

The Senate

Community Affairs
References Committee

Availability and accessibility of diagnostic
imaging equipment around Australia

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45th Parliament

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ABBREVIATIONS

ACRRM	Australian College of Rural and Remote Medicine
ADIA	Australian Diagnostic Imaging Association
AMA	Australian Medical Association
ASA	Australian Sonographers Association
ASMIRT	Australian Society of Medical Imaging and Radiation Therapy
ASUM	Australasian Society for Ultrasound in Medicine
BCNA	Breast Cancer Network Australia
CBCT	Cone beam computed tomography
CHA	Children's Healthcare Australasia
COAG	Council of Australian Governments
Committee	Community Affairs References Committee
CT	Computed tomography
Department	Department of Health
DIAS	Diagnostic Imaging Accreditation Scheme
DIST	Health Insurance (Diagnostic Imaging Services Table) Regulations 2017
GP	General practitioner
MBS	Medicare Benefits Schedule
Midland Hospital	St John of God Midland Public and Private Hospital
MoU	Memoranda of Understanding
MRI	Magnetic Resonance Imaging
MS	Multiple sclerosis
MSRA	MS Research Australia
MSAC	Medical Services Advisory Committee

NHRA	National Health Reform Agreement
OECD	Organisation for Economic Co-operation and Development
PET	Positron emission tomography
PIP	Poly Implant Prosthese
QNMU	Queensland Nurses and Midwives' Union
Quality Framework	Quality Framework for Diagnostic Imaging
RANZCR	Royal Australian and New Zealand College of Radiologists
SCIA	Spinal Cord Injuries Australia
Urological Society	Urological Society of Australia and New Zealand
WHA	Women's Healthcare Australasia

LIST OF RECOMMENDATIONS

Recommendation 1

6.11 The committee recommends that the Commonwealth Government immediately implement an application process with clear, objective and transparent assessment criteria to permit hospitals and radiology practices to apply for licences for Magnetic Resonance Imaging machines.

Recommendation 2

6.12 The committee recommends that the Medicare Benefits Schedule Review Taskforce review the Magnetic Resonance Imaging referral pathway and rebates, including consideration of options to allow specialists and general practitioners to refer patients to both fully licensed and partially licensed machines.

Recommendation 3

6.17 The committee recommends that the Department of Health consider how to make diagnostic imaging services fully accessible to people with physical disability.

Recommendation 4

6.21 The committee recommends that state and territory governments review the adequacy of patient transport subsidies that are currently available with a specific view to ensuring access to diagnostic imaging.

Recommendation 5

6.24 The committee recommends that the Department of Health review the operations of the multiple services rule to ensure that it is achieving its policy intent and consider any changes required.

Recommendation 6

6.29 The committee recommends that the Department of Health consider tightening capital sensitivity measures in metropolitan centres.

Recommendation 7

6.30 The committee recommends that the Commonwealth Government reinvest into the Medicare Benefits Schedule, savings obtained from the removal or alteration of diagnostic imaging items in the Medicare Benefits Schedule Review.

Recommendation 8

6.31 The committee recommends that the capital sensitivity exemptions and the *Health Insurance Act 1973* section 19(2) exemptions for regional, rural and remote Australian health services should be reviewed to establish the impact on regional, rural and remote health outcomes.

Recommendation 9

6.34 The committee recommends that state and territory governments investigate how data sharing measures between public hospitals can be improved to support teleradiology services and that these improvements are implemented as soon as practicable.

Recommendation 10

6.37 The committee recommends that the Minister for Health commission a review into the Medical Services Advisory Committee's processes with a view to reducing the time between submission of an application and a decision being made.

Recommendation 11

6.40 The committee recommends that the number of radiologists trained each year be increased following consultation between the Department of Health and the Royal Australian and New Zealand College of Radiologists.

Recommendation 12

6.43 The committee recommends that the Department of Health consider if there are mechanisms that can be put in place to encourage private radiology practices to train sonographers.

Recommendation 13

6.44 The committee recommends that private radiology practices train more sonographers.

Recommendation 14

6.46 The committee recommends that the Department of Health work with stakeholders to facilitate nurses and nurse practitioners expanding their clinical scope of practice to include certain ultrasounds, where they have received proper training and sonographers are not available to do so.

