



Australian Government
Department of Health and Aged Care

Supply and Demand Study

General Practitioners in Australia

August 2024



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General Practitioners in Australia

While the number of General Practitioners (GPs) in Australia has grown, it remains insufficient to meet the healthcare needs of Australians.

In 2023, Australia had 39,449 GPs* who provided primary care services through Medicare. From 2018 to 2023, we saw an increase of 2,533 GPs. Despite this growth, it remains insufficient to meet the healthcare needs of Australians, placing strain on both the health system and our current GP workforce.

With an ageing population and higher incidences of chronic disease, the Australian community requires more GPs. However, not enough of our Australian medical graduates are choosing general practice as a career.

We also know there is an issue with how GPs are distributed across the country, particularly impacting rural, regional, and remote areas. Australia's health system operates on the principle that no individual or community group should face disadvantages when seeking health care services. Therefore, enhancing the availability, retention and equitable distribution of a skilled GP workforce is critical.

The Department of Health and Aged Care (the Department) is focused on leveraging available data to inform decision making and improve health workforce planning. Through innovative development of the evidence base, we can enhance policy interventions and workforce planning, providing better support for a quality GP workforce and the community's access to it.

*For this study, GPs include Specialist GPs, GP trainees and Non-Vocationally recognised GPs providing primary care services.

Primary Care GP workforce national summary

- The number of GPs increased from 36,916 in 2018 to 39,449 in 2023 with a Compounded Annual Growth Rate (CAGR) of 1.3%. Between 2022 and 2023, the total number of GPs has increased by 1.5% from 38,881 in 2022 to 39,449 in 2023.
- GP full-time equivalent (GP FTE) increased from 28,547.8 in 2018 to 29,215.0 in 2023, with a CAGR of 0.5%. Between 2022 and 2023, GP FTE declined by 2.4% from 29,920.5 to 29,215.0 respectively.
- The average FTE per GP has declined from 0.79 in 2018 to 0.74 in 2023.
- Nationally, the number of services per population was 6.5 in 2018, increasing to 7.5 in 2021, before declining to 6.5 in 2023. GPs' workload increased during COVID-19.
- GPs who obtained their initial medical qualification overseas has grown at a faster rate (2.2%) compared to Australia/New Zealand trained graduates (0.7%), over the years 2018 to 2023.
- Whilst GPs who obtained their initial medical qualification overseas make up 43% of the workforce in 2023, they accounted for 54% of the total GP FTE in the same period.

- Females represented 49.6% of the Primary Care GP workforce in 2023 and 42.4% of GP FTE in the same period.
- The proportion of GPs aged 65 and over has increased from 14.2% in 2018 to 15.7% in 2023.

What is supply and demand modelling?

Supply and demand modelling is a tool commonly used to help understand how much of something is available (supply) and how much is needed (demand).

Why do we use supply and demand modelling for health workforce planning?

Supply and demand modelling helps us better understand our health workforce by looking at the characteristics of different health professions and the services they provide.

Health workforce modelling can provide insight into the size, composition, and distribution of the health workforce in relation to health outcomes for specific demographics. These models can help decision makers to ensure there is an adequate supply of qualified health workers to meet community needs.

By utilising the GP model, we can gain valuable insights into the GP workforce and the services required. For instance, if there are not enough appropriately qualified GPs, this shortage may result in inadequate patient care. Conversely, an excess of GPs might prompt us to allocate resources into other areas of the health system.

By looking at trends and changes in Australia's population, we can predict how many GPs we will need now and into the future. Factors such as population growth or aging, influence the demand for GPs. Additionally, we can strategically allocate GPs based on patient locations, health outcomes, and specific service needs.

Ultimately, supply and demand modelling for workforce planning enables us to evaluate if we have an adequate number of GPs in suitable locations to deliver optimal patient care now and into the future.

Methodology

To enable detailed scenario modelling of the GP workforce, we selected a microsimulation approach for both supply and demand.

Microsimulation is a modelling technique used for simulating data at a granular level.

We used this technique for simulating data down to an individual patient or provider level. This approach allowed us to consider individual patient risk factors and predict the likelihood of developing one or more chronic illnesses. By doing so, we could explore how different individual characteristics can influence interactions with the health system.

Modelling at the provider level helps estimate the impact of demographic, behavioural, and policy changes on individual outcomes. It also enhances our understanding of the effects of existing policies.

This provides maximum flexibility for adapting the model to different populations and unique supply and demand scenarios. This enhances our understanding of the effects of existing policies and how we might improve them. For detailed information on the methodology, refer to the [GP Supply and Demand Model Detailed Methodology paper](#).

How the model is organised

The GP model is organised into a number of modules. The modules are outlined below.

Demand modules

Estimates of GP demand in terms of service volumes and full-time equivalent (FTE) are derived using three separate modules. Each model module runs independently and builds upon results from the preceding module.

Population and household module

- This module models the Australian population at the individual level.
- Useful for answering questions like “How do we expect population to change through to 2048?”.

Health conditions module

- This module projects the prevalence of selected chronic conditions in the population at the individual level.
- Useful for answering questions like “How do we expect health condition prevalence to change through to 2048?”.

Health Service Utilisation module

- This module links health condition prevalence to Medicare service usage.
- Useful for answering questions like “If the health condition prevalence changes, how many Medicare services will be required?”

Supply modules

To project the supply of our GP workforce, we use historical and statistical data from a range of sources before considering influencing factors such as workforce inflows, outflows and geographical movements.

