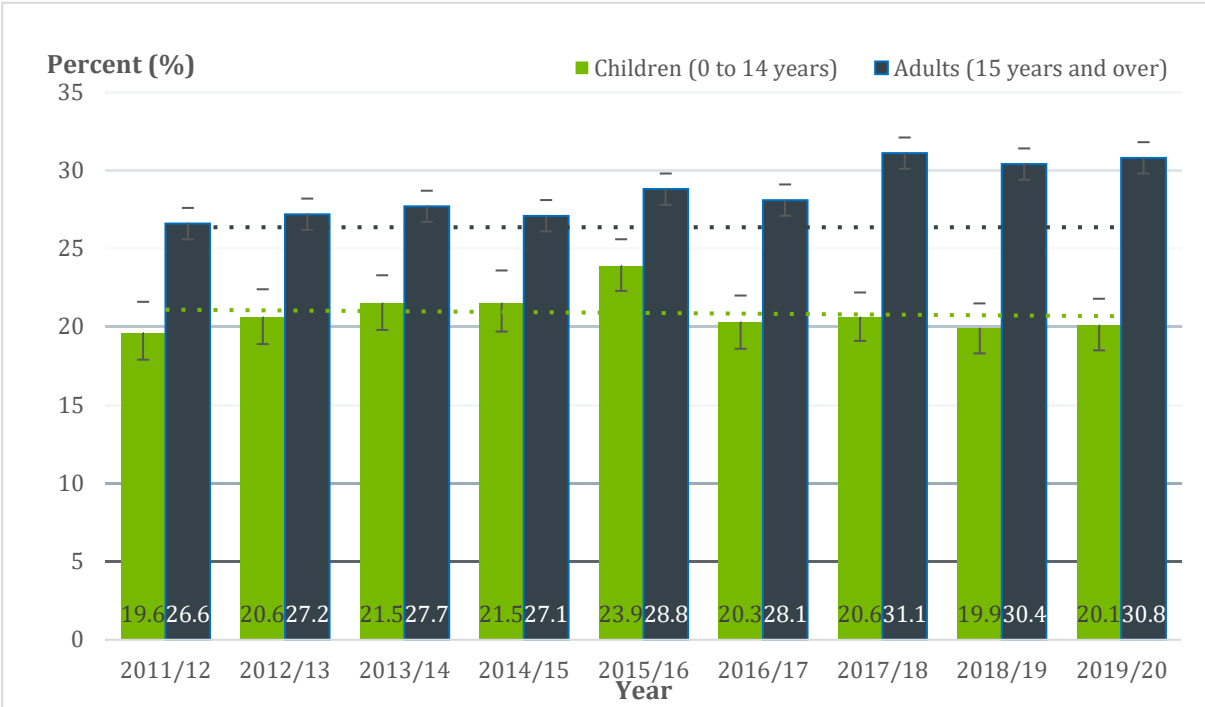
In 2019/20, more than one-in-five New Zealand children aged 0 to 14 years (20.1%) and nearly one-in-three of New Zealand adults aged 15 years and over (30.8%) reported experiencing some form of unmet need for primary health care in the last 12 months (Figure 1), which is equivalent to an estimated 1,427,000 New Zealanders (194,000 children and 1,233,000 adults). Most people could access primary health care when they need to (i.e., they had not experienced any of the five barriers listed above). However, the time-series results indicate that the prevalence of experiencing one or more types of unmet need among adults aged 15 and over has increased over time. The prevalence of unmet need in 2019/20 (30.8%) was significantly⁷ higher than 2011/12 and 2014/15 (26.6% and 27.1% respectively), while the prevalence among children shows an increasing trend between 2011/12 and 2015/16, then declined and remained unchanged around 20.0% in the last four years. The main drive behind the increasing trend of the unmet need among adults will be investigated further in this report.

⁵ Hall JJ, Taylor R (2003) Health for all beyond 2000: the demise of the Alma-Ata Declaration and primary health care in developing countries. *Med J Aust* 178: 17-20.

⁶ Neuwelt P, Matheson D, Arroll B, Dowell A, Winnard D, et al. (2009) Putting population health into practice through primary health care. *NZ Med J* 122: 98-104.

⁷ Statistical significance is measured at the 5% significance level (that is, a p-value less than 0.05). Statistically significant differences between survey years ($p < 0.05$) are reported. Before calculating p-values, prevalence results are age-standardised to take into account changing age structures in the underlying populations over time.

