OFFICIAL

Australian Government
Department of Health, Disability and Ageing

Radiology Supply and Demand Compendium Report

August 2026

Suggested citation

Department of Health, Disability and Ageing, 2026, Radiology Supply and Demand Compendium Report, [page no.], https://hwd.health.gov.au/resources/primary/radiology-compendium-report-aug-2026.pdf, retrieved DD/MM/YYYY

Contact us

Enquiries regarding this document can be sent to **healthworkforcedata@health.gov.au**.

Table of Contents

Radiologists in Australia

While the number of radiologists continues to grow, there remains a workforce shortage across Australia.

The radiology workforce is a cornerstone of Australia's healthcare system, underpinning the timely diagnosis and effective management of diverse medical conditions – from acute injuries to chronic diseases. However, the sector is facing challenges, including workforce pressures and rising demand for imaging services, which may impact patient care and overall system efficiency.

For the purposes of this report, the term *radiologists* refer specifically to clinical radiologists, including nuclear medicine specialists. ***Radiation oncology*** **is excluded from the scope of this modelling.**

The Royal Australian and New Zealand College of Radiologists (RANZCR) 2020 Clinical Radiology Workforce Census highlights a significant maldistribution of the radiology workforce, posing an ongoing challenge to equitable access to diagnostic imaging services particularly in regional, rural, and remote areas. Disparities also exist across metropolitan, regional and rural areas where the distribution of clinical radiologists remains uneven.[1] To address these gaps, remote and tele-radiology services have become increasingly important. These services allow radiologists to interpret medical images from a distance using secure digital platforms, enabling timely and accurate diagnoses regardless of location.[2]

Despite these challenges, the radiology profession is undergoing a period of transformation, largely driven by the integration of advanced technologies such as Artificial Intelligence (AI). These innovations offer promising opportunities to enhance diagnostic accuracy and improve workflow efficiency.[3] However, the full impact of these technologies is still uncertain and difficult to reflect accurately in current workforce modelling.

Another notable trend is the increasing shift toward the private sector. A substantial portion of private radiology clinics are now owned by corporate entities, including private equity firms[4, 5], reshaping how services are delivered and raising implications for workforce distribution and access to imaging. As more radiologists move into private practice, public sector capacity

---

[1] The Royal Australian and New Zealand College of Radiologists, 2023, RANZCR Releases 2020 Australian Clinical Radiology Workforce Census, accessed 1 July 2025.
[2] The Royal Australian and New Zealand College of Radiologists, 2017, New Standards for Teleradiology Media Release, accessed 9 July 2025.
[3] The Royal Australian and New Zealand College of Radiologists, no date, Artificial Intelligence, accessed 9 July 2025. Productivity Commission, 2024, Leveraging digital technology in healthcare, accessed 9 July 2025.

[4] Monash University, 2025, Corporate takeover of radiology raises healthcare concerns – Monash Lens, accessed 18 August 2025.

[5] Docking Sean, Lacy-Nichols Jenn, Hensher Martin, Buchbinder Rachelle, 2025, Corporatisation and ownership concentration in diagnostic imaging: an audit of Australian practices, Australian Health Review 49, AH25073, accessed 18 August 2025.

may come under pressure, potentially affecting both equitable access to diagnostic services and the ability to provide training within the public sector.

This study provides a comprehensive analysis of the current and projected supply and demand for radiologists in Australia. It aims to deepen understanding of key workforce challenges and provide a solid evidence-base to inform future workforce planning and policy development in the radiology workforce.

Summary of results

Although the radiology workforce is expected to grow over the next 25 years, the workforce is expected to experience a shortage throughout the projection period (2024–2048). *Geographical maldistribution* remains the key issue impacting access to radiology services in regional and rural areas.

Important Consideration

The results should be interpreted with care, given the inherent uncertainty associated with workforce estimation. The projections extending to 2048 carry higher uncertainty, as developments in models of care, technological advancements, and workforce participation patterns are likely to evolve substantially over the next two decades. ***Therefore, projections to 2038 should be the primary focus for planning purposes.***

The national level projections from the radiology model (Figure 1) paint a picture of the future supply and demand trends for radiologists over the coming decades.

According to the model, the supply of radiologists is expected to grow steadily, rising from 2,639.7 full-time equivalent (FTE) in 2025 to 3,674.0 FTE in 2038 and to 4,156.9 FTE by 2048. This growth corresponds to an increase in the number of individual radiologists, from 2,824 in 2025, 3,970 in 2038 and 4,594 in 2048.

On the demand side, the need for radiology services is also projected to rise, with FTE demand rising from 2,690.9 in 2025 to 3,966.8 FTE in 2038, reaching 4,808.1 FTE by 2048. This translates to a required headcount of 2,879 radiologists in 2025 to 4,286 in 2038, and 5,314 by 2048.

This study projects the radiology workforce to remain in shortage throughout the projection period at the national level. In 2025, the estimates indicate a shortfall of 51.2 FTE representing a 1.9% gap between supply and demand. This shortage is expected to grow to 292.8 FTE (5.4%) by 2038 and to 651.3 FTE (15.7%) by 2048.[6] In terms of actual headcount, the gap is estimated at 55 radiologists in 2025, increasing to 317 by 2038 and 720 by 2048.

[6] Throughout the document, the percentage shortage is calculated as proportion of the total supply.

The rapid advancement of medical imaging technologies is also impacting the field of radiology. Diagnostics and imaging remain at the forefront of AI integration, with radiology emerging as a leading specialty due to its proven ability to enhance diagnostic accuracy.[7, 8]

As imaging capabilities continue to evolve, the demand for radiology services is expected to grow substantially. The number of Medicare subsidised diagnostic imaging services grew by around 40% over the past decade from 21.3 million in 2012–13 to 29.7 million in 2022–23, according to the Australian Institute of Health and Welfare (AIHW).[9] Analysis of Medicare Benefits Schedule (MBS) radiology data also reveals a gradual increase in the average proportion of interventional radiology services at the provider level, rising from approximately 8.7% in 2017 to 10.1% in 2023.[10] Despite these trends, the full impact of emerging technologies on workforce productivity remains uncertain and is challenging to capture accurately in current workforce modelling framework.

A significant challenge the diagnostic imaging sector faces is the uneven distribution of clinical radiologists across metropolitan, regional, and rural areas. In 2023, while there were 11.4 FTE radiologists per 100,000 population in metropolitan areas (Monash Modified–Category 1 (MM1)), there were only 1.4 FTE in medium rural towns (MM4) and only 1.0 FTE in small rural towns (MM5).

The findings from this study also highlight a trend towards an ageing radiology workforce. The model shows that radiologists aged 40-54 will remain the largest contributors, although their share of FTE will decrease from 51.1% in 2025 to 47.4% by 2038. Those in the 55–64 age cohort are expected to contribute a growing share of FTE, rising from 19.6% in 2025 to 26.9% by 2038. The FTE share of radiologists aged 65 and over is also expected to rise from 10.3% in 2025 to 11.1% by 2038 (see Table 5). These shifts indicate a growing reliance on older radiologists, raising concerns about the long-term sustainability of the workforce as retirements accelerate and younger cohorts remain underrepresented.

Consultations with RANZCR revealed a recent increase in both domestic trainees and SIMG applicants in 2025. However, these recent increases are *not* reflected in the current

[7] Najjar, R., 2023, Redefining radiology: A Review of Artificial Intelligence Integration in Medical Imaging. Diagnostics, 13(17), 2760. accessed on 1 July 2025.

