



Australian Government

**Department of Health
and Aged Care**

Nursing Supply and Demand Study

2023 – 2035



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Nurses in Australia

While the number of nurses in Australia continues to grow, the healthcare needs of the community are growing at a higher rate.

The nursing profession is the largest single health profession in Australia. In 2022 there were 362,855 nurses registered and employed to provide services across the country. From 2017 to 2022, there was a growth of 36,573 nurses however, with an ageing population and higher incidences of chronic diseases the Australian community requires more nurses. This growth is not enough to meet the healthcare needs of Australians and is putting the health system and the existing nursing workforce under pressure.

The geographical distribution of nurses across the country poses an ongoing challenge, impacting on communities in rural, regional and remote areas. The main principle underlying Australia's health system is that no individual or community group is to be disadvantaged when accessing health care services. This is why improving the supply, retention and distribution of a quality nursing workforce is critical.

Gender profile of nurses

- The projected proportion of the nursing workforce who are male is expected to increase from 12.2% in 2022 to 13.4% by 2035.
- The average Full Time Equivalent (FTE) worked by female nurses has remained around 0.88 over the projection period. The average FTE worked by male nurses has remained around 1.00 over the projection period.
- The average age of female nurses is projected to decrease from 43 in 2022 to 42 by 2035 and the average age of male nurses is expected to remain at 42 by 2035.

Age profile of nurses

- The average nurse age is projected to decrease from 43 in 2022 to 42 by 2035.
- The percentage of nurses aged under 29 is projected to decrease from 19% in 2022 to 16% by 2035.
- The percentage of nurses aged between 30 – 39 is projected to increase from 27% in 2022 to 31% by 2035.
- The percentage of nurses aged between 40 – 49 is projected to increase from 21% in 2022 to 29% by 2035.
- The percentage of nurses aged between 50 – 59 is projected to decrease from 20% in 2022 to 16% by 2035.
- The percentage of nurses over 60 is projected to decrease from 13% in 2022 to 8% by 2035.

Country of initial nursing qualification

- The projected proportion of the workforce who received their initial qualification in Australia is expected to decrease from 80% in 2022 to 72% by 2035.

First Nations Nurses

- In 2022 there were 5,319 employed Aboriginal and Torres Strait Islander nurses.
- Between 2017 and 2022 the number of employed Aboriginal and Torres Strait Islander nurses increased by more than 1,843 representing an 8.9% annual increase.
- In 2017, Aboriginal and Torres Strait Islander nurses constituted 1.1% of all employed nurses, but as of 2022, their representation has increased to 1.5%.
- In 2022, most Aboriginal and Torres Strait Islander nurses were working in New South Wales, followed by Queensland and Victoria. Slightly more than 50% were working in major cities.

Nurse Practitioners

- In 2022 there were 2,207 employed registered nurses with nurse practitioner endorsement working in Australia. Of those, 1,675 or 75.9% were employed as a nurse practitioner. Between 2017 and 2022 there was an 8.6% increase in total employed nurse practitioners.
- In 2022, most nurse practitioners were female with an average age of 50.4. Over 65% were born in Australia and 1.3% identified as First Nations. 81.3% obtained their initial qualification in Australia.
- In 2022, the majority of nurse practitioners were employed in emergency and primary care job areas and were working in hospital, community health care and outpatient services.

What is supply and demand modelling?

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

By providing insights into the size, composition and distribution of the health workforce, in comparison to health outcomes for specific demographics, modelling can help decision makers to ensure that there is sufficient supply of appropriately qualified health workers to meet the needs of the community.

The identification of potential workforce gaps through workforce planning projections provides governments, professional bodies, employers, regulatory bodies, and higher education and training providers the opportunity to develop and implement plans to minimise such gaps. Such plans can involve workforce reform, changes to training intakes or pathways, changes to immigration levels, or a combination of all factors. It is this step that is essential in the delivery of a sustainable health workforce.

Workforce planning is critical to ensure alignment of nursing supply with demand required by the health and aged care systems to create a sustainable nursing workforce for Australia.