Figure 1. Unmet need for primary health care in the last 12 months, in children aged 0-14 years and adults aged 15+ years, 2011/12 to 2019/2020 (unadjusted prevalence⁸).

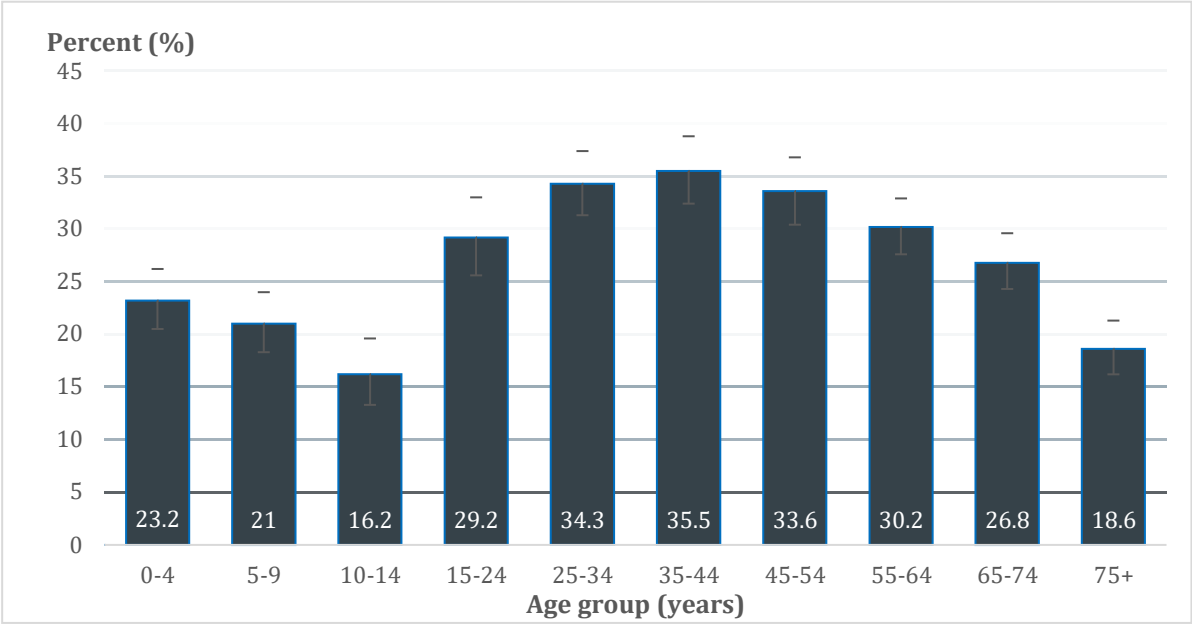


Key findings from the Sub-group comparison analysis in 2019/20

- Women were more likely to experience unmet need for primary health care than men, after adjusting for age difference. (Adjusted rate ratio: 1.49, 1.39-1.61).
- The prevalence of experiencing the unmet need for primary health care varies by age group (Figure 2). The highest prevalence of unmet need within the adult population in was found in adults aged 35–44 years. As for children, young children aged 0–4 years were more likely to experience unmet need (Figure 2).

⁸ This figure presents unadjusted results; that is, the prevalence estimates reflect the actual percentage for the population in each time period. Data was collected for three-quarters of the survey year only. On 19 March 2020 the interviewing for the New Zealand Health Survey was suspended to reduce any risks of transmitting COVID-19 between interviewers and respondents. No adjustments or imputations have been done to account for the impact this has had on the 2019/20 data.

Figure 2. Unmet need for primary health care in the last 12 months, by age group, 2019/20 (unadjusted prevalence).



- The prevalence of unmet need for primary health care also varies by ethnic group (Table 1). Māori and Pacific people have had a greater prevalence of unmet need for primary health in the last 12 months.

Table 1. Unmet need for primary health in the last 12 months, by ethnic group, 2019/20 (unadjusted prevalence and estimated number of populations⁹).