Training pipeline and migration module

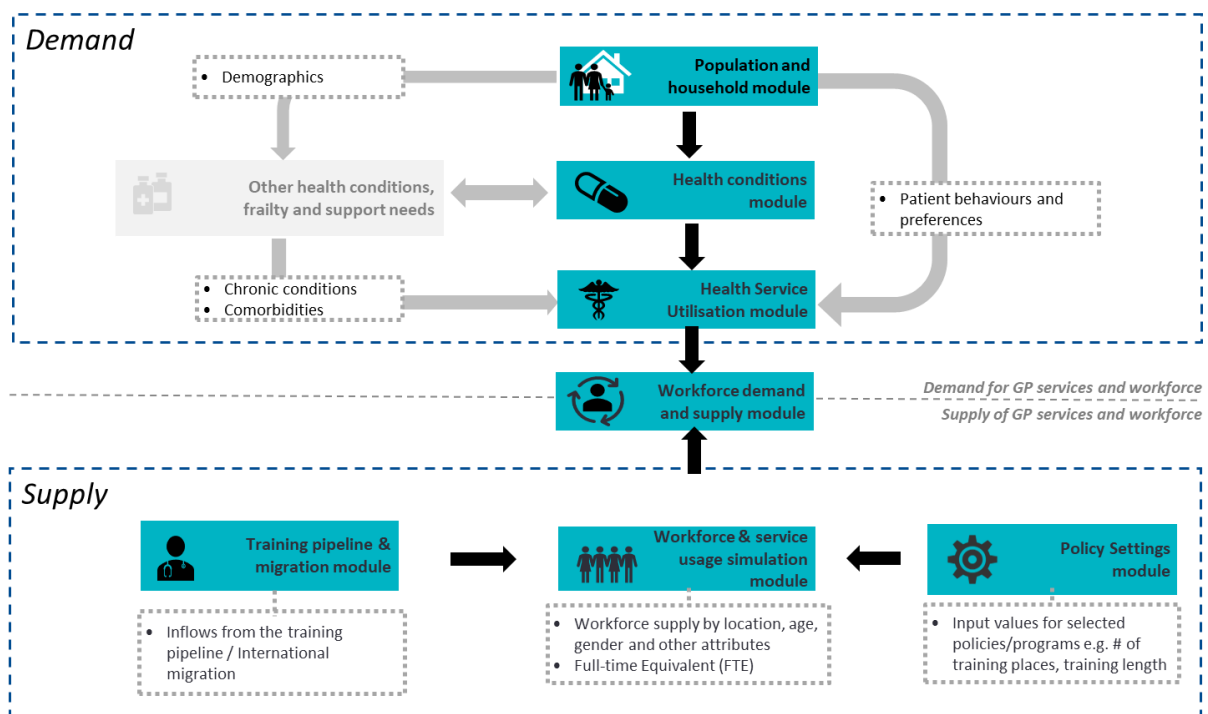
- This module provides the number of doctors we have coming in from our training pipeline and from international migration.

Workforce and service usage module

- This module uses a starting stock of GPs and simulates workforce supply by location, age, gender and other characteristics.

Policy settings module

- This module uses the input values such as the number of training places and the duration of time spent in training programs.
- Adjusting these values allows us to run different scenarios and test potential outcomes and impacts of changes to policy settings.



The core output of both the supply and demand modules is a projection of full-time equivalent GP's (GP FTE). This is the common unit of measure used to estimate the gap in supply and demand for GP services in each geography. The Department previously developed this methodology to count general practitioners and estimate their work effort providing primary care services. This methodology is used widely in the Department's GP workforce publications – full details of the GP FTE methodology is available on the [Health Workforce Data website](#).

The demand and unmet demand GP FTE projections are converted into headcount using the average FTE per GP in supply projections for the corresponding year and given geography.

Data sources

What data have we used?

The GP model uses data from the following sources:

- Medicare
- Internal program data
- Australian General Practice Training (AGPT)
- ABS Estimated Resident Population (ERP)
- ABS Socioeconomic Index for Areas (SEIFA)
- ABS National Health Survey (NHS)
- Household, Income and Labour Dynamics in Australia (HILDA) Survey
- ABS Census of Population and Housing
- Survey of Disability, Ageing and Caring (SDAC)
- National Aboriginal and Torres Strait Islander Health Survey
- National Aboriginal and Torres Strait Islander Social Survey

We have rich and valuable data, but we still have gaps.

For example, we need:

- Information on the number of visits to hospital emergency departments that could have been better serviced by a GP.
- Better data on how many people visit GP clinics that do not bill under Medicare and what services are provided.
- Information on GPs who work in hospitals and other settings, and the types of work they do that is not billed through Medicare. However, we note that GPs working in many rural and remote communities at public hospitals or other public health services with a s19(2) exemption can bulk-bill the MBS for eligible services.

Key findings and insights

The main outputs of the GP model are a projection of **Number of GPs (headcount)** and a projection of **GP Full Time Equivalent (GP FTE)**. Based on Number of GPs and GP FTE, the model produces one supply estimate and two demand estimates, including a baseline demand and unmet demand.

What is baseline demand?

Baseline demand is the number of GPs that are needed to meet the current and future health needs of the community. In the GP model, baseline demand is projected assuming the supply of GPs meets the demand in the base year.

What is unmet demand?

Unmet demand is a term used to describe the level of demand for GP services that are not fully satisfied. It is the difference between what we expect the population to require, and what we have observed the population utilising.

Unmet demand is calculated by applying the average GP service utilisation levels to each age, gender and chronic condition cohort, and then adjusted based on the expected proportion of the population accessing MBS GP services per year by age and gender.

The national projections

While both supply and demand of the GP workforce are estimated to increase during the projection period, supply is not expected to keep up with demand.

The GP model projections at national level show:

- Under the baseline projections (where supply is assumed to meet demand in the 2023 base year) a shortfall of over 600 FTE in 2024, increasing to over 1,900 FTE in 2028, and 6,100 FTE by 2048.
- A shortfall in the number of GPs from the baseline projections of over 800 in 2024, increasing to over 2,600 by 2028, and 8,600 GPs by 2048.

The unmet demand projections (without assuming an initial equilibrium) estimate a current shortfall of over 2,400 FTE in 2024, increasing to around 3,900 FTE in 2028, and to over 8,900 FTE by 2048.

The demand projections at a national level show that:

- The baseline demand is estimated to increase from 29,215.0 FTE in 2023 to 41,018.3 FTE in 2048.
- The unmet demand projection is estimated to increase from 31,640.8 FTE in 2024 to 43,778.2 FTE in 2048 (6.7% higher demand than baseline).
- Prevalence rates for the chronic conditions estimated to increase steadily for CVD, Diabetes and Overweight/obesity and estimated to slightly increase for Asthma and Mental Health
 - Asthma: projected to increase from 10.8% in 2023 to 11.0% by 2048
 - CVD: projected to increase from 5.2% in 2023 to 6.2% by 2048
 - Diabetes: projected to increase from 5.3% in 2023 to 6.2% by 2048
 - Overweight/obesity: projected to increase from 65.9% in 2023 to 69.0% by 2048
 - Mental Health: projected to increase from 26.2% in 2023 to 26.8% by 2048

The supply projections at a national level show that:

- The baseline supply is estimated to increase from 29,215.0 FTE in 2023 to 34,870.0 FTE in 2048, equating to 39,449.0 GPs in 2023 and 48,525.0 GPs in 2048.
- The national average FTE per GP is projected to decrease from 0.74 in 2023 to 0.72 in 2048.
- The entry rates are higher than the exit rates over the projection period – total entry rate including re-entries between 5.3% to 5.9% and total exit rates including temporary exits between 4.7% to 4.8%. This is in line with the historic entry and exit rates.
- Australian General Practice Training program (AGPT) being one of the key pathways to GP fellowship, the key assumptions with AGPT inflows are:
 - 1,500 funded AGPT places each year throughout the projection period.
 - 89.7% of places filled for 2024 (average % places filled from 2020 to 2023) since it is expected that the % of filled places in 2024 may be impacted by the transition phase to college led training.
 - 91.3% of places filled from 2025 onwards (average % places filled from 2018 to 2023).
- The average new entry numbers between 2019 and 2023 have been used as the number of new entries (excluding AGPT) for 2024 and assumed that these numbers grow at the same rate as population growth for the rest of the projection period.