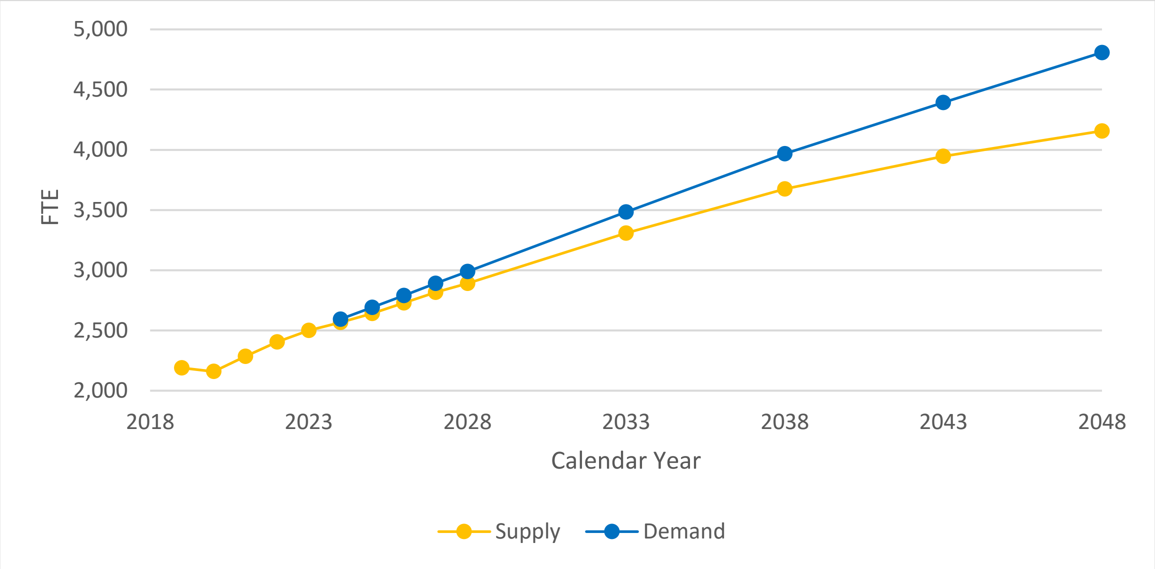
[8] Pesapane, F., Codari, M., & Sardanelli, F., 2018, Artificial intelligence in medical imaging: threat or opportunity? Radiologists again at the forefront of innovation in medicine, *European Radiology Experimental*, Vol 2, 1-10, accessed on 1 July 2025.

[9] Australian Institute of Health and Welfare, 2024, Pathology, imaging and other diagnostic services, accessed 1 July 2025.

[10] The Medicare Benefits Schedule data is from Medicare Benefits Schedule data collection. Interventional Radiology is a distinct subspecialty of clinical radiology that combines an in-depth understanding of clinical radiology with advanced procedural skills and clinical management. The proportion of interventional radiology services within MBS data is estimated based on individual provider billing patterns. Services are classified by their Group and Sub-group codes, which are used to determine the share of interventional radiology services at the provider level. For this analysis, services billed under the Derived Major Specialty (DMS) of Diagnostic Radiologist and falling with the MBS sub-groups 'Surgical Operations' and 'Miscellaneous Diagnostic Procedures and Investigations' are assumed to represent interventional radiology.

modelling which likely underestimates the future workforce supply. For additional caveats, refer to the limitations section.

Figure 1: FTE National Projections for radiologists: Supply vs demand, 2018–48



Workforce Profile

The following section presents a snapshot of the current workforce using the latest available supply data, 2023. It also summaries historical trends observed from 2019–23.

Quick facts

In 2023, there were:

- 2,652 radiologists with average weekly hours of 37.7 that equates to 2,499.7 FTE radiologists. This total FTE consists of 1,892.4 FTE Australian/New Zealand graduates (those with initial specialist qualification from Australia or New Zealand) and 607.3 FTE overseas trained radiologists (those with initial specialist qualification from overseas).
- 814 female and 1,838 male radiologists.

Figure 2: Quick facts on radiology workforce, 2023

Workforce trends and distribution

Table 1 provides the radiology workforce trends, with key highlights as follows:

- The number of radiologists increased from 2,260 in 2019 to 2,652 in 2023 reflecting a Compounded Annual Growth Rate (CAGR) of 4.1%. However, FTE workforce grew at CAGR of 3.4% during the same period, driven by a slight decrease in the average hours worked.
- Overall, the average weekly hours worked decreased from 38.8 in 2019 to 37.7 in 2023, reflecting a negative CAGR of 0.7%.
- The proportion of FTE radiologists employed in the public sector declined slightly from 42.2% in 2019 to 41.6% in 2023, reflecting a negative CAGR of 0.4%.

Table 1: Workforce trends 2019–23

Year	2019	2020	2021	2022	2023	CAGR (%)
Headcount	2,260	2,313	2,418	2,542	2,652	4.1
Average weekly hours	38.8	37.3	37.8	37.8	37.7	-0.7
FTE	2,189.6	2,158.7	2,285.8	2,405.0	2,499.7	3.4
Public FTE (%)	42.2	41.8	43.2	41.7	41.6	-0.4
Private FTE (%)	57.8	58.2	56.8	58.3	58.4	0.3

Demographics

Table 2 shows the FTE by sex and age groups with key highlights as follows:

- Overall, the proportion of female FTE radiologists increased from 25.4% in 2019 to 27.1% in 2023.
- Between 2019 and 2023, the age distribution of radiologists remained relatively stable, with a 3.1% increase in the FTE share for the 40–54 age group and 2.5% decline for those aged 55–64 years.

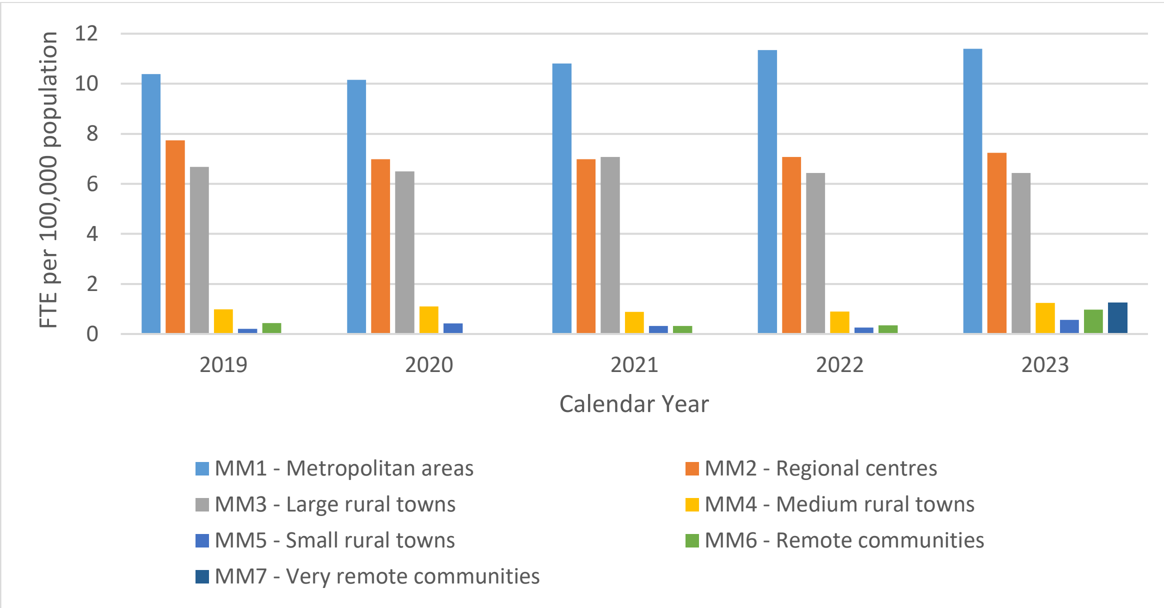
Table 2: FTE by sex and age groups, 2019 and 2023

	2019			2023		
Age group	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
Under 40	272.2	136.6	408.8 (18.7%)	314.4	139.4	453.8 (18.2%)
40–54	764.0	296.8	1,060.8 (48.4%)	899.6	386.9	1286.5 (51.5%)
55–64	408.2	96.7	504.9 (23.1%)	397.7	118.3	516.0 (20.6%)
65 and over	189.3	25.9	215.2 (9.8%)	210.3	33.1	243.4 (9.7%)
Total	**1,633.7**	**555.9**	**2,189.6 (100%)**	**1,822.0**	**677.7**	**2,499.7 (100%)**

Full-Time Equivalent (FTE) radiologists by Modified Monash Model (MMM) 2023[11]

There is maldistribution of radiologists between rural and remote areas compared with metropolitan areas. In 2023, the FTE radiologists per 100,000 population in metropolitan areas (Monash Modified–Category 1 (MM1)) was 11.4, compared to 1.2 in medium rural towns (MM4) and only 0.6 in small rural towns (MM5), see Figure 3.