Ethnic group (total response)	Unmet need for primary health (prevalence, 95% CI)		Estimated number of populations affected	
	Children	Adults	Children	Adults
Māori	24.0 (20.7–27.7)	42.5 (39.3–45.9)	58,000	216,000
Pacific	27.1 (22.4–32.4)	35.1 (30.2–40.2)	35,000	92,000
Asian	16.7 (13.0–21.3)	24.2 (21.2–27.5)	29,000	141,000
European/Other	19.8 (17.8–21.9)	31.1 (29.8–32.5)	135,000	945,000
Total:	20.1 (18.5–21.8)	30.8 (29.6–32.0)	194,000	1,233,000

- Māori adults and children were more likely than non- Māori adults and children to have experienced unmet need for primary health care, after adjusting for gender and age differences (Table 2). In addition, Pacific children were more likely than non-Pacific children to have experienced this unmet need.

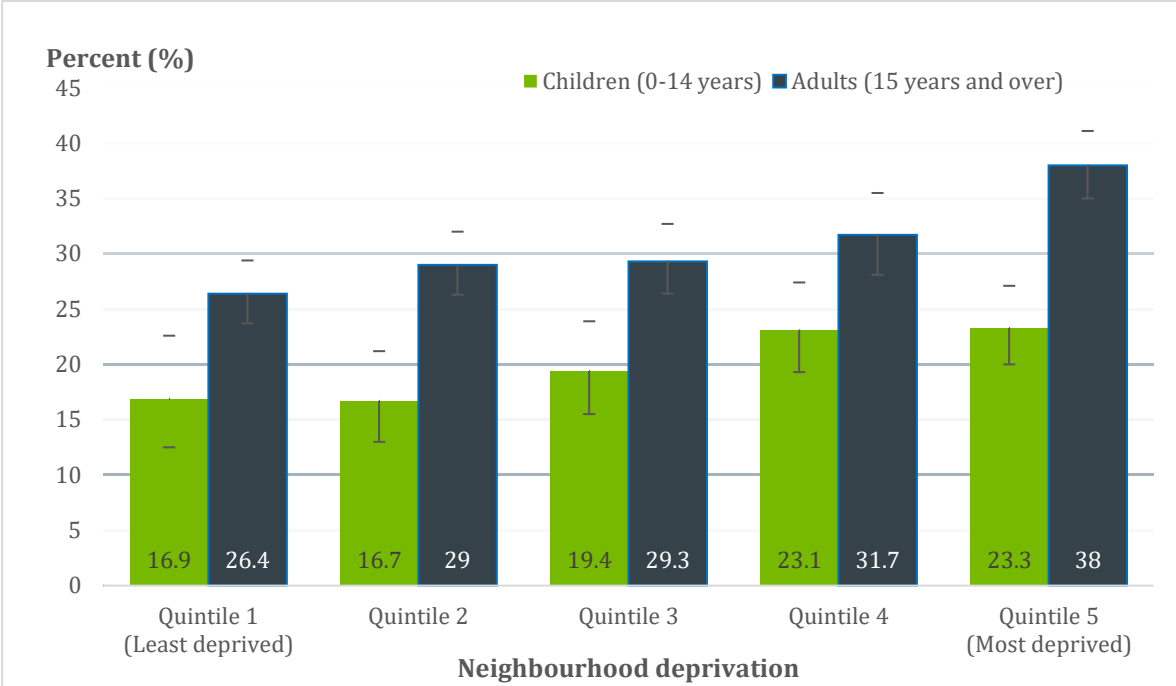
⁹ Estimated numbers will add to more than the total due to ‘total response’ ethnic groups being used, where respondents are counted in every ethnic group they report.

Table 2: Unmet need for primary health, by ethnic group, 2019/20 (adjusted rate ratio¹⁰).

Ethnic group (total response)	Adjusted rate ratio, 95% CI. (Adjusted for gender and age differences)	
	Children	Adults
Māori vs. non-Māori	1.27 (1.01–1.58)*	1.43 (1.30–1.56)*
Pacific vs. non-Pacific	1.42 (1.13–1.78)*	1.10 (0.95–1.27)
Asian vs. non-Asian	0.77 (0.59–1.00)	0.72 (0.63–0.83)

- Children and adults living in the most socioeconomically deprived neighbourhoods were more likely than those living in the least deprived neighbourhoods to have experienced unmet need for primary health care in the last 12 months, after adjusting for age, gender, and ethnic group difference. More precisely, 23.3% of children and 38.0% of adults living in the most deprived areas had experienced this unmet need for primary health care (Figure 3).

Figure 3. Unmet need for primary health in the last 12 months, by NZDep2018 quintile, 2019/20 (unadjusted prevalence).