Chapter 1

Introduction

1.1 Diagnostic imaging is a vital component of the health system and assists health care professionals with the 'appropriate initial diagnosis and ongoing assessment of many medical conditions'.¹ There are various diagnostic imaging modalities and techniques used by clinical professionals, including:

- ultrasound;
- computed tomography (CT);
- diagnostic radiology (such as x-ray and mammography);
- magnetic resonance imaging (MRI); and
- nuclear medicine imaging, such as positron emission tomography (PET).²

1.2 This inquiry considered key issues relating to diagnostic imaging services, including geographic disparities, Commonwealth subsidies, the costs for non-subsidised services, and how governments can improve accessibility to these essential services.

1.3 While the terms of the committee's inquiry encapsulates all modalities of diagnostic imaging, licensing issues relating to MRI machines were a prominent subject of concern amongst submitters. Submitters concerns, and potential avenues for reform, are detailed in chapter three.

Diagnostic imaging framework

1.4 The Commonwealth Government has no role in the direct delivery of diagnostic imaging services, but funds diagnostic imaging services through the Medicare Benefits Schedule (MBS) and the National Health Reform Agreement (NHRA). Service delivery and the placement of diagnostic imaging services is the responsibility of private providers and state and territory governments.³

1.5 The Commonwealth Government regulates Medicare-eligible diagnostic imaging equipment through three main pieces of legislation. These are:

- the *Health Insurance Act 1973*;
- the *Health Insurance Regulations 1975*; and
- the *Health Insurance (Diagnostic Imaging Services Table) Regulations 2017 (DIST)*.⁴

1 Department of Health (Department), *Submission 18*, p. 5.

2 Department, *Submission 18*, p. 5.

3 Department, *Submission 18*, p. 33.

4 Department, *Submission 18*, p. 9.

1.6 The Department of Health (Department) administers Commonwealth funding for diagnostic imaging services through the MBS and the NHRA.⁵

1.7 Diagnostic imaging is a significant part of the MBS budget. In 2016–17, diagnostic imaging accounted for seven per cent of all MBS-funded services and cost the Commonwealth \$3.4 billion.⁶

1.8 Issues relating to funding and the MBS are considered in greater detail in chapter five.

National Health Reform Agreement

1.9 The NHRA is an agreement between Commonwealth, state and territory governments that establishes the financial and governance arrangements for Australia's public hospital services, including diagnostic imaging services.⁷

1.10 The Commonwealth, under the NHRA, contributes to the cost of delivering public hospital services primarily through activity-based funding, which 'ensures funding is provided to hospitals based on the volume and type of services delivered to patients'.⁸

1.11 Under the NHRA, the states and territories have committed to:

...provide eligible patients with diagnostic imaging services through the public hospital system free of charge, on the basis of clinical need and within a clinically appropriate period.⁹

1.12 The NHRA also enables public hospital patients to be treated as private patients and:

...charges to be raised where medical practitioners at the hospital have provided the service under rights of private practice arrangements. These services are funded through a combination of MBS benefits, private health insurance (admitted and hospital substitute patients), and individual patient contributions.¹⁰

Diagnostic Imaging Accreditation Scheme

1.13 The Diagnostic Imaging Accreditation Scheme (DIAS), established under the *Health Insurance Act 1973* and administered by the Department, ensures that diagnostic imaging services eligible under the MBS 'are safe, effective and responsive to the needs of health care consumers and provided by practices which meet specified

5 Department, *Submission 18*, p. 5.

6 Department, *Submission 18*, p. 17.

7 Department, *Submission 18*, p. 33.

8 However, the Commonwealth continues to provide block funding to some smaller hospitals. Department, *Submission 18*, p. 33.