Figure 3: FTE radiologists per 100,000 population by Modified Monash Model (2023), 2019–23

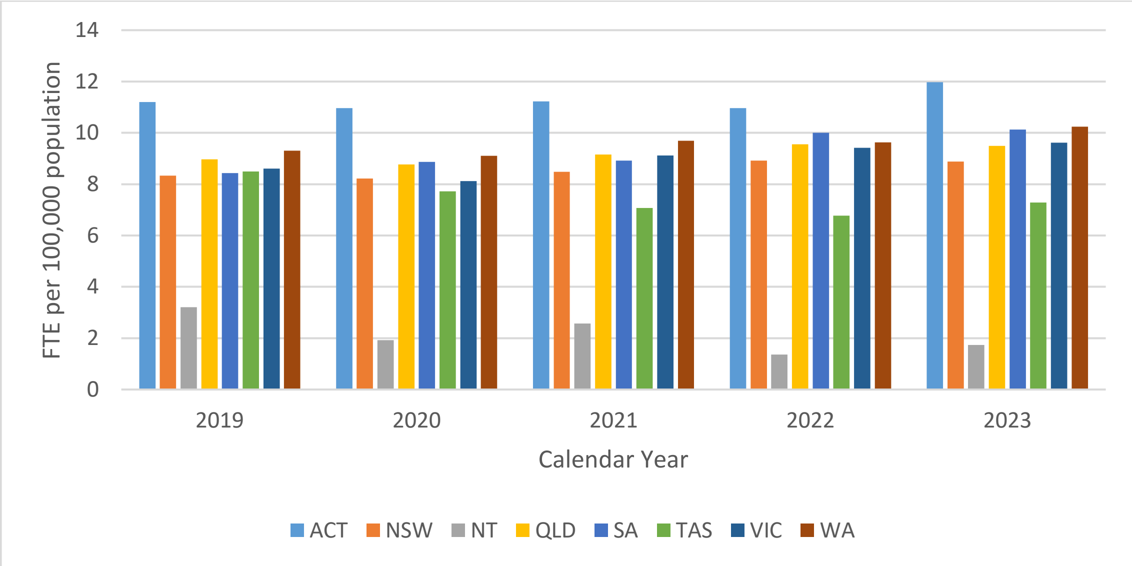


[11] For description of Monash Modified Model please refer to Modified Monash Model.

Full-Time Equivalent (FTE) radiologists by state and territories

In 2023, across jurisdictions, the Australian Capital Territory (ACT) had the highest FTE radiologists per 100,000 population at 12.0, while the Northern Territory (NT) had the lowest at 1.7, see Figure 4.

Figure 4: FTE radiologists per 100,000 population by states and territories, 2019–23



For more details on trends in FTE and average hours worked by sex and place of initial medical qualification, please refer to the Radiology Supply Profile Dashboard.

What is supply and demand modelling?

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

Effective health workforce planning is a key instrument for a resilient and sustainable health system. Health workforce modelling provides insights into the current and projected health workforce, playing an integral role in workforce planning to ensure we have the workforce we need and where they are most needed.

This radiology supply and demand study provides valuable insights into the radiology workforce, helping to identify potential workforce gaps. By quantifying the projected supply and demand for radiologists from 2024 to 2048, using data collected from several sources between 2014 and 2023, the study provides important evidence to guide policy decisions on regulating radiology training places, and the distribution of Specialist International Medical Graduates (SIMGs) across Australia.

Methodology for the radiology supply and demand model

To enable detailed scenario modelling of the radiology workforce, a combination of microsimulation and time series regression modelling approaches for supply and demand is used. Microsimulation is a technique for modelling the behaviour of individuals according to predetermined probabilistic rules. Time series regression is a statistical method for predicting future values based on the response history and the influence of relevant predictors.

The Microsimulation approach 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 helps identify ways to improve them.

For detailed information on the methodology, refer to the Radiology Supply and Demand Model - Methodology Paper.

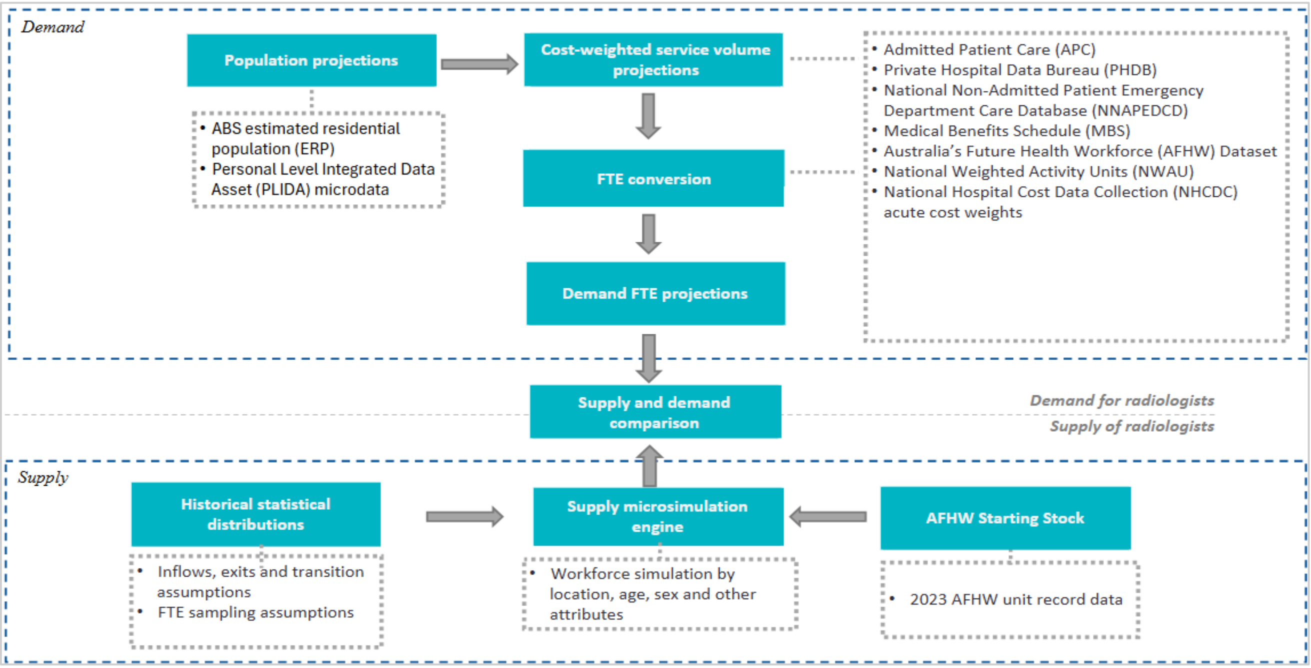
Overview

This study models the supply of and demand for radiologists who are currently working clinical hours and not currently trainees. Radiology trainees are modelled as part of the training pipeline analysis (see section under 'Supply').

Modelling has been undertaken at the Statistical Area 4 (SA4) geography (where data availability permitted). However, results will be published at state and territory level, with their aggregation forming the national results.