Nearly one-half of disabled adults¹¹ (47.0%) had experienced unmet need for primary health care in the last 12 months. This is equivalent to an estimated 149,000 people. After adjusting by age

¹⁰ An asterisk (*) indicates a statistically significant ratio. A ratio higher than 1.0 indicates the prevalence is higher in the group of interest than in the comparison group.

¹¹ Disabled people are those who have at least a lot of difficulty seeing or hearing (even with glasses or hearing aids), walking or climbing stairs, remembering or concentrating, self-care, or communicating, as measured by [the Washington Group Short Set](#).

and gender difference, disabled adults were 1.8 times more likely than non-disabled adults to experience the unmet need for primary health.

Most common reasons for experiencing the unmet need for primary health

In 2019/20, the most common reasons for experiencing the unmet need for primary health care were: being unable to get an appointment at their usual medical centre within 24 hours (21.9%), the cost of GP services (13.3%) and the cost of after-hours medical centres (6.1%) (Table 3).

Table 3. The reasons for experiencing the unmet need for primary health, 2019/20 (unadjusted prevalence and estimated number of populations¹²).

	Unmet need (prevalence, 95% CI)		Estimated number of populations affected	
	Children	Adults	Children	Adults
Inability to get an appointment at their usual medical centre within 24 hours	17.1 (15.5–18.9)	21.9 (20.8–23.1)	162,000	836,000
The cost of GP services	1.6 (1.0–2.6)	13.3 (12.4–14.3)	16,000	535,000
The cost of after-hours medical centres	1.6 (1.1–2.3)	6.1 (5.5–6.8)	16,000	246,000
Lack of transport to access GP service	1.6 (1.1–2.2)	2.7 (2.3–3.1)	15,000	108,000
Lack of transport to visit after-hours medical centres	1.0 (0.6–1.5)	1.0 (0.8–1.3)	9,000	40,000

Let's investigate the time-series prevalence results of the five barriers of the unmet need for primary health care individually. We can find that unlike the other four barriers, which have remained unchanged or decreased slightly over time, the prevalence of the most common reason - inability to get an appointment at the usual medical centre within 24 hours has increased significantly over time (Figure 4). This is also the main drive behind the increasing trend of the indicator - unmet need for primary health care among adults.

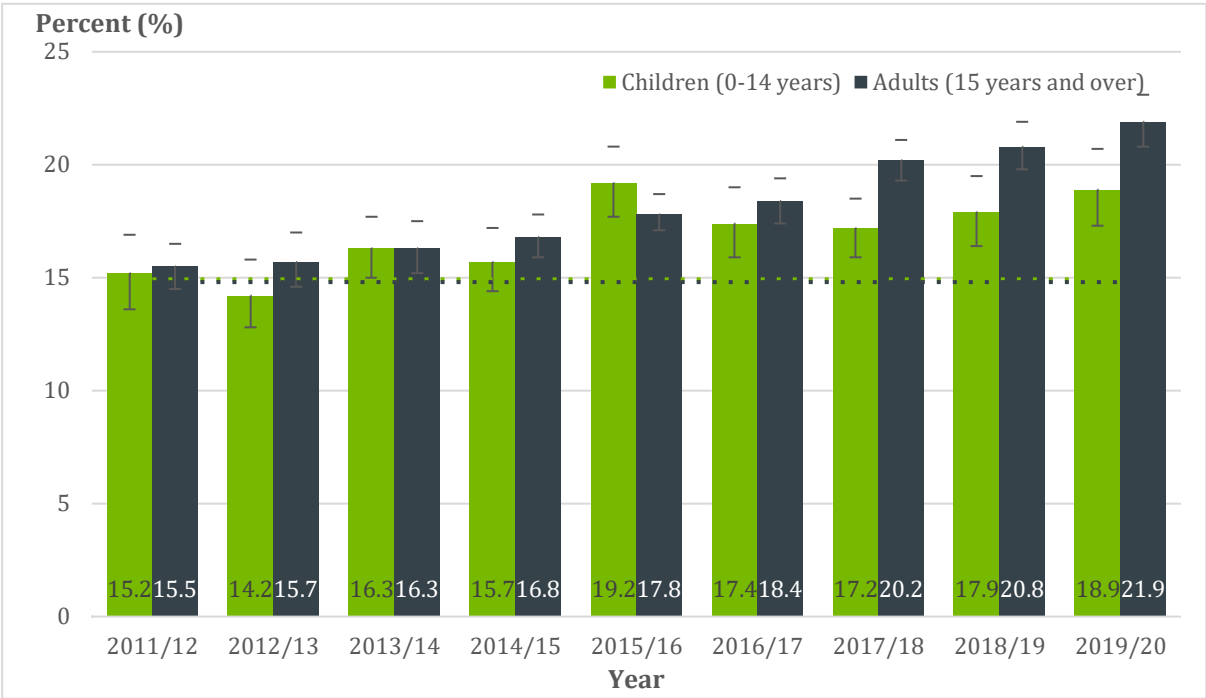
Inability to get an appointment at the usual medical centre within 24 hours