9 Department, *Submission 18*, p. 33.

10 Department, *Submission 18*, p. 33.

quality standards'.¹¹ The DIAS 'links mandatory accreditations to the payment of Medicare benefits for diagnostic imaging services listed in the DIST'.¹²

1.14 Diagnostic imaging services not accredited under the DIAS are unable to provide Medicare-funded diagnostic imaging services to patients.¹³ In these circumstances, service providers are required to inform patients that 'a practice is not accredited and that a Medicare benefit is not payable before providing diagnostic imaging services'.¹⁴

1.15 The Department advised the committee that as of 31 March 2017, there were 3982 diagnostic services accredited under the DIAS.¹⁵

Other ongoing reviews

1.16 The committee is aware that there are other ongoing reviews relating to diagnostic equipment and services, such as the MBS review.

MBS Review Taskforce

1.17 On 22 April 2015, the former Minister for Health, the Hon. Sussan Ley MP, announced the establishment of the MBS Review Taskforce to conduct a review of the MBS.¹⁶ The purpose of the MBS review is to consider how MBS items could better align 'with contemporary clinical evidence and practice and improve health outcomes for patients'.¹⁷ All diagnostic imaging items listed on the MBS are included in the MBS review.¹⁸ In order to undertake this review, five specialised clinical committees were established, including the Diagnostic Imaging Clinical Committee.¹⁹

1.18 To date, the MBS Review Taskforce has identified a number of obsolete MBS items and established specialised working groups to address priority areas, including:

11 Department, *Submission 18*, p. 30.

12 Department, *Submission 18*, p. 30.

13 Department, *The Diagnostic Imaging Accreditation Scheme (DIAS)*, 2 February 2016, <http://www.health.gov.au/internet/main/publishing.nsf/Content/di-quality> (accessed 5 February 2018).

14 Department, *The Diagnostic Imaging Accreditation Scheme (DIAS)*, 2 February 2016, <http://www.health.gov.au/internet/main/publishing.nsf/Content/di-quality> (accessed 5 February 2018).

15 Department, *Submission 18*, p. 30.

16 Department, *Medicare Benefits Schedule Review*, 19 October 2017, <http://www.health.gov.au/internet/main/publishing.nsf/content/mbsreviewtaskforce> (accessed 31 January 2018).

17 Department, *Medicare Benefits Schedule Review*, 19 October 2017, <http://www.health.gov.au/internet/main/publishing.nsf/content/mbsreviewtaskforce> (accessed 31 January 2018).

18 Department, *Submission 18*, p. 24.

19 Medicare Benefits Schedule Review Taskforce, *Interim Report to the Minister for Health*, 2016, [http://www.health.gov.au/internet/main/publishing.nsf/content/26CEC8388EE86854CA2580210016EF82/\\$File/MBS-Review-Interim-report-Final-%204%20Oct.pdf](http://www.health.gov.au/internet/main/publishing.nsf/content/26CEC8388EE86854CA2580210016EF82/$File/MBS-Review-Interim-report-Final-%204%20Oct.pdf) (accessed 31 January 2018), p. 6.

- the breast imaging working group;
- the imaging of the knee working group;
- the imaging for pulmonary embolism and deep vein thrombosis working group;
- nuclear medicine working group;
- upper and lower limb working group; and
- the vascular surgery and interventional radiology working group.²⁰

1.19 As of January 2018, the MBS Review Taskforce had made two tranches of recommendations relating to bone densitometry and low back pain.²¹

1.20 The Department submitted that, as a result of the review, the government had implemented the findings of the reports on reducing unnecessary spinal x-rays²² (to be implemented November 2017) and the removal of obsolete items (as of 1 July 2016) from the MBS.²³

1.21 Further reports released by the review for consultation include:

- cardiac services;
- knee imaging;
- pulmonary embolism and deep vein thrombosis;
- the removal of obsolete items; and
- reducing unnecessary spinal x-rays.²⁴

Key advisory groups

1.22 In addition to the MBS review, other key advisory groups are:²⁵

20 Department, *Submission 18*, p. 24.

21 Department, *Recommendations to government from the Medicare Benefits Schedule Review Taskforce*, 25 October 2017, <http://www.health.gov.au/internet/main/publishing.nsf/content/MBSR-recommendations-to-government> (accessed 31 January 2018).