By looking at trends and changes in Australia's population, it is possible to forecast how many nurses are needed into the future. It is also possible to consider where those nurses are needed most based on the location of people, their health outcomes and therefore the types of services they need. In cases of a public health crisis, such as the recent COVID-19 pandemic, these models can be used to quickly calculate how to allocate nurses to where they are needed.

The nursing supply and demand model

The nursing supply and demand model (the nursing model) has been developed to provide a single, consistent and integrated evidence base for use in local, state and national workforce and service planning.

The nursing model is a complex workforce model that projects the supply and demand of Australia's nurses (Nurse Practitioners, Registered Nurses and Enrolled Nurses) until 2035 across all sectors including public and private, at various geographical levels, including national, state/territory and Modified Monash.

The model commences from a point of balance in 2022 and predicts outcomes that demonstrate what could happen if nothing was done to address supply of and demand for the nursing workforce. The model divides the nursing workforce into five sectors:

1. Aged care nurses - provide care to older people in areas such as community settings, in-home settings, residential aged care facilities and hospitals.
2. Acute care nurses - provide care to people with acute conditions predominantly in hospitals.
3. Primary healthcare nurses - work in a variety of roles in non-hospital settings such as general practices, community health services, Aboriginal health services.
4. Mental health nurses - provide care to people with mental ill health and disorders. They work in various settings including hospitals, community and residential health services, drug and alcohol services and correctional services.
5. Other - includes all other nurses such as those working in education, government departments and professional associations.

It has been designed to allow users to test different policy options and interventions to analyse nursing workforce implications by sector, nurse type and geography. The model includes those nurses who are currently registered and employed in Australia. Midwives are not included in this study, as this is a separate profession, however, nurses who are also registered as midwives are included for the hours which they indicate they worked as a nurse. This means the modelling data is different to that currently available in the National Health Workforce Data Set.

The nursing model will be incorporated into the Health Demand and Supply Utilisation Patterns Planning (HeaDS UPP) Tool - a single, integrated, quality source of health workforce and services data that informs workforce planning and analysis. The HeaDS UPP Tool brings data together from a range of sources to visually highlight how the community uses and accesses health services and the health workforce.

The new Scenario Planner capability in HeaDS UPP will allow a user to view the nursing model outputs at a more granular level such as Modified Monash Model (MMM) and Primary Health Network (PHN). A user can adjust certain input values to create a ‘what if’ scenario and then compare the baseline with their ‘what if’ scenario output/results.

Access to HeaDS UPP is available to approved organisations involved in health workforce and service planning.

Methodology for the nursing supply and demand model

To allow detailed modelling of the nursing workforce, a microsimulation approach to both supply and demand was used. Microsimulation is a modelling technique for simulating data at a granular level.

Supply

The supply model follows a “bottom-up” simulation approach where entries and exits to the nursing workforce are distinctly modelled in detail and projected separately. The modelling begins by identifying the current stock of nurses and analysing their demographic profile and historically observed work patterns. Inflows and outflows are simulated in accordance with a set of predefined modelling parameters and historical sampled data.

COVID-19 impacts on the workforce from 2020-2022 have been excluded from the model, except where nurses exited the acute system to work in primary care settings (vaccination etc) but have not returned to acute settings.

Demand

Demand is the number of nurses that are needed to meet the current and future health needs of the community. In the nursing model, baseline demand is projected assuming the supply of nurses meets the demand in the base year. The demand model follows a “top-down” approach where the ratio of nurse to service volumes in each sector, and the ratio of services to the population are used to forecast the expected demand for nurses. Future demand for nurses is estimated using state level LiTE population projections. LiTE simulates people and household changes to provide a complete picture of the population composition in each year up to 2035.

Who is modelled?

There are two registration types of nurses in Australia, Registered Nurses and Enrolled Nurses (RN & EN). This study models the supply of Registered Nurses (including Nurse Practitioners) and Enrolled Nurses. Supply of RNs and ENs is modelled separately, however, due to data limitations the demand is modelled together and then split based on adjustments to account for different historical growth rates. Registered Nurses can also obtain an endorsement as a Nurse Practitioner (NP). This project also models supply and demand for NPs.

Sectors

Nurses work in many settings. For this study, these settings are grouped into five broad sectors.