Gender profile of GPs

- The projected proportion of the GP workforce who are female is expected to increase from 49.6% in 2023 to 55.8% by 2048.
- The projected proportion of the total FTE provided by GPs who are female is expected to increase from 42.4% in 2023 to 50.2% in 2048.

- The average FTE per female GP is projected to increase from 0.63 in 2023 to 0.65 in 2048 and the average FTE per male GP is projected to decline from 0.85 in 2023 to 0.81 in 2048.

Age profile of GPs

- The average GP age is projected to increase slightly from 49 in 2023 to 51 by 2048.
- % GPs under 39 is projected to decrease from 25.8% in 2023 to 20.4% by 2048 and their average FTE is projected to increase from 0.536 in 2023 to 0.540 in 2048.
- % GPs aged between 40 – 54 is projected to increase from 37.7% in 2023 to 39.4% by 2048 and their average FTE is projected to decrease from 0.818 in 2023 to 0.758 in 2048.
- % GPs aged between 55 – 64 is projected to increase from 20.9% in 2023 to 22.6% by 2048 and their average FTE is projected to decrease from 0.872 in 2023 to 0.837 in 2048.
- % GP's over 65 is projected to increase from 15.6% in 2023 to 17.6% by 2048 and their average FTE is projected to decrease from 0.716 in 2023 to 0.687 in 2048.

Provider's place of initial medical qualification

- The projected proportion of the GP workforce who are Australian/New Zealand Medical Graduates (AMG/NZMG) is expected to decrease from 53.3% in 2023 to 47.6% by 2048.
- The projected proportion of the total FTE provided by GPs who are AMG/NZMGs is expected to decrease from 42.8% in 2023 to 39.4% in 2048.
- The average FTE by GPs who are AMG/NZMG is expected to increase from 0.59 in 2023 to 0.60 in 2048. The average FTE by GPs with their place of initial medical qualification overseas and Foreign Graduates of Australian Medical Schools (FGAMS) is projected to decline from 0.91 in 2023 to 0.83 in 2048.

FIGURE 1: Number of GPs: National supply vs demand

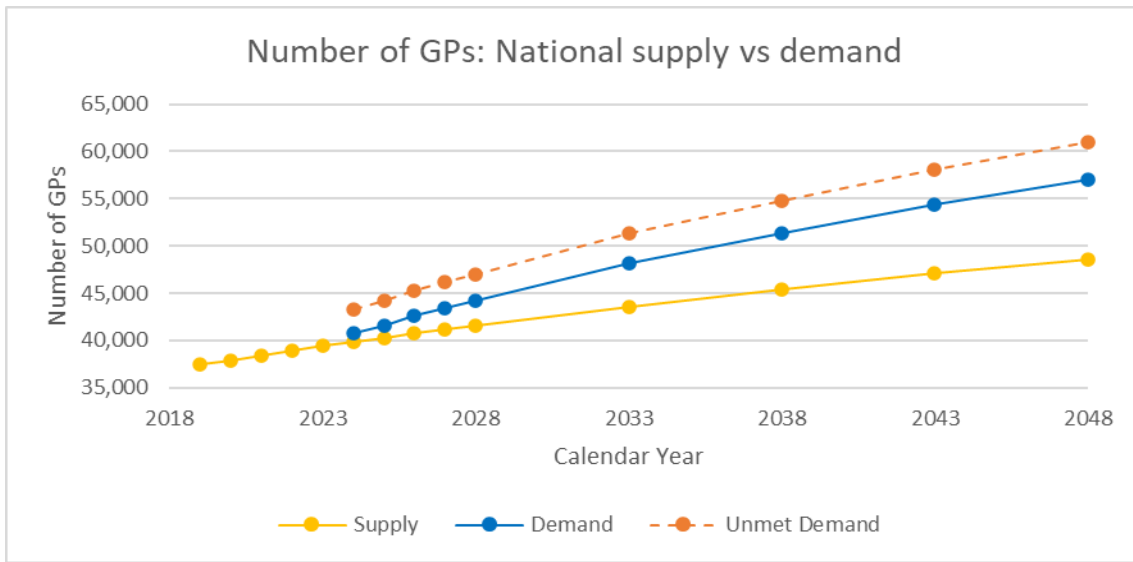
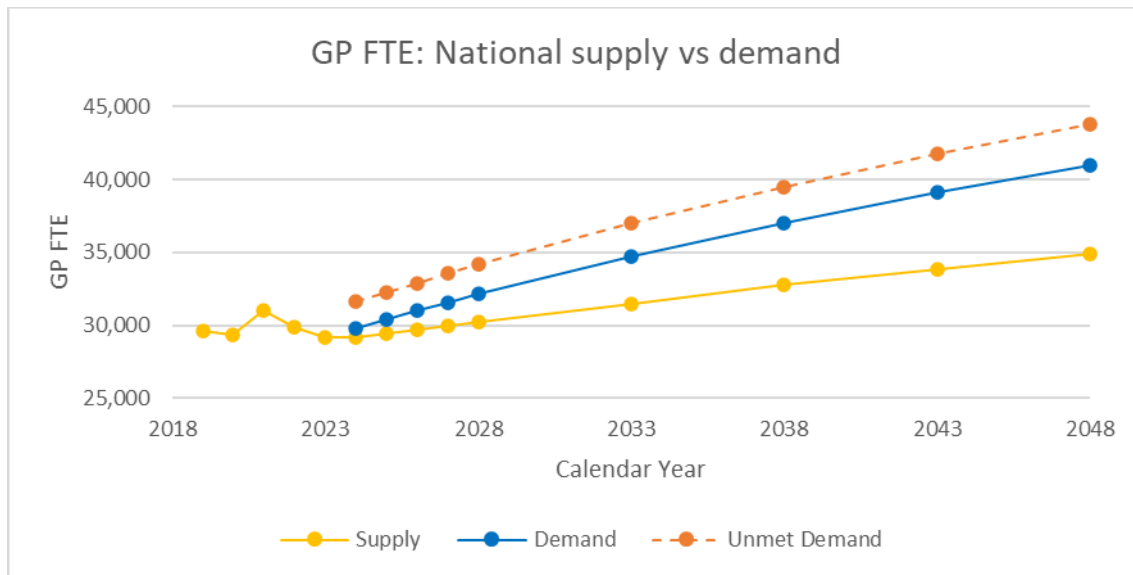


FIGURE 2: GP FTE – National supply vs demand



The state and territory projections

Over the projection periods 2023 to 2048, there is a steady increase in estimated undersupply (with unmet demand included) in each state and territory.

In total, larger states have the highest gap in FTE and Number of GPs over the projection period. When comparing numbers to actual percentage shortfall, Northern Territory has the highest unmet demand at 23% in 2024. New South Wales, Victoria and Queensland have the lowest shortfall of unmet demand at 5% in 2024.

