



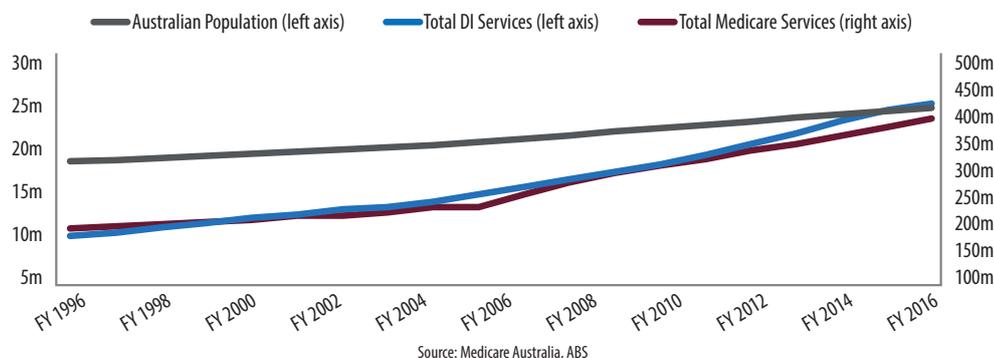
# RADIOLOGY AT A GLANCE 2016 AUSTRALIA

Clinical radiology relates to the use of imaging technology to diagnose, treat, and monitor progress in patients. It involves diagnostic imaging (DI) and interventional radiology, both critical to our health system, allowing earlier diagnosis and less invasive treatments than ever before.

The Royal Australian and New Zealand College of Radiologists (RANZCR) is the peak body advancing patient care and quality standards in the clinical radiology and radiation oncology sectors. It represents over 3,100 clinical radiologists in Australia and New Zealand.

DI services have continued to grow over the last twenty years, outpacing growth in total Medicare services and the population. There is now on average over one X-ray or scan performed for every Australian each year. This growth reflects the increasing clinical utility of DI in patient management; it has been driven by increased patient access, the ageing population and technological advancements allowing for a wider range of targeted diagnosis.

## GROWTH IN DIAGNOSTIC SERVICES + POPULATION



## RANZCR PROGRAMS AND INITIATIVES

RANZCR has a range of programs and initiatives to improve the quality and safety of clinical radiology services. These include:

The **Quality Framework** contains a range of policy proposals to reform diagnostic imaging under Medicare. It includes a number of specific proposals that provide a framework to maintain quality provision of medical imaging, whilst improving safety and sustainability. It focuses on patient access to Medicare funded imaging services with a clinical radiologist on site, particularly for CT services performed in comprehensive practices, improvements in diagnostic mammography, ultrasound services and other initiatives.

**Inside Radiology** is a popular resource that provides consumers and health professionals with accurate, up to date and easily accessible information about clinical radiology. Authored primarily by radiologists, it is available in consumer and referrer-friendly language. It contains information about tests and procedures, with clinical and relevant technical information.

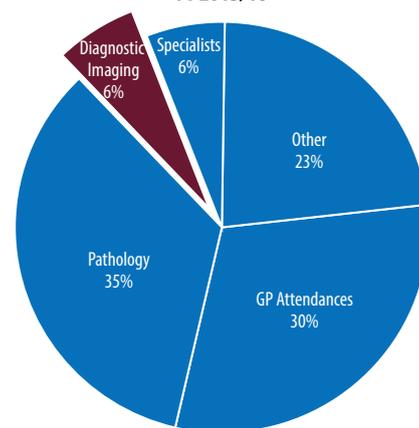
RANZCR's **Education Modules** aim to improve the appropriateness of referrals for medical imaging by influencing how health professionals think about the place of diagnostic imaging in patient assessment and care. The modules have been designed to be delivered early in the health professional's career, increasing the likelihood of long term changes in imaging referral practices.

RANZCR is also a founding member of the **Choosing Wisely** initiative that aims to improve the quality of healthcare through considering tests, treatments, and procedures where evidence shows they provide no benefit or, in some cases, could lead to harm.

More information on these and other programs can be found at [www.ranzcr.edu.au](http://www.ranzcr.edu.au)

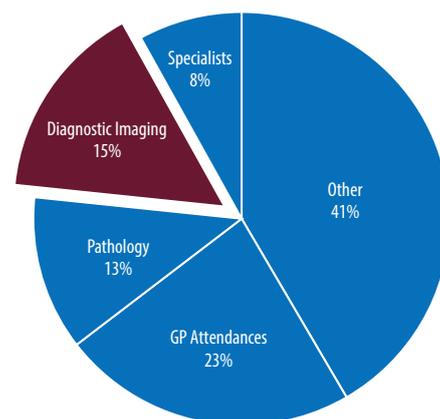
## MEDICARE SERVICES

By Selected Broad Types  
FY 2015/16



## MEDICARE BENEFITS

By Selected Broad Types  
FY 2015/16

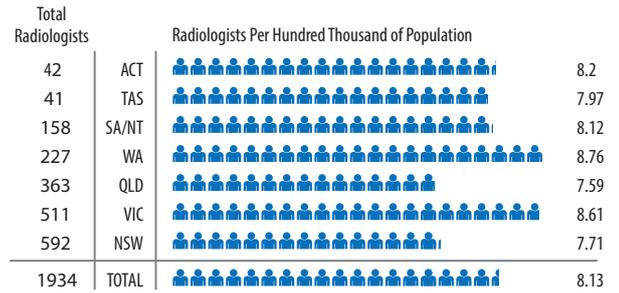


# RADIOLOGY AT A GLANCE 2016

## WORKFORCE

Clinical radiologists have undertaken broad medical training, followed by five years of comprehensive specialist training. They are specifically trained in: performing and interpreting DI tests; performing image-guided procedures or treatments; and crucially, determining the appropriateness of a requested imaging test, and when to recommend a better test.