1. Aged Care
2. Acute Care
3. Primary health care
4. Mental Health

Nurses are assigned to a sector based on the individual respondents' reported Job Role, Job Area and Job Setting in the annual survey at the time of their annual renewal of registration. These sectors represent different healthcare services and modelling them separately provides insight into which parts of the health system may experience imbalances in comparison to others.

Outputs

The supply and demand outputs are combined to provide a projection of full-time equivalent nurses (nursing FTE).

The model commences from a point of balance in 2022 and forecasts outcomes that demonstrate what might happen if nothing was done to address supply of and demand for the nursing workforce.

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

Further information on the methodology can be found here: [***Nursing Supply and Demand Model methodology***](#)

Limitations

The Australian Health system has fundamental differences between organisations, jurisdictions and sectors that enable each to serve the needs of their community. These variations in service offerings, including between the public and private sectors, and data collections mean that national demand modelling may not always align with other models.

Key findings

The national projections

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

The nursing supply and demand model projections at national level show that:

- The baseline projections across all sectors show an undersupply of 70,707 FTE by 2035 with around 79,473 nurses needed to fill the gap, with the initial balance assumption where supply is assumed to meet demand in the base year (2022). This is presented graphically in Figure 1 for FTE and Figure 2 for headcount.

- For the acute care sector, the projections show an undersupply of 26,665 FTE by 2035.
- In the primary health care sector, the projections show an undersupply of 21,765 FTE by 2035.
- For the aged care sector, a projected undersupply of 17,551 FTE by 2035. These projections include 24/7 RN staffing and mandatory care minutes in residential aged care homes.
- In the mental health sector, a projected undersupply of 1,918 FTE by 2035.
- For the “other” sector the projections show an undersupply of 2,808 FTE by 2035.

The demand projections at a national level show that:

- The baseline demand across all sectors is estimated to increase from 334,873 FTE in 2023 to 493,282 FTE in 2035.

The supply projections at a national level show that:

- The baseline supply is estimated to increase from 324,989 FTE in 2023 to 422,575 FTE in 2035.
- Entry rates are higher than exit rates over the projection period – total entry rate including re-entries is between 12% to 13% and total exit rates including temporary exits between 10% to 11% This is in line with historic entry and exit rates.