New South Wales

- The baseline demand gap for New South Wales is estimated to be around 230.0 FTE in 2024 and is projected to increase to around 800.0 FTE by 2028 with a total undersupply in 2048 being just over 2,300.0 FTE by 2048.
- The unmet demand gap in New South Wales in 2024 is around 460.0 FTE by 2028 this will increase to over 1,000.0 FTE and by the end of the projection period increase to over 2,700 FTE by 2048

FIGURE 3: Number of GPs: NSW supply vs demand

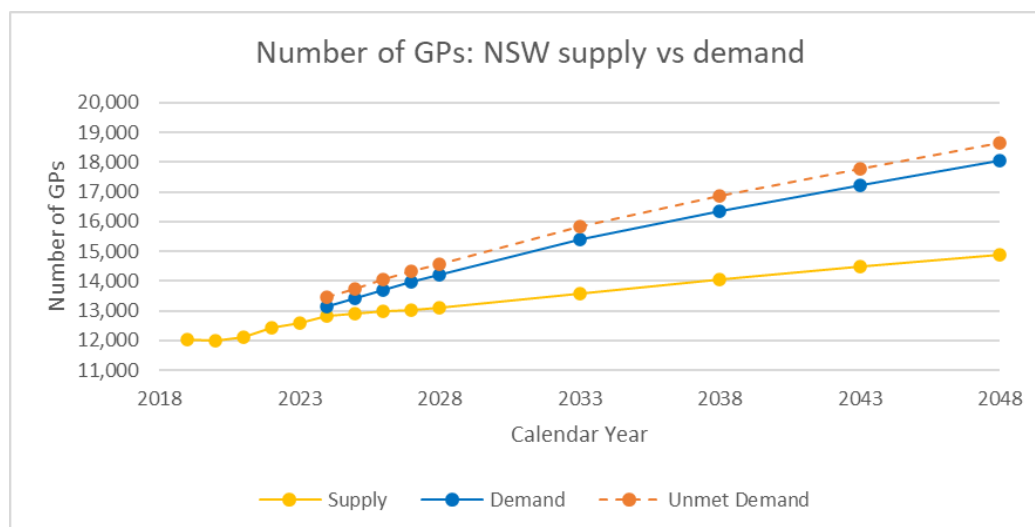
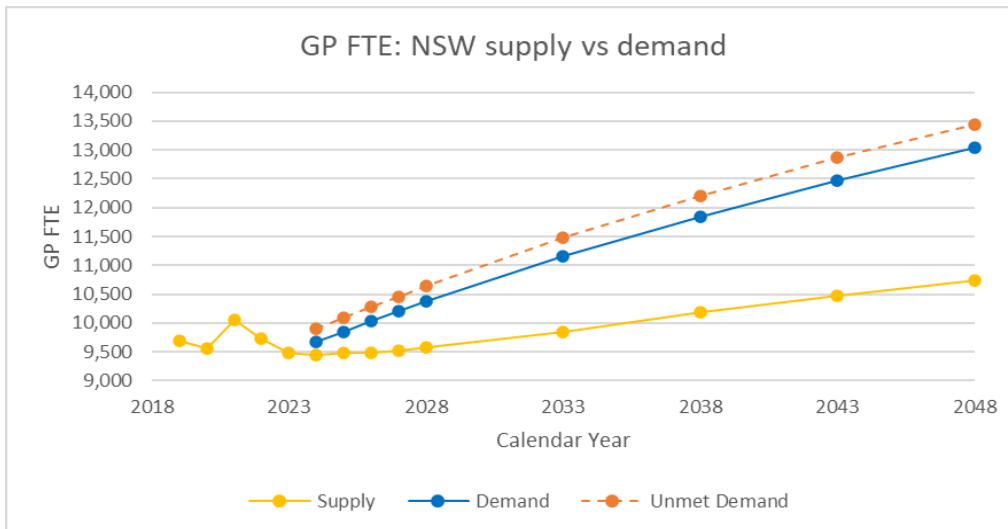


FIGURE 4: GP FTE – NSW supply vs demand



Victoria

- The baseline demand gap for Victoria is estimated to be just under 200.0 FTE in 2024 and is projected to increase to over 660.0 FTE by 2028 with a total undersupply in 2048 being just over 2,500.0 FTE by 2048.
- The unmet demand gap in Victoria in 2024 is around 370 FTE by 2028 this will increase to over 870.0 FTE and by the end of the projection period increase to over 2,800.0 FTE by 2048

FIGURE 5: Number of GPs: VIC supply vs demand

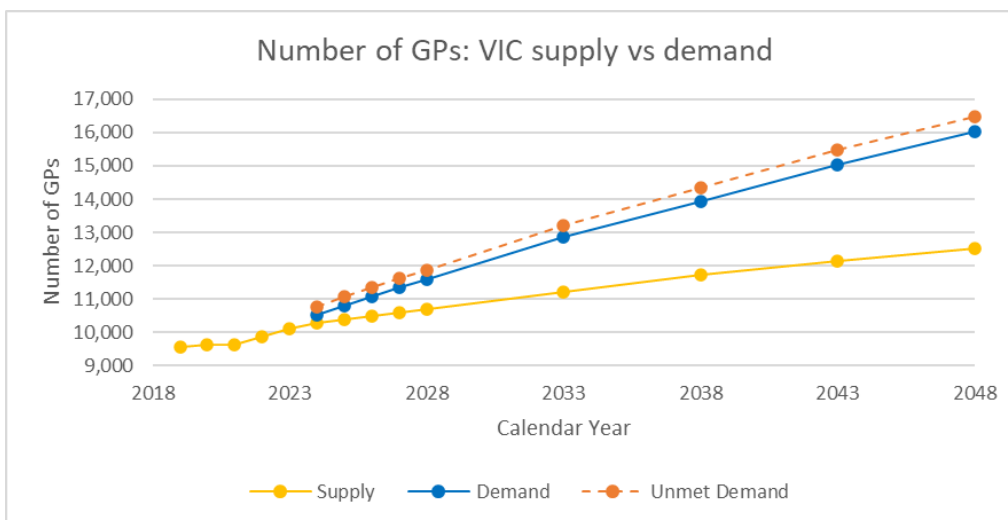
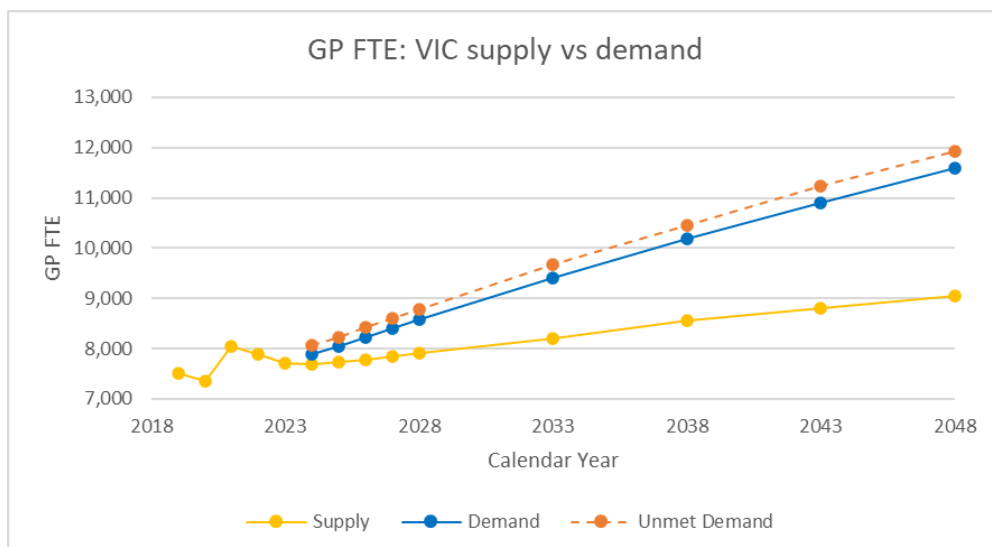