Figure 5 presents a summary of the process used in modelling the radiology workforce.

Figure 5: Overview of the modelling process



Supply

The supply model uses the Australia's Future Health Workforce (AFHW) [12] data on radiologists from 2018 to 2023.

The supply model uses the microsimulation approach where attributes such as entries and exits to the workforce and radiologists FTE are modelled distinctly. The supply methodology begins by identifying the current stock of radiologists, analysing their demographic profile and historically observed work patterns. Statistically significant predictors of future radiology workforce supply (such as age, sex, etc.) are selected, and their historical distributions are measured to allow the development of a microsimulation model.

The supply model includes a **training pipeline module** that models radiology trainees in the RANZCR Fellowship and SIMG pathways. This module projects the number of new radiology fellows entering the workforce each year over the projection period, see Table 3.

[12] The Australia's Future Health Workforce (AFHW) datasets are created from the National Health Workforce Datasets (NHWDS) for modelling purposes. A sequence of rules (supply criteria) is applied to each NHWDS to determine which practitioners meet the definition of supply for each profession (and sub-groups where applicable). The headcount and workload of these practitioners, along with other variables required for modelling, are included, derived or imputed in the AFHW datasets.

Table 3: Projected number of new fellows entering workforce each year[13], selected years 2025–48

New Fellow type	2025	2026	2027	2028	2029	2030	2035	2040	2045	2048
Domestic	114	116	118	119	120	121	124	124	124	124
SIMG	31	33	30	29	29	29	29	29	29	29
Total	**145**	**149**	**148**	**148**	**149**	**150**	**153**	**153**	**153**	**153**

Demand

Demand is measured in terms of observed utilisation of medical services which captures expressed (observed) service demand for radiology services across a variety of care settings. Historical patterns of usage are examined and used to estimate the future demand for radiologists, accounting for differences in service demand across various age groups and geographies.

This approach does not directly capture the population's need for services, particularly for individuals who require radiology services but cannot access it due to factors such as affordability or availability.

The demand is projected assuming the supply of radiologists is equal to the demand in the base year, 2023. The following key data sources are used to capture service utilisation:

1. Medical Benefits Schedule (MBS) data
2. AIHW Admitted Patient Care (APC) National Minimum Dataset
3. Private Hospital Data Bureau (PHDB)
4. National Non-Admitted Patient Emergency Department Care Database (NNAPEDCD)
5. National Non-Admitted Patient Database (NNAPD)
6. National Hospital Cost Data Collection (NHCDC).

Different services require varying workforce effort based on severity of conditions, complexity of procedures, or degree of professional input required. Therefore, services are cost-weighted to adjust for these differences, enabling accurate comparison of resource use by converting them into units of demand activity.

To compare demand to supply and identify the workforce gap, demand activity projections are converted to FTE radiologists by comparing the demand values against the supply FTE from AFHW dataset. Specifically, historical FTE-to-activity ratios are used to estimate ratios for the forecast period, which are then multiplied by the demand activity projections for the

[13] The inflow assumptions for supply modelling does not account for the increase in overseas trained radiologists due to expedited specialist pathway.

forecast years. This approach accounts for historical trends in workforce productivity - such as the impact of emerging technologies - and ensures that these changes are reflected in future workforce estimates.

Model limitations

- The model forecasts are based on modelling conducted on historical trends in the AFHW dataset. The modelling is therefore limited to only being able to carry forward existing trends in the workforce data. Any changes to models of care and technological improvements in the projection period that may affect workforce FTE in providing radiology services is not considered.
- The primary source of supply modelling data, the AFHW, is a longitudinal survey of health practitioners. The survey has 3 notable limitations:
    1. All supply FTE/hours are self-reported and therefore subject to measurement errors, response bias, and potential inaccuracies due to memory recall and misinterpretation of questions.
    2. The survey only captures the primary work location of practitioners, and
    3. Practitioners without general registration, such as provisional registrants, do not complete the survey and therefore most of their data must be imputed.
- Nuclear medicine specialists are not modelled separately due to their relatively small numbers and are instead grouped with clinical radiologists for modelling purposes.
- The modelling relies on historical FTE-to-activity ratios to estimate future workforce requirements. While this approach captures trends in productivity, including the potential impact of emerging technologies such as AI, it assumes that past patterns will continue. This may not fully account for significant changes in productivity, service delivery models or clinical workflows.
- Radiology services can be delivered remotely, meaning the healthcare provider and the patient may be in different locations. For the purposes of workforce modelling, demand is attributed to the location where radiology services are delivered, rather than the patient's place of residence. This may underrepresent demand in jurisdictions with high levels of cross-border service utilisation.
- The radiology workforce model does not incorporate workload measures such as the number of image slices per exam due to lack of available data. As a result, the model may not fully capture variations in clinical workload intensity, particularly if for certain modalities the volume of images per study has increased significantly over time.
- The model does not account for services commissioned by Primary Health Networks (PHNs), the National Disability Insurance Agency and the Department of Veteran Affairs funded health services.
- The model does not capture unmet demand for radiology services due to accessibility or affordability challenges, as there is no reliable data on such unmet demand.

Key findings and insights

The main outputs of the radiology model are projections of the number (headcount) and FTE radiologists. Based on these, the model produces one supply estimate and baseline demand estimates.

It is important to note that while the modelling provides valuable insight into potential future trends, **the projections to 2038 should be the primary focus for planning purposes.** Projections extending to 2048 should be interpreted with caution. Over such a long-time horizon, shifts in models of care, technological advancements and changes in workforce participation and practice patterns are likely to influence service delivery in ways not fully captured by current assumptions.

What is baseline demand?

Baseline demand is the number of radiologists that are needed to meet the current and future demand for radiology services based on observed utilisation and assuming the supply of radiologists is equal to demand in the base year (2023).

National projections

While both the supply of and demand for radiologists are estimated to increase in the future, the workforce is expected to experience a shortage throughout the projection period.

The radiology model projections at national level (Table 4 and Figure 6) indicate that:

- The supply of radiologists is expected to increase from 2,639.7 FTE in 2025 to 3,674.0 FTE in 2038 and to 4,156.9 FTE by 2048. In terms of headcount, this corresponds to a total of 2,824 radiologists in 2025, 3,970 in 2038 and 4,594 in 2048.
- The demand for radiologists is estimated to increase from 2,690.9 FTE in 2025 to 3,966.8 FTE in 2038, reaching 4,808.1 FTE by 2048.
- Throughout the projection period, radiologists are expected to be in shortage.
    - The estimates indicate a current shortfall of 51.2 FTE (1.9%) in 2025, projected to increase to 292.8 FTE (8.0%) by 2038. The total shortfall is estimated to be 651.3 FTE (15.7%) by 2048.
    - In terms of headcount, the estimates indicate a shortfall of 55 radiologists in 2025, increasing to 317 by 2038 and will reach a shortfall of 720 radiologists by 2048.