FIGURE 1: Nursing FTE – National supply and demand

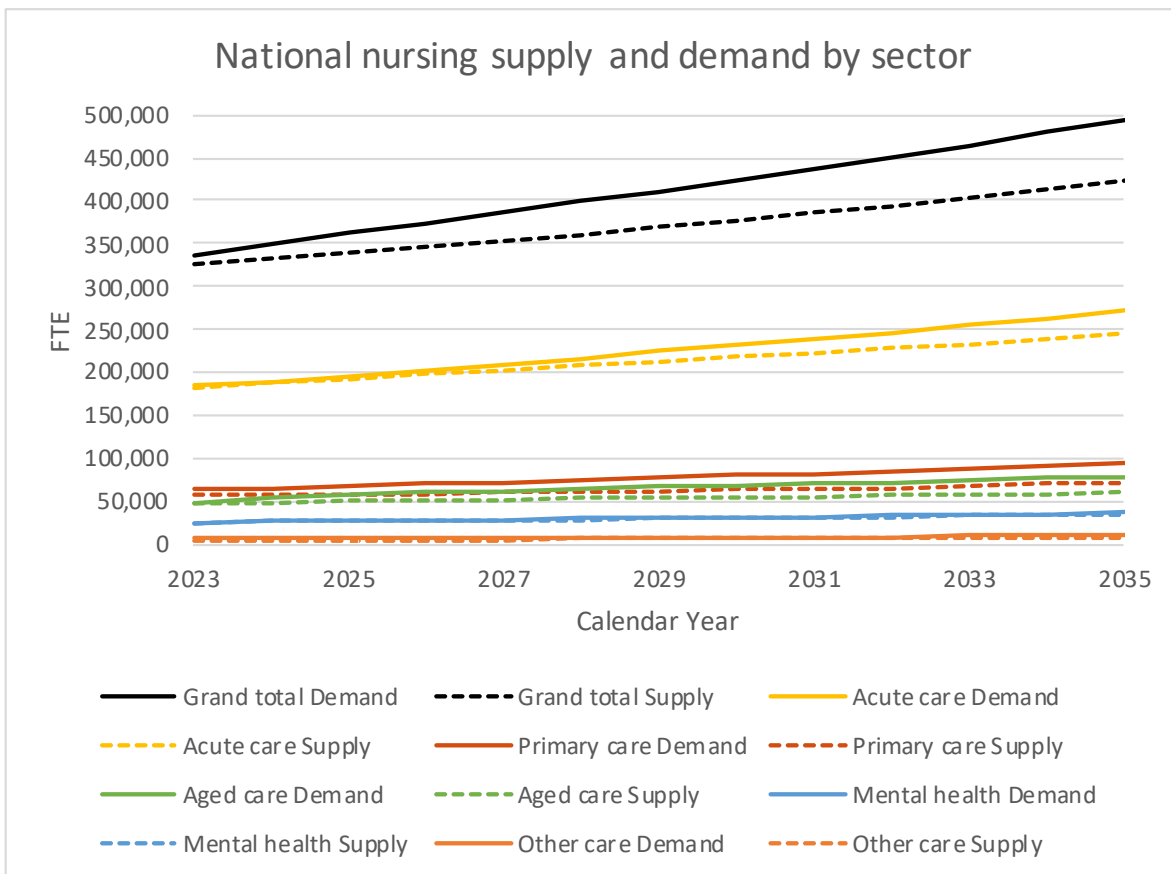
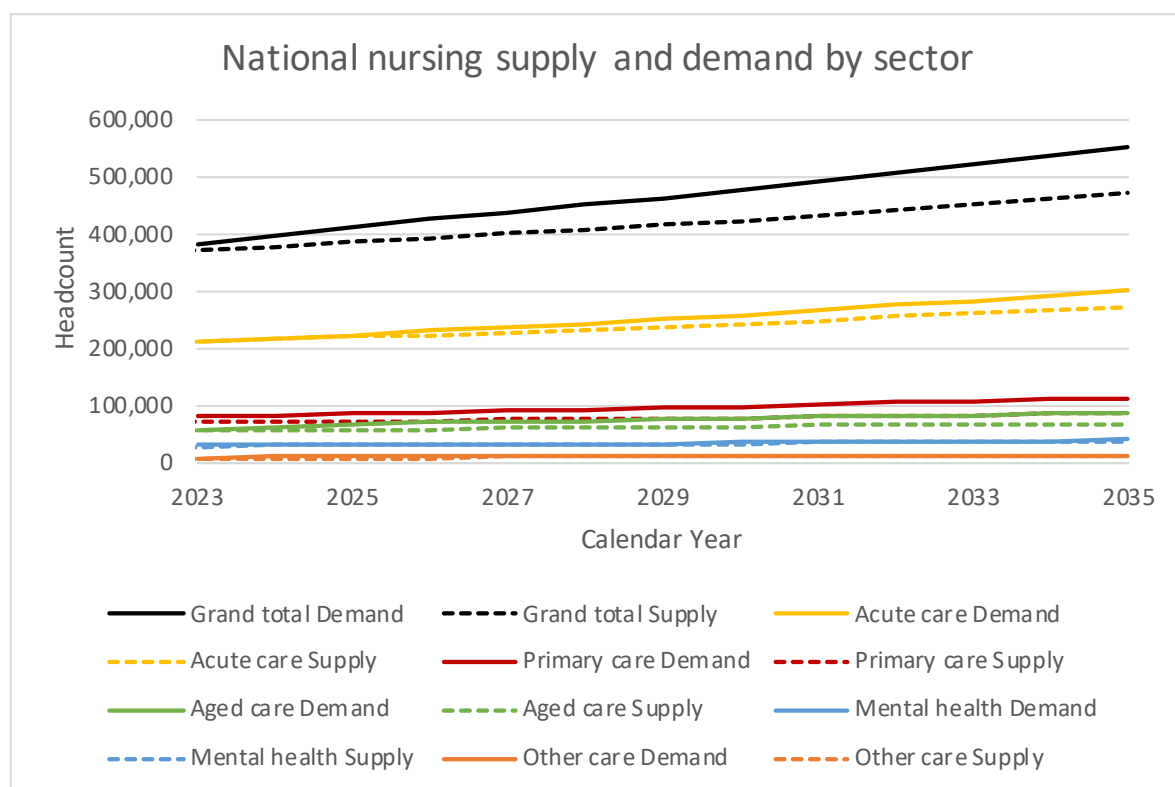