Timely access to care when it is needed is an important dimension of the quality of health care.

Unable to get an appointment at the usual medical centre within 24 hours is defined for children 0 to 14 years old or adults aged 15 years and over as having wanted to see a GP, nurse, or other health care worker at their usual medical centre within the next 24 hours but being unable to get an appointment, in the past 12 months.

¹² Estimated numbers will add to more than the total due to 'total response' ethnic groups being used, where respondents are counted in every ethnic group they report.

Figure 4. The prevalence of unable to get an appointment at the usual medical centre within 24 hours in the past 12 months (unadjusted prevalence).



Time-series analysis

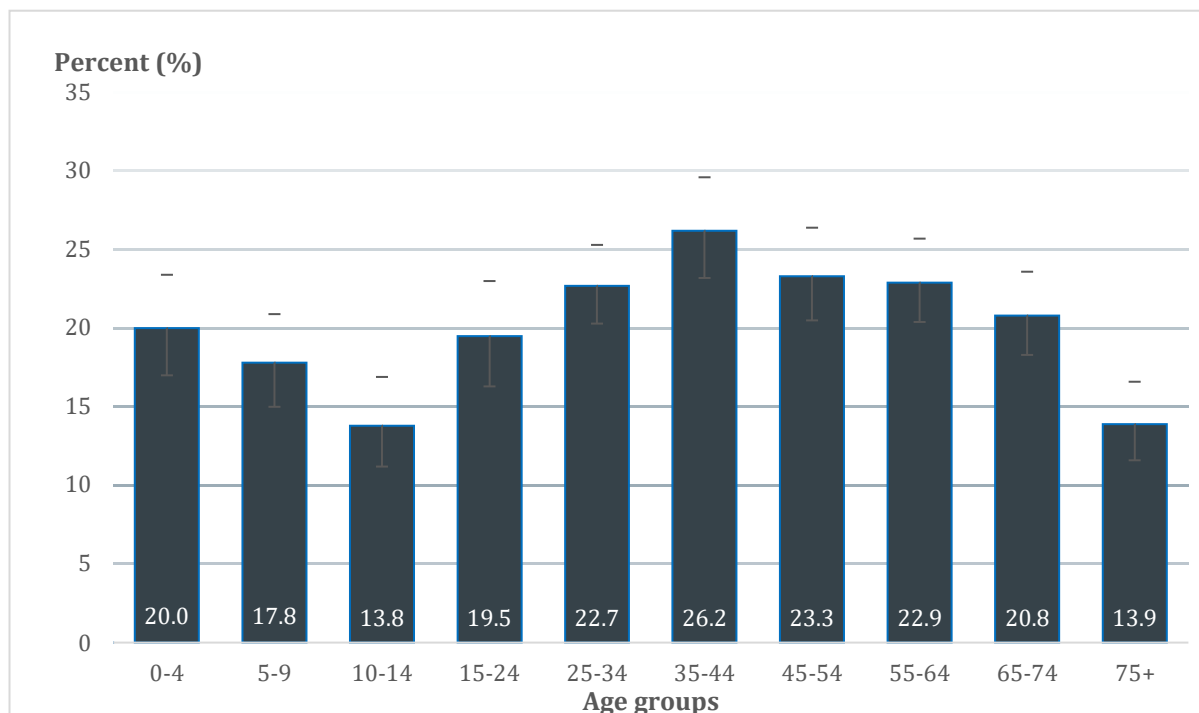
In 2019/20, an estimate of 836,000 adults (21.9%) and a further 162,000 children aged 0-14 years (17.1%) reported experiencing inability to get an appointment at the usual medical centre within 24 hours in the last 12 months (Table 3). The time-series results indicate the prevalence of unable to get an appointment within 24 hours among both adults and children has increased steadily year-on-year since 2011/12 (Figure 4).