FIGURE 6: GP FTE – VIC supply vs demand



Queensland

- The baseline demand gap for Queensland is around 30 FTE in 2024 and is projected to increase to just over 45.0 FTE by 2028 with a total undersupply of 188.0 FTE by 2048.
- The unmet demand gap in Queensland in 2024 is around 325 FTE by 2028 this will increase to over 380.0 FTE and by the end of the projection period increase to over 660.0 FTE by 2048

FIGURE 7: Number of GPs: QLD supply vs demand

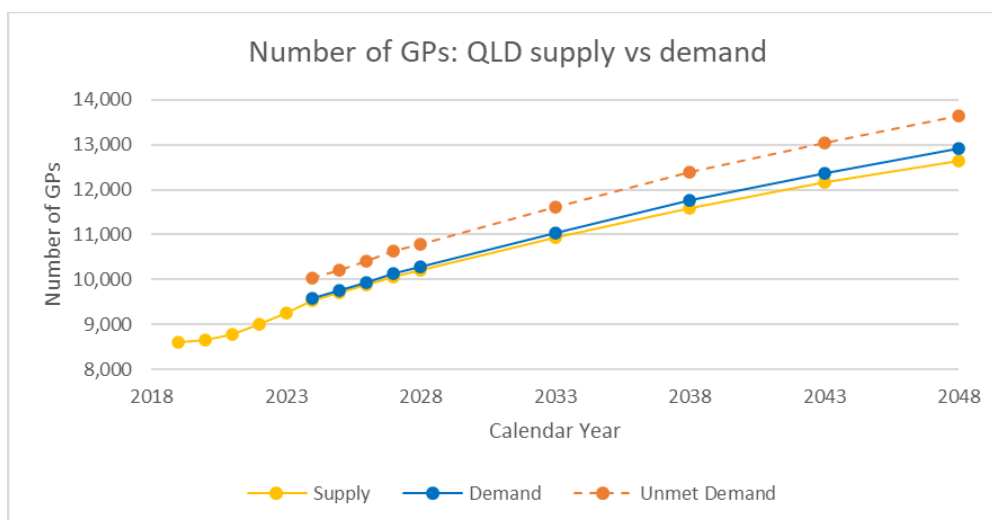
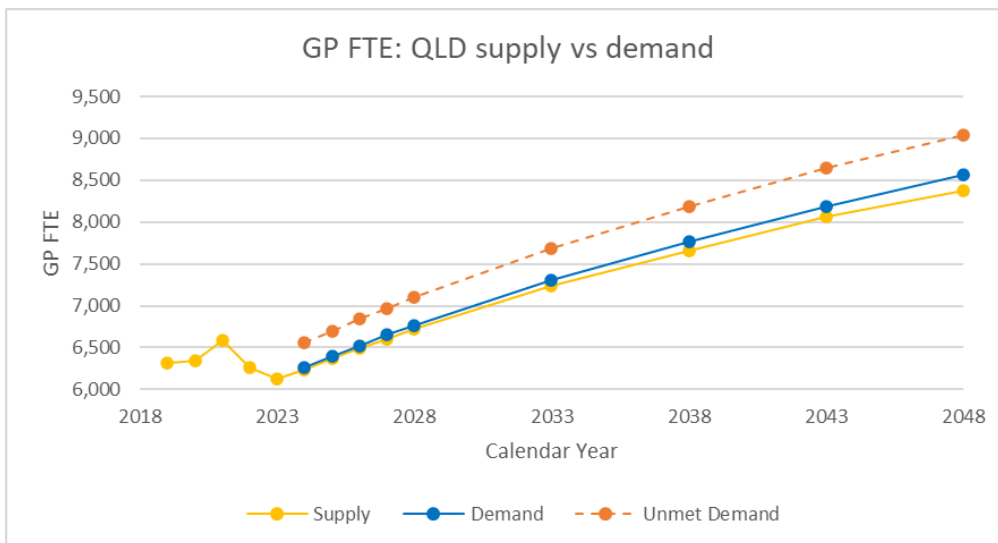


FIGURE 8: GP FTE – QLD supply vs demand



Western Australia

- The baseline demand gap for Western Australia is estimated to be just under 89.0 FTE in 2024 and is projected to increase to just over 175.0 FTE by 2028 with a total undersupply in 2048 of just over 635.0 FTE in 2048.
- The unmet demand gap in Western Australia in 2024 is around 585.0 FTE by 2028 this will increase to over 720.0 FTE and by the end of the projection period increase to over 1,350.0 FTE by 2048.