At present, there is an uneven distribution of clinical radiologists across Australia, with fewer than are required in regional and rural locations. RANZCR is working to mitigate this through the introduction of networked training and by providing support to clinical radiologists who would like to work or train in regional and rural areas.

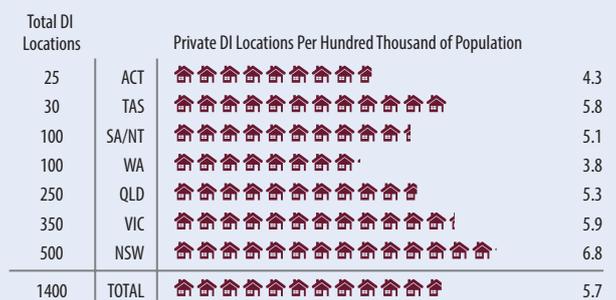


Source: RANZCR Workforce Analysis

## LOCATIONS PROVIDING DIAGNOSTIC IMAGING

There are around 2,100 locations in Australia which provide DI services. Private DI locations account for around 1,400 facilities<sup>1</sup>.

**The RANZCR Quality Framework** proposes, as the basic unit of DI practice, an on-site radiologist in a multi-modality facility that offers (at least) X-ray, ultrasound, and CT; with the objective of enabling more effective direct clinical oversight of imaging services, including assessment of the appropriateness of imaging requests. Of the 1,400 private locations providing DI services, 900 sites are deemed to be comprehensive practices.



Source: RANZCR LSPN register analysis

### Magnetic Resonance Imaging (MRI)

352 fully and partially eligible MRI scanners<sup>2</sup>.

MRI provides an unrivalled ability to image soft tissues and emits no ionising radiation. It is most suitable for high level diagnosis of diseases of the musculoskeletal system and central nervous system; early detection of tumours and other abnormalities in areas such as the prostate, spinal cord and brain; and staging tests for various cancers (e.g. rectum and cervix).

### Computerised Tomography (CT)

1,000 CT scanners in public hospitals and private facilities.

CT uses ionising radiation; however, doses are reducing with the use of newer equipment. CT is regularly used in trauma patients, including better demonstration of some fractures; and disorders of the brain and spine, lungs (including early detection of lung cancer) and abdomen/pelvis, where it often guides the need for surgery in patients presenting with acute abdominal pain.

### Nuclear Medicine

300 gamma cameras and PET scanners in public hospitals and private facilities.

Nuclear medicine uses tiny doses of radio-active tracers to look at disease patterns in the body. It is most useful to assess bones, heart, clots in lungs, endocrinology etc.

Hybrid technologies, including PET/CT and SPECT/CT, represent the cutting edge and future of nuclear medicine imaging and should ideally operate within comprehensive multi-modality DI facilities.

### Ultrasound

3,000 ultrasound devices in public hospitals and private facilities.

Ultrasound utilises high frequency sound waves that travel through liquids and soft tissue. There is no ionising radiation so it is widely used on children and adults for the investigation of disorders in virtually all body parts. Ultrasound is particularly useful in obstetrics and gynaecology, and the vascular system including heart and blood vessels.

### X-Ray

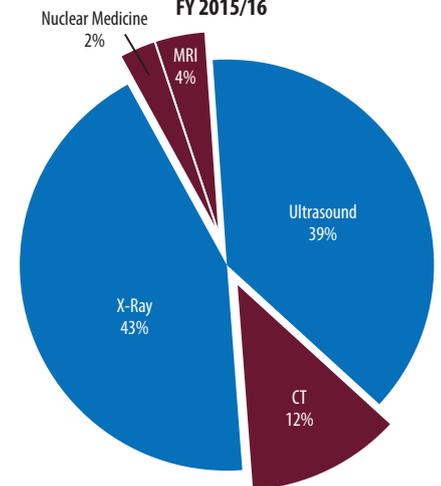
3,000 X-ray machines in public hospitals and private facilities.

X-ray was the first imaging modality, invented in 1895. Routinely useful for many disorders including imaging of bones and soft-tissue calcification (e.g. kidney stones); and lung diseases such as pneumonia.

Website: [www.ranzcr.edu.au](http://www.ranzcr.edu.au) Email: [fcr@ranzcr.edu.au](mailto:fcr@ranzcr.edu.au)

## MEDICARE SERVICES

By Diagnostic Imaging  
FY 2015/16



Source: Medicare Australia



The Royal Australian and New Zealand College of Radiologists\*

1. Discrepancies between total locations and per state approximations due to rounding.

2. MRI eligibility is determined by the Department of Health in Canberra. Fully eligible MRI units can claim all relevant MBS items. Partially eligible MRI units are only reimbursed for a limited number of MBS items.