FIGURE 2: Headcount of Nurses: National supply and demand



Nurse type trends over the projection period

- The projected proportion of the workforce who are Enrolled Nurses is expected to decrease from 14.8% in 2022 to 12.5% by 2035.
- The projected proportion of the workforce who are Registered Nurses (including Nurse Practitioners) is expected to increase from 85.2% in 2022 to 87.5% by 2035.
- The projected proportion of the workforce who are Nurse Practitioners is expected to increase from 0.6% in 2022 to 0.9% by 2035.
- Registered Nurse average FTE has remained around 0.90 over the projection period.
- Enrolled Nurse average FTE has remained around 0.85 over the projection period.
- Nurse Practitioner average FTE has remained around 1.05 over the projection period.

Sector trends over the projection period

- The average FTE for Nurses working in acute care is expected to increase from 0.89 in 2022 to 0.90 in 2035.
- The average FTE for Nurses working in aged care is expected to decrease from 0.94 in 2022 to 0.91 in 2035.
- The average FTE for Nurses working in mental health is expected to increase from 0.96 in 2022 to 0.98 in 2035.
- The average FTE for Nurses working in primary health care is expected to decrease from 0.85 in 2022 to 0.84 in 2035.
- The average FTE for Nurses working in other areas is expected to decrease from 0.90 in 2022 to 0.87 in 2035.

First Nations Nurses

The National Aboriginal and Torres Strait Islander Health Workforce Strategic Framework and Implementation Plan set a target of 3.43% of Aboriginal and Torres Strait Islander people being represented in the national health workforce by 2031.

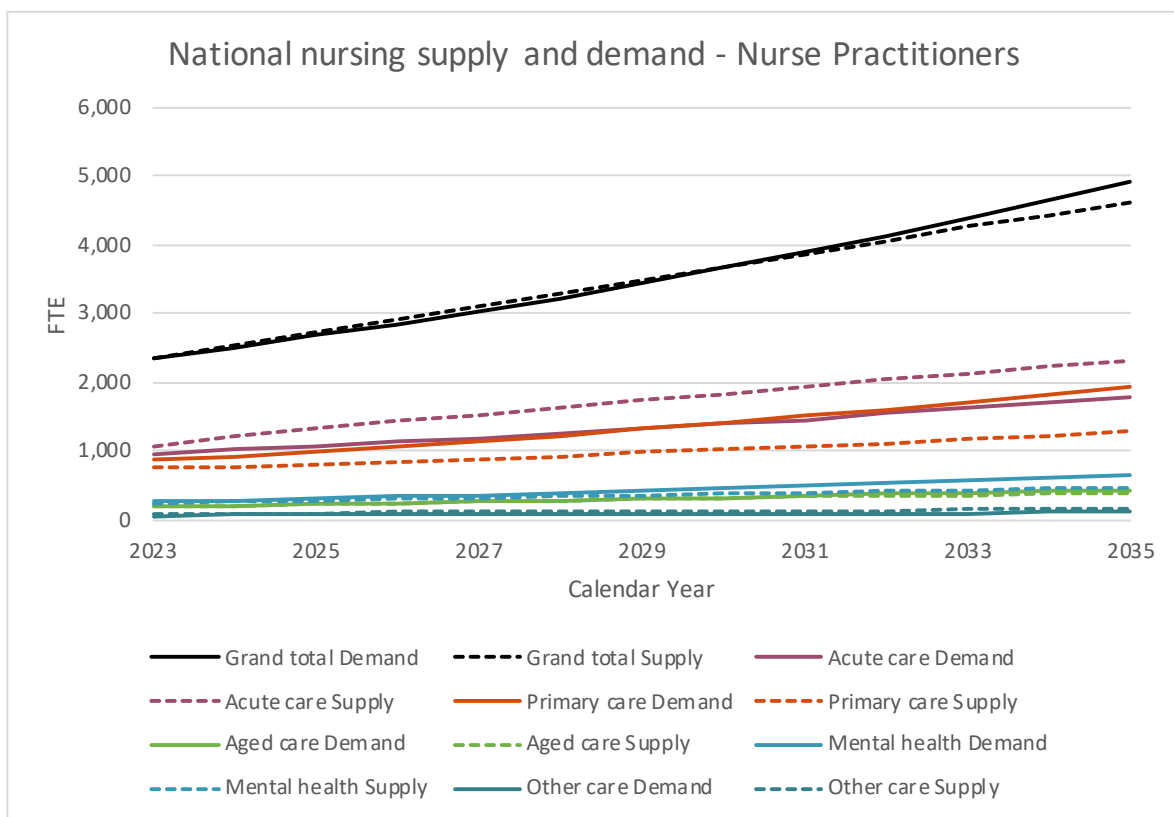
- The projected supply of employed nurses in 2035 is 470,859, which implies an estimated shortfall of around 9,088 Aboriginal and Torres Strait Islander nurses in order to meet the supply target of 3.43%.