The national supply projections show that:

- The national average FTE per radiologists is projected to stay around 0.93 until 2038 and thereafter decline to 0.90 by 2048, highlighting a trend toward declining hours worked.[14]

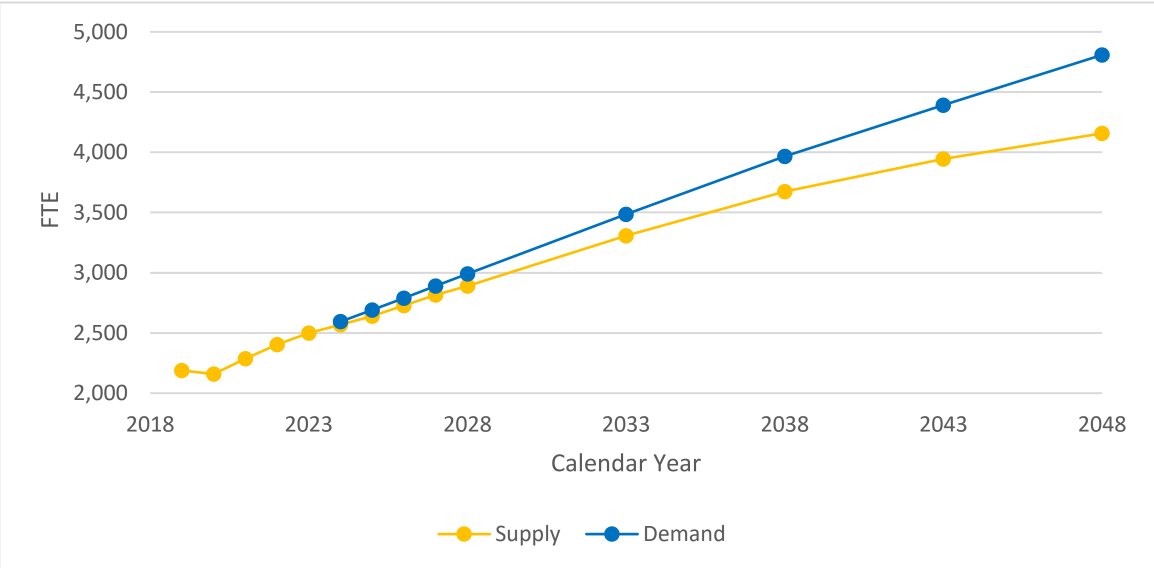
[14] Average FTE per radiologist is calculated by dividing the total FTE by the total headcount of radiologists in a given year (i.e. Average FTE = Total FTE ÷ Total headcount).

- The total entry rate (headcount), including re-entries, is expected to decline throughout the projection period from 6.3% of total supply in 2025 to 5.2% by 2038 and to 4.6% by 2048.
- The total exit rate (headcount), including temporary exits, is expected to stay around 3.0% until 2038 and thereafter increase to 3.8% by 2048. Exit rates are expected to remain lower than entry rates, consistent with historical trends.
- New entries into the radiology workforce include individuals entering through the domestic Royal Australian and New Zealand College of Radiology (RANZCR) Fellowship Program, as well as those entering via the RANZCR SIMG pathways. The key assumptions about the number of new fellows each year are as follows:
    - The model assumes a constant number of new entries for both pathways throughout the projection period. For domestic trainees, the number of new entries is held constant at 130 (headcount) based on the average number of new trainees over the past 3 years (2022–24). For international trainees, the new entries are held constant at 60 based on historical data from RANZCR (2017–20).
    - The rate of retention and completion of the training program (and to becoming a new fellow) remain constant using the average rates observed between 2022 and 2024.
    - The number of new domestic fellows entering the radiology workforce (headcount) is projected to increase from 114 in 2025 to 124 by 2035 (Table 3) and remain steady at this level for the rest of the projection period. In contrast, the number of SIMGs entering the radiology workforce is expected to decline slightly from 31 in 2025 to 29 by 2028, stabilising at 29 thereafter.

Table 4: National Projections, selected years 2025–48

	2025	2026	2027	2028	2033	2038	2043	2048
Full-time equivalent (FTE)								
Supply	2,639.7	2,727.9	2,816.8	2,891.2	3,307.0	3,674.0	3,944.6	4,156.9
Entries	163.0	170.9	171.7	172.3	178.3	187.9	187.4	190.9
New Entries	139.8	143.2	143.6	143.4	148.5	149.3	148.0	147.8
Re-entries	23.2	27.8	28.1	28.9	29.8	38.6	39.5	43.1
Exits	52.2	56.2	56.9	55.9	66.2	72.1	87.2	99.9
Permanent Exits	28.7	31.2	32.9	31.1	38.6	41.7	53.3	60.6
Temporary Exits	23.5	25.0	24.0	24.8	27.6	30.4	34.0	39.3
Demand	2,690.9	2,790.1	2,889.8	2,990.2	3,484.1	3,966.8	4,391.1	4,808.1
Surplus / Shortfall	- 51.2	- 62.1	- 73.0	- 99.0	- 177.1	- 292.8	- 446.5	- 651.3
Headcount								
Supply	2,824	2,923	3,016	3,110	3,567	3,970	4,328	4,594
Entries	178	186	186	187	194	205	207	210
New Entries	150	154	154	154	158	159	159	159
Re-entries	28	32	32	33	36	46	48	51
Exits	87	93	93	92	112	121	150	174
Permanent Exits	54	58	61	58	73	78	100	116
Temporary Exits	33	35	32	34	39	43	50	58
Demand	2,879	2,990	3,094	3,217	3,759	4,286	4,818	5,314
Surplus / Shortfall	- 55	- 67	- 78	- 107	- 191	- 317	- 490	- 720

Figure 6: FTE radiologists: National supply versus demand, 2018–48



Age profile of radiologists

- Radiologists (headcount) aged 40–54 are projected to remain the largest segment of the workforce, however their share is expected to decline from 49.5% in 2025 to 45.5% by 2038.
- At the same time, the proportion of radiologists aged 55–64 and 65 and over is also expected to increase.
- Average FTE is projected to remain stable across most age-groups, except for radiologists aged 65 and over, whose average FTE is expected to decline – suggesting a trend towards reduced working hours. Radiologists aged 40–54 and 55–64 are expected to maintain the highest average FTE throughout the projection period.

Table 5: Age profile of radiologists, 2025 and 2038

Age group	2025			2038		
	Headcount	FTE	Average FTE	Headcount	FTE	Average FTE
Under 40	534 (18.9%)	502.1 (19.0%)	0.94	569 (14.3%)	536.4 (14.6%)	0.94
40–54	1,397 (49.5%)	1,349.7 (51.1%)	0.97	1,805 (45.5%)	1,741.1 (47.4%)	0.96
55–64	529 (18.7%)	516.4 (19.6%)	0.98	1,023 (25.8%)	987.1 (26.9%)	0.97
65 and over	365 (12.9%)	271.6 (10.3%)	0.74	572 (14.4%)	409.4 (11.1%)	0.72
Total	**2,824** (100%)	**2,639.7 (100%)**	**0.93**	**3,970** (100%)	**3,674.0** (100%)	**0.93**

State and territory projections

Throughout the projection period (2024–48), all states and territories are expected to experience a shortfall of radiologists. When comparing percentage shortfalls, the Northern Territory is expected to have the highest shortage at 155.2% while New South Wales (NSW) is projected to have the lowest at 10.0% by 2048.

Table 6 presents a summary of state and territory projections for radiologists.

Table 6: Summary of State-level projections - Projected under/oversupply of FTE radiologists and % under/oversupply, 2025, 2038 and 2048