Key findings from the sub-group comparison analysis in 2019/20

The following subgroups are significantly more likely to experience inability to get an appointment at the usual medical centre within 24 hours in 2019/20:

- Women (26.2%) were more likely to have been unable to get an appointment at their usual medical centre than men (17.2%), after adjusting for age difference. (Adjusted rate ratio: 1.53, 1.39-1.69).
- The prevalence of being unable to get an appointment at the usual medical centre varies by age group (Figure 5). Similar to the main unmet need for primary health care indicator, within the adult population in 2019/20, the highest prevalence of unmet need was found in adults aged 35–44 years (26.2%). As for children, young children aged 0–4 years (20%) were more likely to experience unmet need (Figure 5).

Figure 5. Inability to get an appointment at the usual medical centre within 24 hours, by age group, 2019/20 (unadjusted prevalence).



- Māori adults (29.2%) had the highest prevalence of being unable to get an appointment at their usual medical centre within 24 hours. Māori adults were 1.4 times more likely to be unable to get an appointment compared with non-Māori adults, after adjusting for age and gender differences. (Table 4).

Table 4. Inability to get an appointment at the usual medical centre within 24 hours, by ethnic group, 2019/20 (unadjusted prevalence and estimated number of populations).

Ethnic group (total response)	Unmet need for primary health (prevalence, 95% CI)		Estimated number of populations affected	
	Children	Adults	Children	Adults
Māori	20.7 (17.6–24.2)	29.2 (26.3–32.4)	49,000	140,000
Pacific	22.3 (17.5–28.0)	19.6 (15.8–23.9)	28,000	50,000
Asian	13.9 (10.4–18.3)	16.1 (13.3–19.4)	23,000	84,000
European/Other	16.9 (15.0–19.1)	22.9 (21.6–24.2)	114,000	669,000
Total:	17.1 (15.5–18.9)	21.9 (20.8–23.1)	162,000	836,000

- Māori and Pacific children were more likely to be unable to get an appointment at their usual medical centre compared with non-Māori and non-Pacific children, after adjusting for age and gender differences (Table 5).
- The time-series results indicate the prevalence of being unable to get an appointment within 24 hours among Māori and Pacific adults has increased steadily year-on-year since 2014/15 (Figure 6).

Figure 6. The prevalence of being unable to get an appointment at the usual medical centre within 24 hours in the past 12 months, by age group, 2014/15 to 2019/20 (unadjusted prevalence).