Nurse Practitioners

Between 2017 and 2022, the total number of nurse practitioners increased for all jurisdictions with Victoria experiencing the largest increase followed by New South Wales and Tasmania.

Figure 3 shows Modelling for Nurse Practitioners forecasts a gap of 296 FTE by 2035.

FIGURE 3: FTE of Nurse Practitioners: National supply and demand



Scenarios

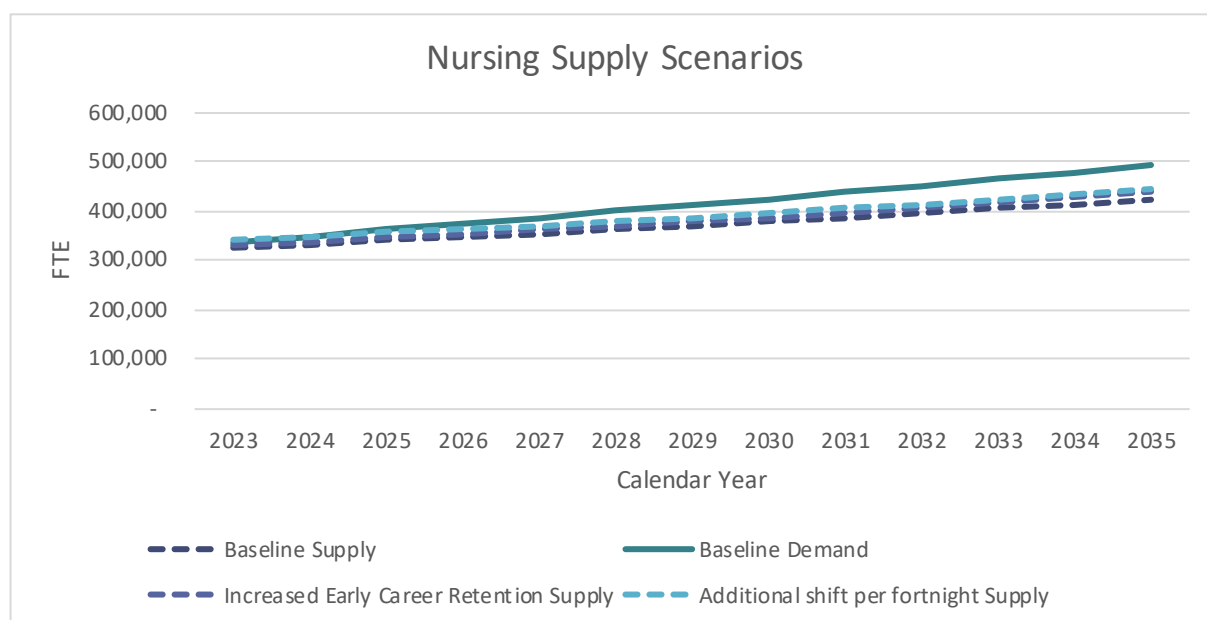
Scenario modelling is used to demonstrate how a shortfall could be counteracted. For this project two supply scenarios were modelled.