FIGURE 9: Number of GPs: WA supply vs demand

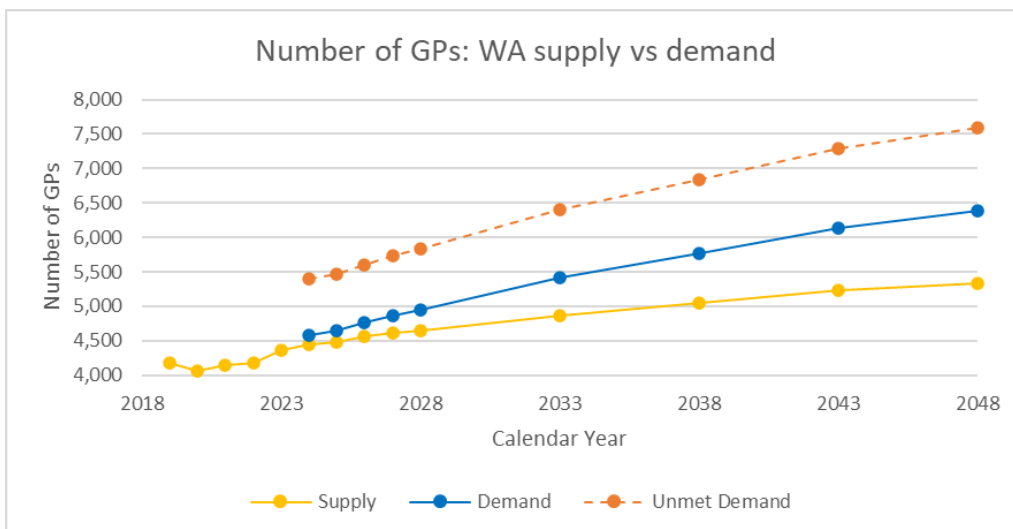
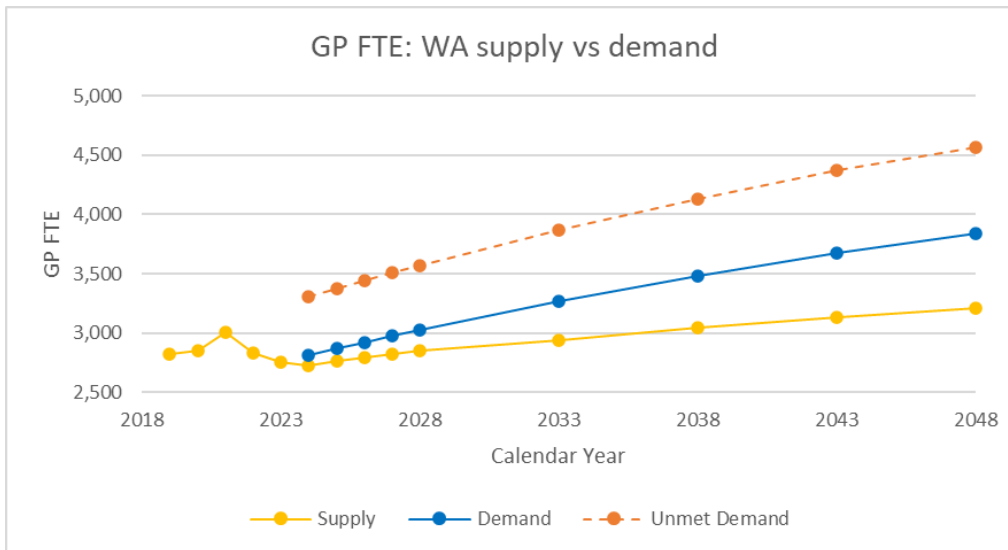


FIGURE 10: GP FTE – WA supply vs demand



South Australia

- The baseline demand gap for South Australia is estimated to be just over 50.0 FTE in 2024 and is projected to increase to just over 130.0 FTE by 2028 with a total undersupply just over 230.0 FTE by 2048.
- The unmet demand gap in South Australia in 2024 is around 370.0 FTE by 2028 this will increase to over 470.0 FTE and by the end of the projection period increase to over 640.0 FTE by 2048.

FIGURE 11: Number of GPs: SA supply vs demand

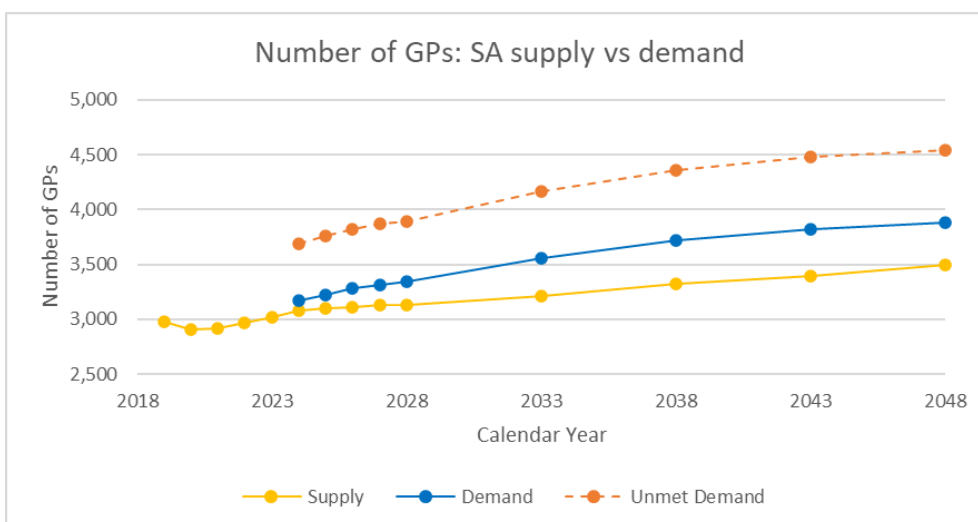
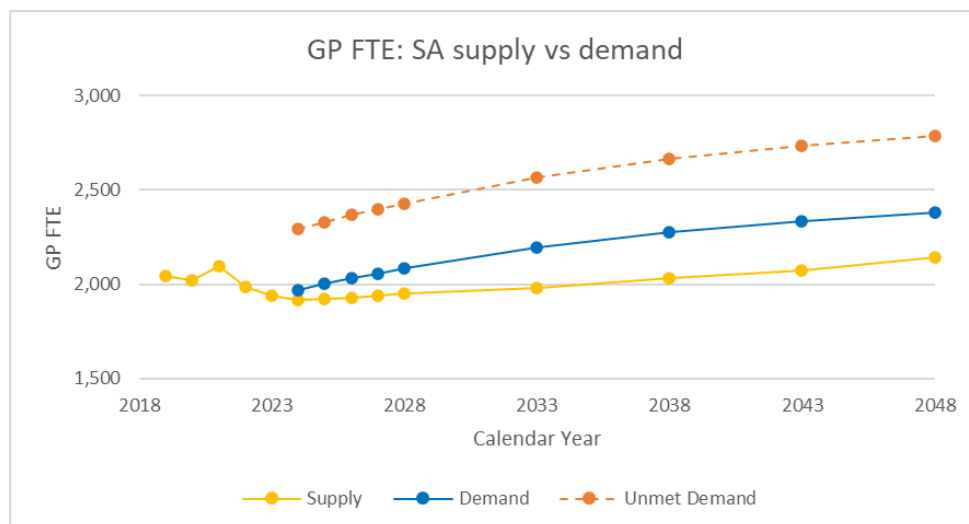


FIGURE 12: GP FTE – SA supply vs demand



Tasmania

- The baseline demand gap for Tasmania is estimated to be just over 13.0 FTE in 2024 and is projected to increase to over 30.0 FTE by 2028 with a total undersupply of 30.0 FTE by 2048.
- The unmet demand gap in Tasmania in 2024 is around 150.0 FTE by 2028 this will increase to over 180.0 FTE and by the end of the projection period increase to over 190.0 FTE by 2048.