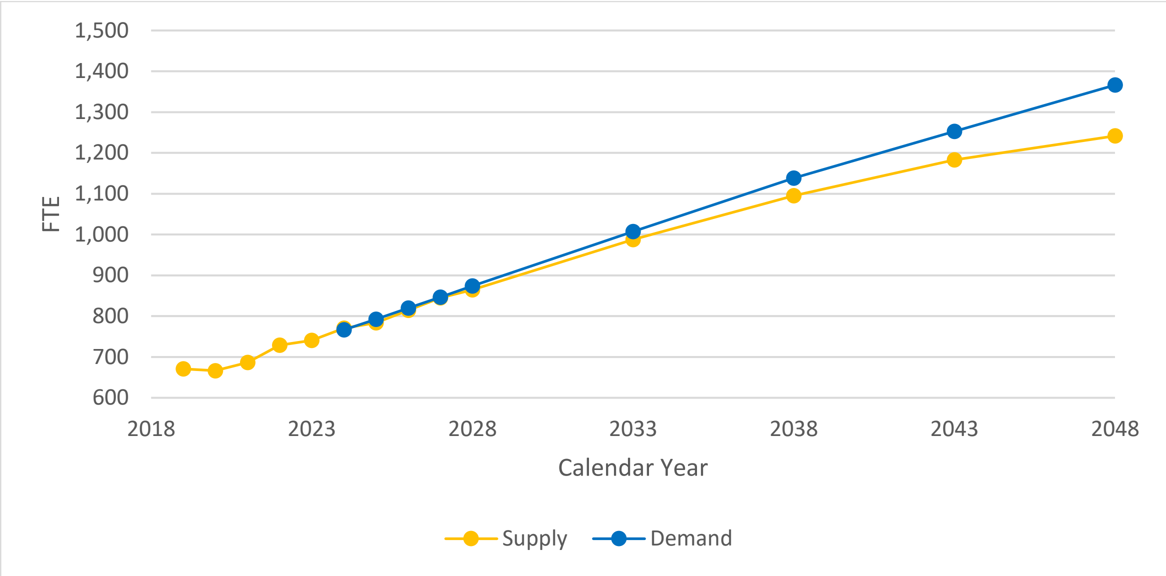
State/Territory	Workforce Surplus / Shortfall (FTE)		
	2025	2038	2048
NSW	-8.7 (-1.1%)	-43.1 (-3.9%)	-124.7 (-10.0%)
VIC	-8.1 (-1.2%)	-87.2 (-8.8%)	-182.9 (-15.9%)
QLD	-4.3 (-0.8%)	-50.2 (-6.4%)	-139.5 (-15.7%)
SA	-17.5 (-9.7%)	-37.7 (-17.1%)	-54.5 (-23.4%)
WA	2.3 (0.7%)	-45.7 (-10.3%)	-108.6 (-22.6%)
TAS	-9.6 (-27.2%)	-20.8 (-48.1%)	-20.0 (-37.8%)
ACT	-4.0 (-7.0%)	-3.7 (-4.1%)	-14.7 (-13.6%)
NT	-1.2 (-31.4%)	-4.4 (-115.8%)	-6.3 (-155.2%)
National	-51.2 (-1.9%)	-292.8 (-8.0%)	-651.3 (-15.7%)

New South Wales (NSW)

The supply of radiologists in NSW is expected to increase from 784.0 FTE in 2025 to 1,095.0 FTE in 2038 and reach 1,241.6 FTE by 2048, see Figure 7.

The demand estimates indicate NSW currently has a shortfall of 8.7 FTE in 2025, with the shortage expected to reach 43.1 FTE in 2038. By 2048, total undersupply is estimated to be 124.7 FTE.

Figure 7: FTE radiologists: NSW supply versus demand, 2018–48

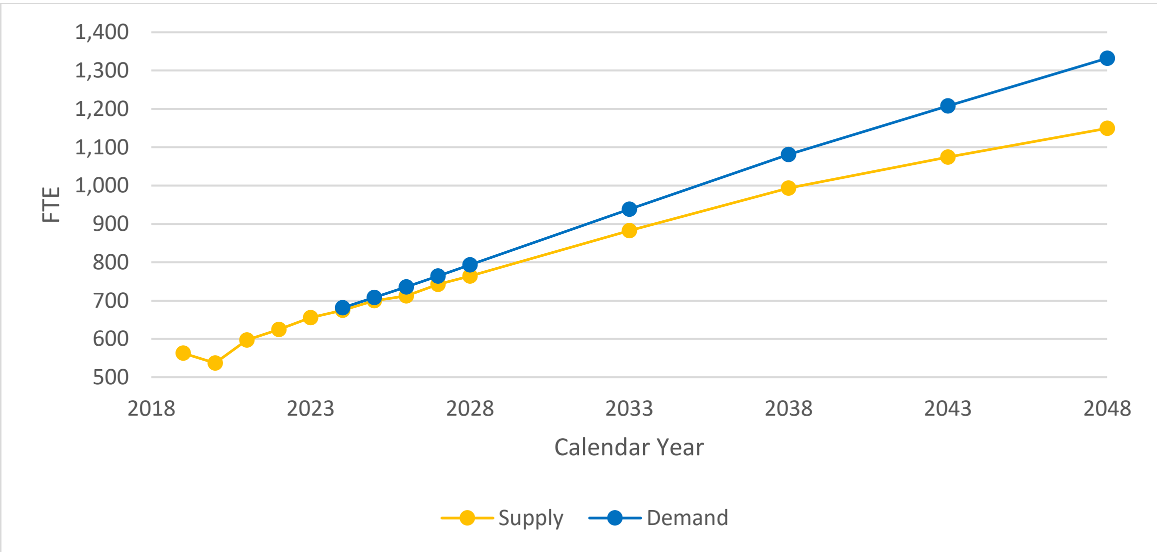


Victoria (VIC)

The supply of radiologists in VIC is expected to increase from 699.8 FTE in 2025 to 993.6 FTE in 2038 and reach 1,149.2 FTE by 2048, see Figure 8.

The demand estimates indicate VIC currently has a shortfall of 8.1 FTE in 2025, with the shortage expected to reach 87.2 FTE in 2038. By 2048, the total undersupply is estimated to be 182.9 FTE.

Figure 8: FTE radiologists: VIC supply versus demand, 2018–48

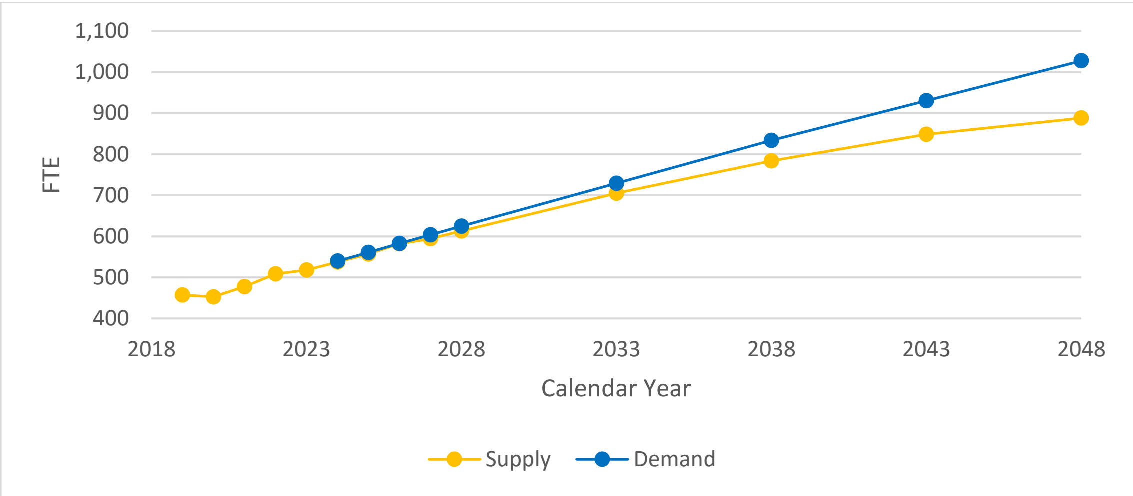


Queensland (QLD)

The supply of radiologists in QLD is expected to increase from 556.5 FTE in 2025 to 783.6 FTE in 2038 and reach 888.0 FTE by 2048, see Figure 9.

The demand estimates indicate QLD currently has a shortfall of 4.3 FTE in 2025, with the shortage expected to reach 50.2 FTE in 2038. By 2048, the total undersupply is estimated to be 139.5 FTE.