Supply scenarios

Figure 4 shows the following supply scenarios:

- One which applied an increase in work hours by 1 shift per fortnight for nurses who currently work less than 0.75 FTE and are under 65 years old. Results in a gap by 2035 of 50,434 FTE.
- One where the probability of leaving the workforce for any length of time is halved for nurses 30 years old or younger. Results in a gap by 2035 of 56,709 FTE.

FIGURE 4: Nursing Supply Scenarios



The nursing model will be incorporated into the Health Demand and Supply Utilisation Patterns Planning (HeaDS UPP) Tool - a single, integrated, quality source of health workforce and services data that informs workforce planning and analysis. The HeaDS UPP Tool brings data together from a range of sources to visually highlight how the community uses and accesses health services and health workforce.

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What do the results mean?

The nursing model results predicts an undersupply of nurses over the next 12 years, which indicates Australia may not have the number of nurses required to keep pace with the demand for nursing services in the community overall.

The results also show unmet demand in all sectors and geographic maldistribution which will impact service delivery in rural and remote areas.

This report explores nursing supply and demand at a national level. The way this is experienced in individual health services may vary, reflecting local factors and influence.

These results are likely to be impacted by the commissioning of new services and decommissioning of superseded services.

What is being done about it?

There is a range of work underway to improve the supply, retention and distribution of the nursing workforce so all Australians have access to health and aged care, when and where they need it.

Service providers are using the available data in innovative ways to support effective workforce planning and evidence-based future health workforce decisions. Developing the evidence required for improved policy interventions and workforce planning, will better support the nursing workforce and the community's access to it.

National Nursing Workforce Strategy

The Commonwealth and Victoria, in collaboration with all states and territories and the profession, are developing a **National Nursing Workforce Strategy** which aims to address workforce challenges and support the nursing profession to deliver person-centred, evidence-based and compassionate care to Australian communities across all sectors now and into the future. The strategy will look at:

- workforce sustainability
- diversity of the profession
- workforce planning
- data sharing
- the challenges of regional, rural and remote nursing
- the pathway from novice to expert.

The strategy will identify and address national priorities that aim to:

- maintain and deliver quality, evidence-based, patient-centred care
- build and sustain an experienced workforce
- encourage the uptake of positions in regional, rural and remote areas
- support the mental health and wellbeing of the workforce.

Nurse Practitioner Workforce Plan

The Nurse Practitioner Workforce Plan, published in May 2023, supports nurse practitioners to deliver health and aged care services. The plan addresses barriers that have prevented them from working to their full potential.

Nurse Practitioner Workforce Plan | Australian Government Department of Health and Aged Care

National programs and initiatives

The Australian Government Department of Health and Aged Care manages a number of programs to address workforce shortages and improve access to health services, especially in regional, rural and remote areas. These include:

- Aged Care Nursing Clinical Placements Program
- Aged Care Registered Nurses' Payment to reward clinical skills and leadership
- Aged Care Transition to Practice Program
- Aged Care wages increase from the Aged Care Work Value Case
- Australian Cancer Nursing and Navigation Program
- Australian Rotary Health Rural Nursing Scholarships
- Care minutes and 24/7 registered nurses in residential aged care
- Health Workforce Scholarship Program
- HELP for Rural Doctors and Nurse Practitioners
- Innovative Models of Care (IMOC) Program
- National Mental Health Workforce Strategy 2022–2032
- Nursing in Primary Health Care Program
- Rural Health Multidisciplinary Training (RHMT) program
- Rural Health Workforce Support Activity
- Rural Locum Assistance Program (Rural LAP)
- Workforce Incentive Program
- Primary Care Nursing and Midwifery Scholarships program
- Primary Care Clinical Placements Program
- Re-entry nurses program
- Upskilling mental health capabilities of the broader health workforce

Information on the above programs can be found at

Australian Government Department of Health and Aged Care

State and Territory programs and initiatives

Each state and territory funds programs and initiatives to support nurses that aim to:

- ensure provision of a highly capable and qualified workforce
- address workforce shortages and improve access to health services, especially in regional, rural and remote areas
- support the Indigenous health workforce to provide First Nations people with culturally safe care.