FIGURE 13: Number of GPs: TAS supply vs demand

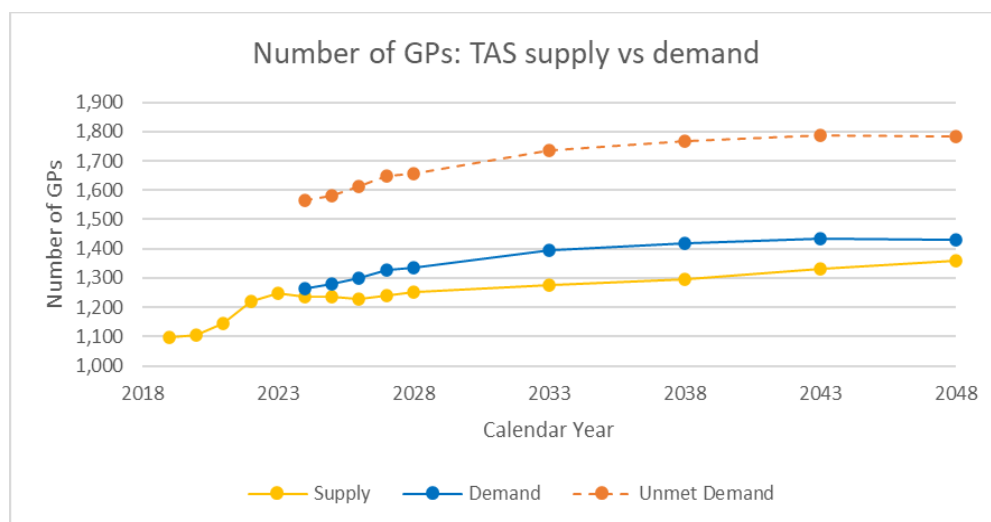
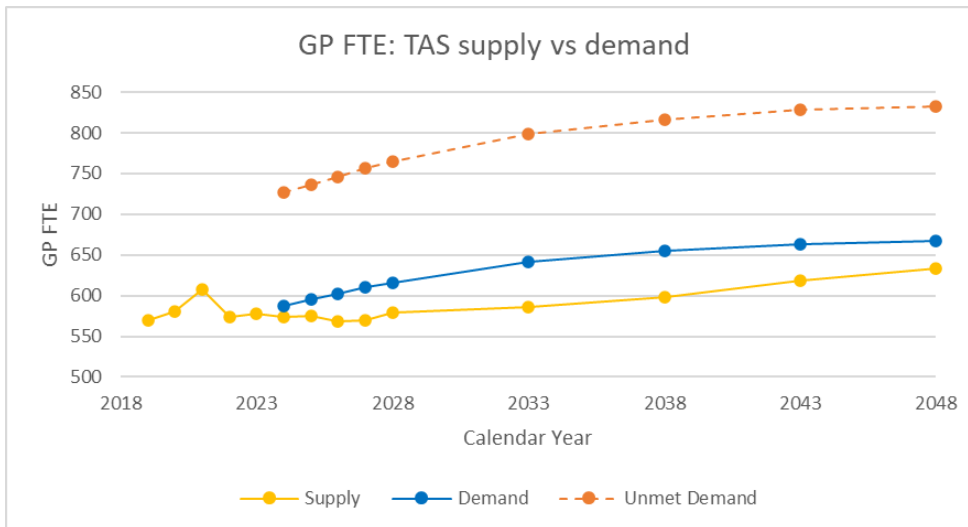


FIGURE 14: GP FTE – TAS supply vs demand



Australian Capital Territory

- The baseline demand gap for the Australian Capital Territory is estimated to be just over 4.0 FTE in 2024 and is projected to increase to around 10.0 FTE by 2028 with a total undersupply being 120.0 FTE by 2048.
- The unmet demand gap in Australian Capital Territory in 2024 is just over 110.0 FTE by 2028 this will increase to over 130.0 FTE and by the end of the projection period increase to over 280.0 FTE by 2048.

FIGURE 15: Number of GPs: ACT supply vs demand

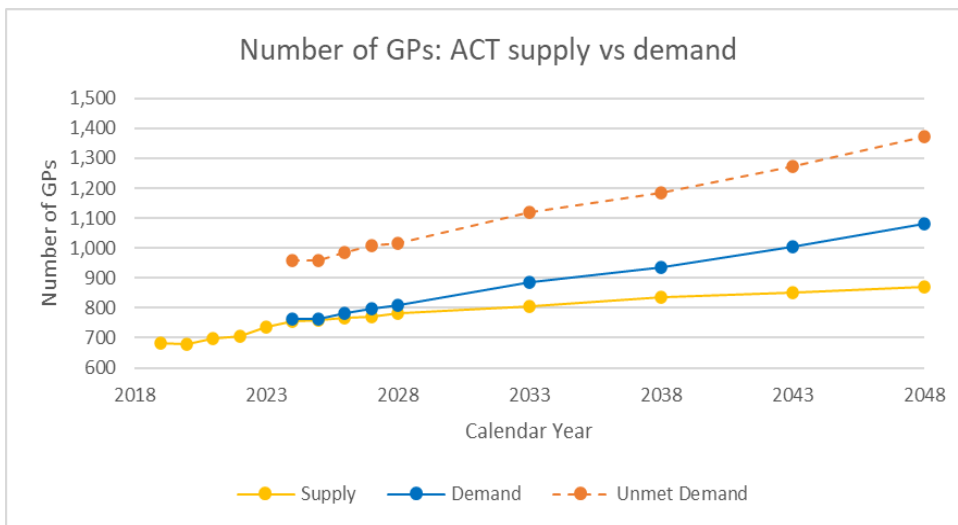
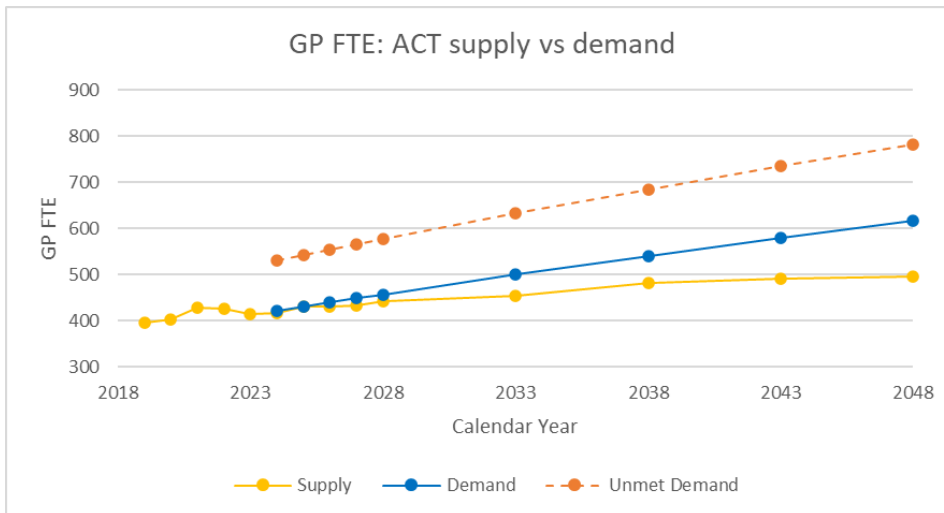


FIGURE 16: GP FTE – ACT supply vs demand



Northern Territory

- The baseline demand gap for the Northern Territory is estimated to be just over 15 FTE in 2024 and is projected to increase to just over 35.0 FTE by 2028 with a total undersupply of just over 85.0 FTE by 2048.
- The unmet demand gap in Northern Territory in 2024 is just over 55.0 FTE by 2028 this will increase to over 80.0 FTE and by the end of the projection period increase to over 150.0 FTE by 2048.