Figure 9: FTE radiologists: QLD supply versus demand, 2018–48

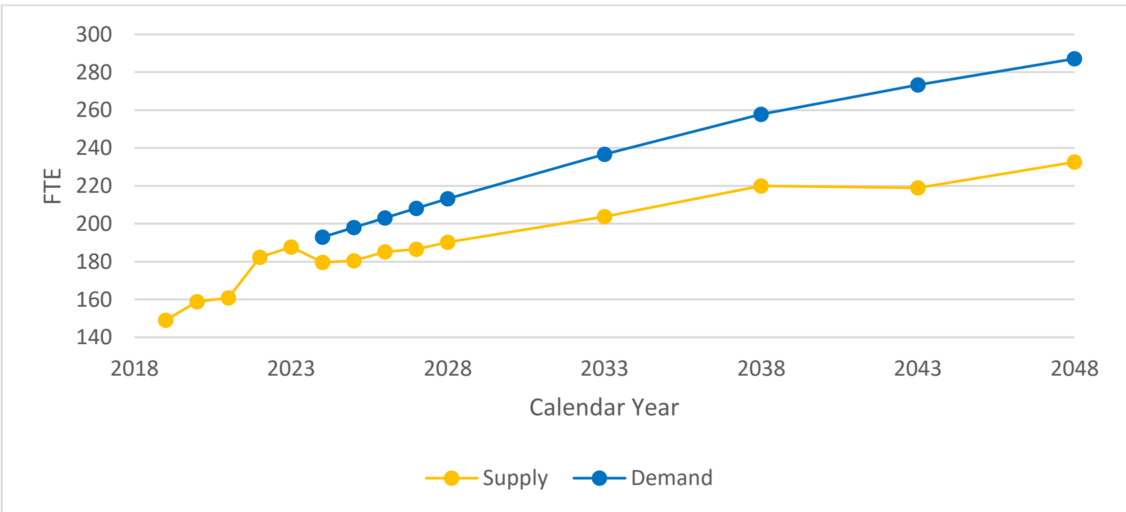


South Australia (SA)

The supply of radiologists in SA is expected to increase from 180.5 FTE in 2025 to 220.0 FTE in 2038 and reach 232.6 FTE by 2048, see Figure 11.

The demand estimates indicate SA currently has a shortfall of 17.5 FTE in 2025, with the shortage expected to reach 37.7 FTE in 2038. By 2048, the total undersupply is estimated to be 54.5 FTE.

Figure 11: FTE radiologists: SA supply versus demand, 2018–48

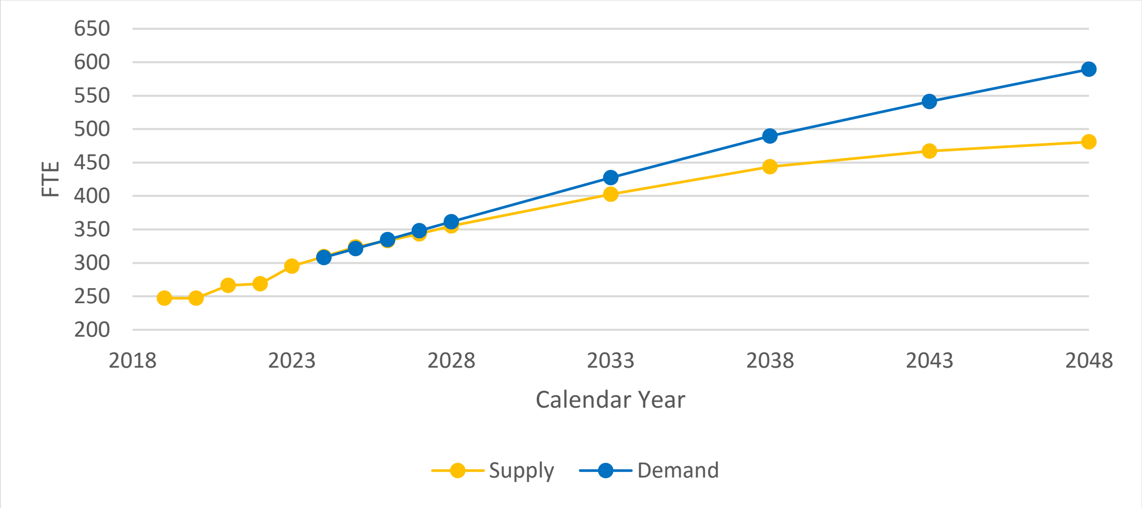


Western Australia (WA)

The supply of radiologists in WA is expected to increase from 323.6 FTE in 2025 to 443.8 FTE in 2038 and reach 480.8 FTE by 2048, see Figure 10.

The demand estimates indicate WA currently has a slight surplus of 2.3 FTE in 2025, projected to shift to a shortfall of 45.7 FTE in 2038. By 2048, the total undersupply is estimated to be 108.6 FTE.

Figure 10: FTE radiologists: WA supply versus demand, 2018–48

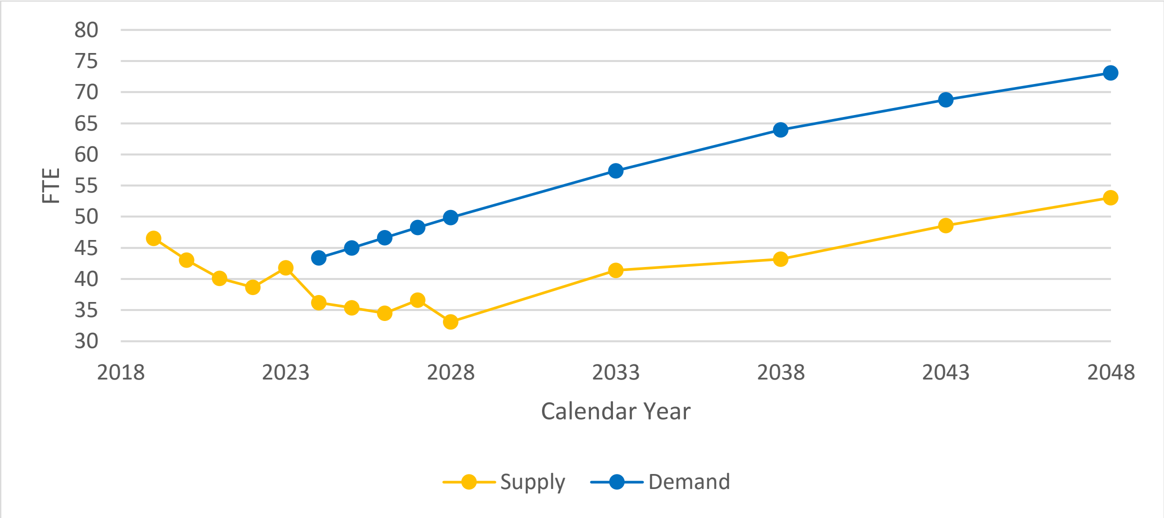


Tasmania (TAS)

The supply of radiologists in TAS is expected to increase slightly from 35.4 FTE in 2025 to 43.2 FTE in 2038 and reach 53.1 FTE by 2048, see Figure 12.

The demand estimates indicate TAS currently has a shortfall of 9.6 FTE in 2025, with the shortage expected to reach 20.8 FTE in 2038. By 2048, the total undersupply is estimated to be 20.0 FTE.