These include:

- Aboriginal and Torres Strait Islander cadetship programs
- Clinical Coaches
- Clinical Supervision education and training and workshops and support
- Cost of living payments
- Early career retention strategies
- Expanded support programs that consider the support required for early career nurses
- Fee free TAFE for student ENs
- Funding for nurse- led models of care
- Health Leadership Strategies for nurses and midwives
- Health Workforce Strategies
- Increased availability of undergraduate clinical placements
- Investment in clinical mentorship and on-site education support
- Nurse Navigator models
- Nurse Practitioner models of care
- Nurse Practitioner Workforce Innovation Strategy to enable growth and sustainability of NP led models of care in priority areas
- Nurse recruitment strategies
- Projects to improve the psychosocial safety of nurses
- Reduced fees for undergraduate and postgraduate courses
- Registered Undergraduate Student of Nursing (RUSON) employment models
- Remote and Isolated Worker Safety Project to improve safety for remote healthcare workers
- Rural and remote generalist nurse program
- Rural and remote pathway for graduate nurses
- Secondary School to RN Articulation Pathway Pilot Program
- Scholarship schemes for undergraduate and postgraduate courses, First Nations peoples, professional development courses, re-entry to practice, rural placements and students from rural locations

- Sign on bonuses for new graduates entering the public health system
- Strength with immersion Model (SWiM) programs in aged care, community and primary health care, intensive care, mental health and paediatrics
- Supportive Practice Environment Framework to identify the key requirements to support clinical and professional development and wellbeing of nurses and midwives
- Transition to practice programs for newly graduated registered nurses, enrolled nurses and enhanced transition programs perioperative, neonatal and cancer care specialty areas
- Virtual support models for regional areas
- Workforce attraction incentive scheme
- Working in Partnership model of care – team design to support reintegration of EN workforce
- Working with Wisdom program – senior nurses supporting graduates

Information on the above can be obtained from state and territory health departments.

- ***NT Health***
- ***Queensland Health***
- ***NSW Health***
- ***ACT Health***
- ***Department of Health, Victoria***
- ***Tasmanian Department of Health***
- ***SA Health***
- ***WA Health***

The Australian Government Department of Health and Aged Care is currently completing two reviews which have relevance to the nursing workforce.

Unleashing the Potential of our Health Workforce (Scope of Practice) Review

Led by independent reviewer, Professor Mark Cormack, the Unleashing the Potential of our Health Workforce – Scope of Practice Review will examine barriers and incentives health professionals face working to their full scope of practice in primary care.

The focus for the review is general practitioners, nurses, including nurse practitioners, registered nurses and enrolled nurses, pharmacists, midwives, allied health practitioners, First Nations health practitioners and workers, and paramedics.

The review will also look for examples of multi-disciplinary teams working together at the top of their scope of practice to deliver best practice primary care.

Working Better for Medicare Review

The Working Better for Medicare Review (Review) is examining the effectiveness of our current distribution levers - these are laws and policies that we use to encourage or require health professionals to work in areas of workforce shortage.

These levers include:

- sections 19AA and 19AB of the Health Insurance Act 1973 (the Act)
- workforce classifications – specifically the Distribution Priority Area (DPA), District of Workforce Shortage (DWS) and the Monash Modified Model (MMM) classifications.

The Review is being led by nurse, advocate and remote health expert Professor Sabina Knight, and former senior health bureaucrat and academic Adjunct Professor Mick Reid. They are supported by expert consultants Healthcare Management Advisors Pty Ltd, and Health Consult Pty Ltd. The Review will be underpinned by extensive stakeholder engagement, with findings expected to be provided to government in mid-2024.

Consultations

During development of the nursing model, a range of stakeholders were consulted.

- State and territory health departments
- Nursing and midwifery professional and industrial bodies
- Nursing and midwifery regulators
- Nursing and midwifery educators
- Private hospitals
- The Office of the National Rural Health Commissioner

Next steps

The nursing model will be updated annually with the latest available data across all data sources.

Stakeholder feedback is invited as this will help continuous improvement of the model as a useful and valuable tool for the delivery of health programs and workforce planning.

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

www.hwd.health.gov.au

All information in this report is correct as at 4 March 2024

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