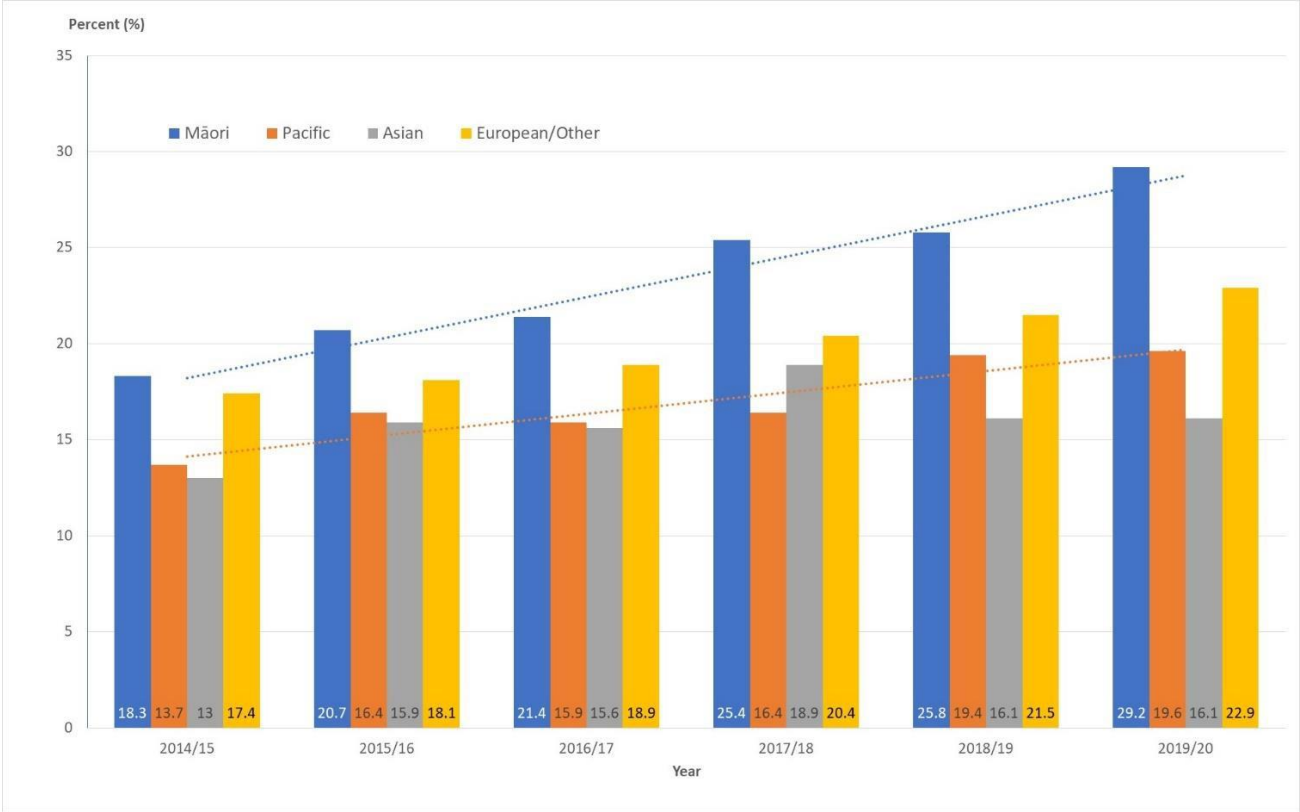


Table 5. Inability to get an appointment at the usual medical centre within 24 hours, by ethnic group, 2019/20 (adjusted rate ratio).

Ethnic group (total response)	Adjusted rate ratio, 95% CI. (Adjusted for gender and age differences)	
	Children	Adults
Māori vs. non-Māori	1.28 (1.02–1.62)*	1.39 (1.24–1.55)*
Pacific vs. non-Pacific	1.36 (1.03–1.79)*	0.86 (0.70–1.07)
Asian vs. non-Asian	0.74 (0.56–0.99)*	0.69 (0.56–0.84)

- Adults living in the most socioeconomically deprived neighbourhoods (25.6%) were 1.3 times more likely to be unable to get an appointment at their usual medical centre compared with those adults living in the least deprived neighbourhoods (20.6%), after adjusting for age, gender, and ethnic differences (Adjusted rate ratio: 1.29, 1.04-1.58).
- Disabled adults (32.3%) were 1.7 times more likely to be unable to get an appointment at their usual medical centre compared with non-disabled adults (21.0%), after adjusting by age and gender differences (Adjusted rate ratio: 1.66, 1.44-1.92).

Unmet need for a GP service due to cost

- In 2019/20, experiencing cost as a barrier to visiting the GP was more common amongst women (15.9 %) than men (10.6 %).
- Having a cost barrier to GP visits was considerably less common among older adults, with just 6.7% of those aged 65–74 years and 3.4% of those aged 75 and older reporting unmet need for this reason compared to between 10.5% and 19.2% of people under 65 years.
- In 2019/20, more than one in five Māori adults (20.5%) had not visited a GP due to cost in the past year. Māori adults were 1.5 times as likely as non-Māori adults to not visit a GP due to cost, after adjusting for age and gender. In contrast, this barrier was less likely to affect Asian adults compared to non-Asian adults, after adjusting for age and gender.
- Adults living in the most socioeconomically deprived areas were 1.6 times as likely as those living in the least deprived areas to not have visited a GP due to cost in the past year, after adjusting for age, gender and ethnicity.
- Amongst children aged 5–9 years, unmet need for GP due to cost has decreased from 7.7% in 2014/15 to 1.8% in 2019/20. For children aged 10–14 years, unmet need for GP due to cost has decreased from 9.3% in 2014/15 to 1.9%.
- Of Māori children, 1.2% had not visited a GP due to cost in the 12 months, which is a decrease from 2.6% in 2018/19 and 7.7% in 2011/12. A similar pattern is seen in Pacific children; 2.3% in 2019/20, 5.3% in 2018/19 and 6.5% in 2011/12.