Figure 12: FTE radiologists: TAS supply versus demand, 2018–48

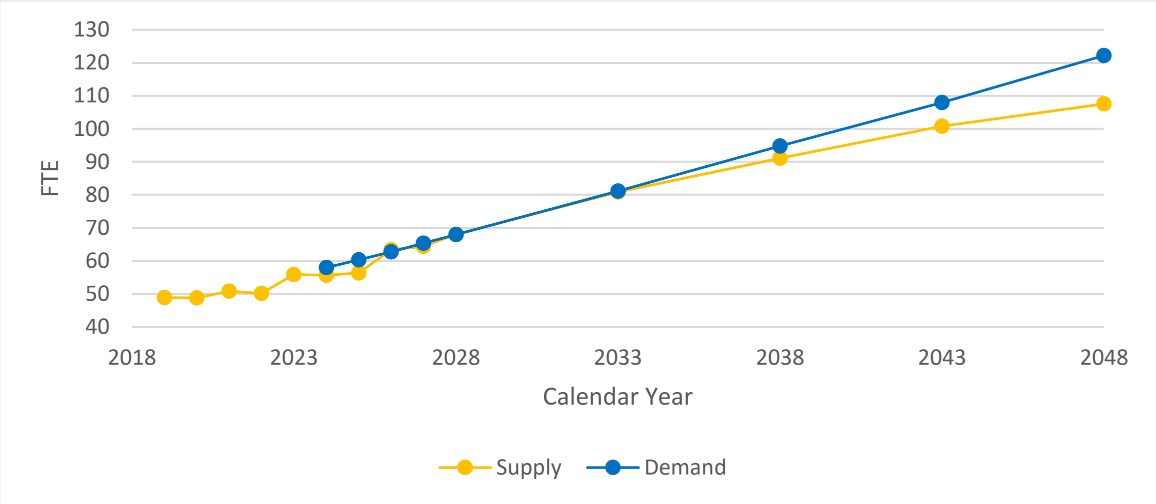


Australian Capital Territory (ACT)

The supply of radiologists in the ACT is expected to increase from 56.3 FTE in 2025 to 91.1 FTE in 2038 and reach 107.5 FTE by 2048, see Figure 13.

The demand estimates indicate that the ACT currently has a shortfall of 4.0 FTE in 2025, with the gap expected to narrow over time, reaching 3.7 by 2038. However, by 2048, the ACT is projected to face renewed undersupply of 14.7 FTE.

Figure 13: FTE radiologists: ACT supply versus demand, 2018–48

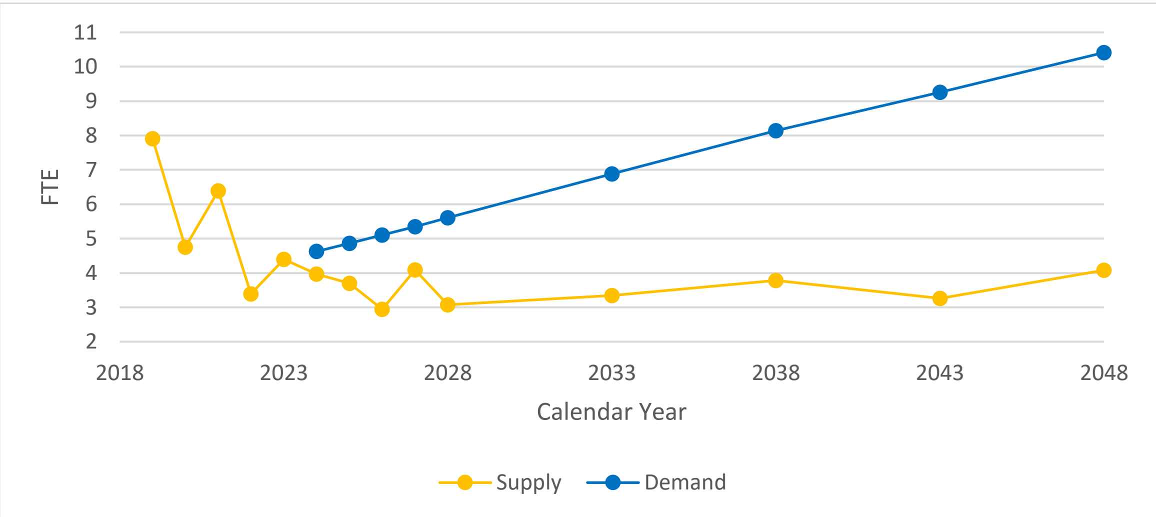


Northern Territory (NT)

The supply of radiologists in the NT is expected to decrease slightly from 3.7 FTE in 2025 to 3.8 FTE in 2038, before increasing to 4.1 FTE by 2048, see Figure 14.

The demand estimates indicate that the NT currently has a shortfall of 1.2 FTE in 2025, with the shortage expected to reach 4.4 FTE in 2038. By 2048, the total undersupply is estimated to be 6.3 FTE.

Figure 14: FTE radiologists: NT supply versus demand, 2018–48



What do the results indicate?

The radiology model projections suggest a shortage of radiologists throughout the projection period (2024–48), with demand for radiology services in the Australian community projected to exceed supply.

The study forecasts a widening gap between supply and demand for radiologists in Australia, with workforce shortages expected to persist throughout the 25–year projection period (2024–2048). In FTE terms, a shortfall of 1.9% is projected in 2025, increasing to 5.4% by 2038. Although the overall supply of radiologists is gradually increasing, this growth is unlikely to keep pace with the surging demand for imaging services.

With a growing population, the demand for imaging services is rising – particularly in cancer and chronic disease management. Between 2024 and 2033, the population is projected to grow by 12% (an increase of approximately 3.3 million people) while cancer diagnoses are expected to rise by around 22%.[15]

Technological advancements are also reshaping the radiology landscape. Radiology is at the forefront of AI integration, with AI tools demonstrating significant potential to improve diagnostic accuracy.[16,17] As imaging technologies continue to evolve, demand for radiology services is expected to grow substantially. Over the past decade, the number of Medicare-subsidised diagnostic imaging services has increased by nearly 40%, from 21.3 million in 2012–13 to 29.7 million in 2022–23 (AIHW).[18] Analysis of MBS radiology data also reveals a gradual increase in the average proportion of interventional radiology services at the provider level, rising from approximately 8.7% in 2017 to 10.1% in 2023.[19] Despite these trends, the full impact of emerging technologies on workforce productivity remains uncertain and is challenging to capture accurately in current workforce modelling framework.

Another notable trend is the growing shift toward the private sector, with approximately 65% of private radiology clinics now owned by for-profit corporations.[20] While privatisation could bring efficiencies through economies of scale and investment in advanced technologies, it also raises concerns about workforce distribution. With radiologists increasingly drawn to the private sector, it could potentially impact public sector training, service capacity and equitable access to imaging services.

---

[15] Australian Institute of Health and Welfare, 2024, Cancer, accessed 1 July 2025.
[16] Najjar, R., 2023, Redefining radiology: A Review of Artificial Intelligence Integration in Medical Imaging. Diagnostics, 13(17), 2760. accessed on 1 July 2025.
[17] Pesapane, F., Codari, M., & Sardanelli, F., 2018, Artificial intelligence in medical imaging: threat or opportunity? Radiologists again at the forefront of innovation in medicine, *European Radiology Experimental*, Vol 2, 1-10, accessed on 1 July 2025.
[18] Australian Institute of Health and Welfare, 2024, Pathology, imaging and other diagnostic services, accessed 1 July 2025.

[19] See footnote 10.

[20] See footnotes 4 and 5.

Workforce sustainability is further challenged by an ageing radiologist cohort. The proportion of FTE hours contributed by radiologists under 40 is projected to decline from 19.0% in 2025 to 14.6% by 2038. Meanwhile, those aged 55-64 are expected to increase their share from 19.6% to 26.9% over the same period. Radiologists aged 40-54 will remain the largest contributors, although their share will decrease from 51.1% to 47.4%. Contributions from those aged 65 and over are expected to grow from 10.3% to 11.1%, indicating a growing reliance on older professionals and raising concerns about long-term workforce sustainability as retirements accelerate.

Radiology plays a critical role in the diagnosis and management of disease. The findings highlight a national shortage of clinical radiologists across states and territories, alongside rising demand for diagnostic imaging services. These trends underscore the importance of proactive workforce planning to sustain future service capacity.

Consultations

During development of the radiology model, the department consulted with the following stakeholders:

- Australian Institute of Health and Welfare
- Royal Australian and New Zealand College of Radiology (RANZCR)
- State and Territory workforce planners.

Next steps

The radiology model will be updated every two years with the latest available data across all data sources.

We welcome stakeholder feedback to support the continuous improvement of the model, enhancing its value as a tool for effective health program delivery and workforce planning.

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

hwd.health.gov.au

All information in this publication is correct as at August 2026