FIGURE 17: Number of GPs: NT supply vs demand

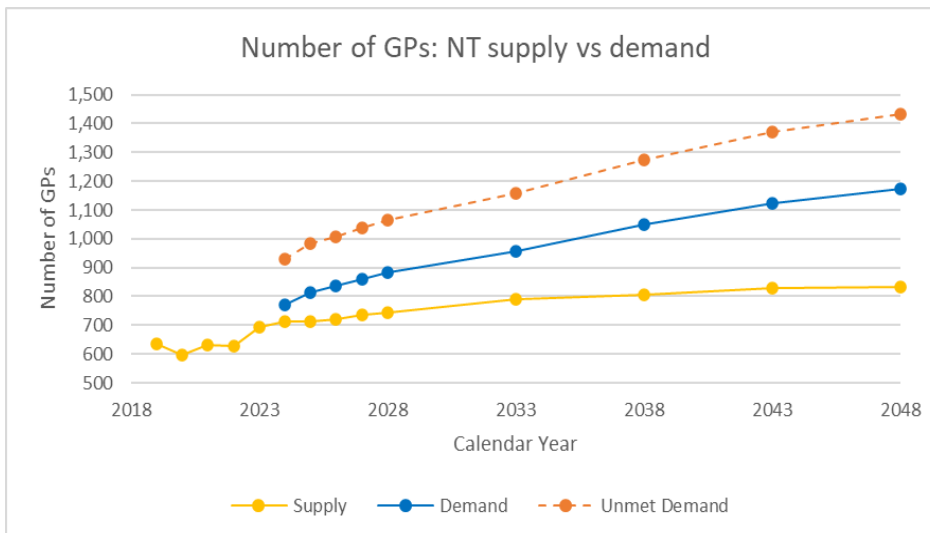
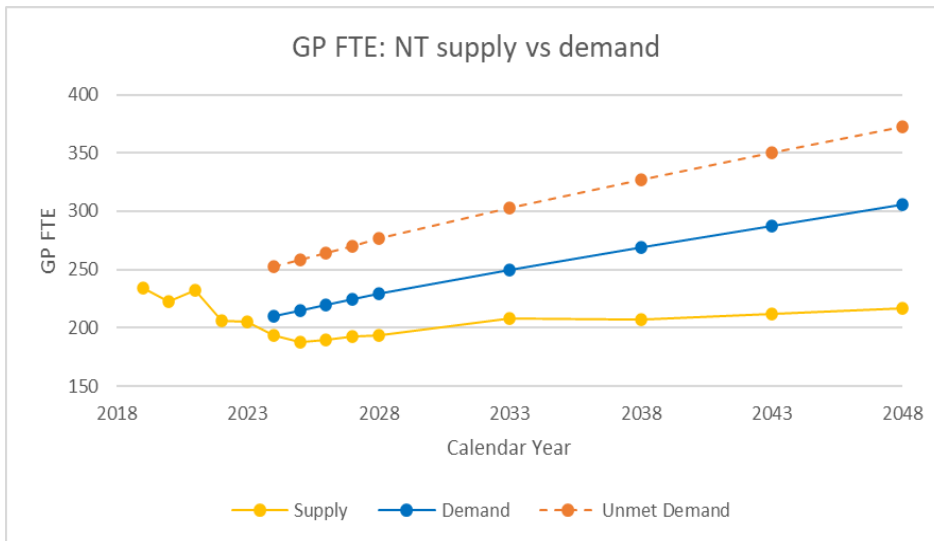


FIGURE 18: GP FTE – NT supply vs demand



What do the results mean?

The GP model results show an undersupply of GPs over the next 25 years, which indicates that we will not have the number of GPs required to keep up with the demand for GP services in the community.

The results also show us where there is currently unmet demand in some areas.

Over time, the study reveals that our GPs will likely work fewer hours than they do now. This is shown as the increase in GP FTE unmet demand figures nationally. The results forecast that GPs will on average provide less FTE by 2048 than they do currently. This shift is likely driven by two competing factors. Our increasing reliance on IMGs will increase the average FTE as these GPs tend to provide higher average FTE in comparison to equivalent AMG GPs. In contrast, the increasing workforce share of females will decrease average FTE as female GPs tend to provide lower average FTE than equivalent male GPs. Despite this, the total FTE provided by females is expected to slightly exceed the total FTE provided by males by 2048.

The 40–54-year-old cohort is expected to continue to provide the majority of FTE across the country. The prominence of this age group is because they have the highest headcount and tend to provide the most FTE per GP. However, the effect of the aging workforce is clear, with the share of FTE provided by the 54-64 and 65+ year-old cohorts, forecast to increase by 2048. The under 40 cohort remain prominent in regional areas, despite only making up roughly 20% of the overall workforce, this age group makes up roughly 30% of the workforce in MMM 3 – 7.

Although the number of new GPs joining the workforce is gradually rising, it is not sufficient to match the rate at which GPs are leaving the workforce. This highlights that the departure rate of GPs from the workforce is outpacing rate of new entrants, potentially resulting in workforce stagnation or minimal growth.

Limitations

Key limitations to the GP model:

- The model does not account for GPs providing primary care services that are not billed to Medicare.
- Any changes to scope of practice and technological improvements in the projection period that may affect workforce FTE in providing primary care is not considered.

For further details on the assumptions made in the model, refer to the [GP Supply and Demand Detailed Methodology paper](#).

Consultations

During development of the GP model, we consulted with a range of stakeholders.

Who did we speak to?

- The Royal Australian College of General Practitioners
- The Australian College of Rural and Remote Medicine
- State and territory health departments
- The Office of the National Rural Health Commissioner
- Primary Health Networks
- Rural Workforce Agencies
- The National Rural Health Alliance
- The Rural Doctors Network
- The Australian Medical Association

Independent review

We engaged the University of Adelaide to undertake an independent review of the GP model.

Their review found that the GP model uses sophisticated techniques, reliable data sources and valid assumptions resulting in an effective tool to assist in GP workforce planning. The University also provided some recommendations for how the model could be enhanced in the future.

Next steps

We continue to review the GP model for improvements as suggested by our independent reviewer.

We also invite stakeholder feedback as this will help us to continuously improve the model as a useful and valuable tool for the delivery of health programs and workforce planning.

The GP model will be updated biennially with the latest available data across all data sources.

If you require further information regarding the GP model or the results as published contact us at healthworkforcedata@health.gov.au .

www.hwd.health.gov.au

All information in this publication is correct as at August 2024