22 The MBS review found that the use of imaging of the lower back (three and four regions) by whole spine x-rays was not associated with clinical benefit and exposed patients to unnecessary doses of radiation. The majority of the 130 000 three region x-rays were requested by chiropractors. Subsequently, the government 'decided to remove the ability of chiropractors to request these [x]-rays'. See, Department, *Reducing unnecessary spinal x-rays*, 22 August 2017, <http://www.health.gov.au/internet/main/publishing.nsf/content/MBSR-reducing-unnecessary-spinal-x-rays> (accessed 31 January 2018).

23 Department, *Submission 18*, p. 24.

24 Department, *Recommendations to government from the Medicare Benefits Schedule Review Taskforce*, 25 October 2017, <http://www.health.gov.au/internet/main/publishing.nsf/content/MBSR-recommendations-to-government> (accessed 31 January 2018).

25 For full membership of the Diagnostic Imaging Advisory Committee and Diagnostic Imaging Accreditation Scheme Advisory Committee, see Department, *Submission 18*, pp. 43–44.

- the **Diagnostic Imaging Advisory Committee** that acts as a forum for the Department to engage with the diagnostic imaging industry, clinicians and consumer representatives to seek advice on diagnostic imaging matters relating to the MBS;²⁶
- the **Diagnostic Imaging Accreditation Scheme Advisory Committee** that provides the Department with advice about the quality and safety standards of practice for MBS funded diagnostic imaging and the development of policy under the DIAS;²⁷
- the **Medical Services Advisory Committee**, an independent non-statutory body that appraises new medical services, reviews existing services and provides advice to government on whether new medical services should be publicly funded.²⁸

1.23 The Department also formally and informally engages with diagnostic imaging professionals, industry groups, consumers and other stakeholders to develop policy advice for diagnostic imaging services.²⁹

Quality Framework for Diagnostic Imaging

1.24 The Royal Australian and New Zealand College of Radiologists (RANZCR) and the Australian Diagnostic Imaging Association (ADIA), independently of government, developed a *Quality Framework for Diagnostic Imaging* (Quality Framework) in order to ensure Australia's diagnostic imaging services are:

...underpinned by a regulatory framework which ensures practices – both private and public – can continue to provide patients across the country with high-quality, safe and affordable services.³⁰

1.25 The priority issues addressed in the Quality Framework are:

- ensuring patients have access to Medicare-funded CT services in radiologist-supervised practices;
- patient access to radiologist supervised diagnostic mammography and musculoskeletal ultrasound services;
- quality protocols for remote reporting of images (for images taken at a different location than the place the reporting practitioner is located); and
- Medicare-funded ultrasound services to be performed by practitioners with an accepted minimum professional qualification.³¹

26 Department, *Submission 18*, p. 32.

27 Department, *Submission 18*, p. 32.

28 Department, *Submission 18*, p. 25.

29 Department, *Submission 18*, p. 7.

30 Australian Diagnostic Imaging Association (ADIA), *Quality Framework*, <http://www.adia.asn.au/policy-priorities/quality-framework/> (accessed 1 February 2018).

1.26 The Quality Framework is considered in more detail in chapter four.

Report structure

1.27 This report is presented in six chapters:

- this first chapter provides an overview of diagnostic imaging services in Australia and the conduct of the committee's inquiry;
- **Chapter 2** considers the distribution and accessibility of diagnostic imaging machines (other than MRI machines) around Australia;
- **Chapter 3** examines the use of MRI in Australia, in particular, the existing MRI referral pathways (including the current licensing scheme) and its impact on the health system;
- **Chapter 4** addresses the diagnostic imaging workforce, including the shortage of radiologists, radiographers and sonographers;
- **Chapter 5** considers the effect of the MBS items for patients and service providers, and the effect of capital sensitivity rules;
- **Chapter 6** concludes the committee's considerations and contains the committee's recommendations.

Conduct of the inquiry

1.28 On 17 August 2017, the Senate referred the availability and accessibility of diagnostic imaging equipment around Australia to the Senate Community Affairs References Committee (committee) for inquiry and report by 5 December 2017 with the following terms of reference:

- a. geographic and other disparities in access to diagnostic imaging equipment;
- b. arrangements for Commonwealth subsidy of diagnostic imaging equipment and services;
- c. out-of-pocket costs for services that are not subsidised by the Commonwealth and the impact of these on patients; and
- d. the respective roles of the Commonwealth, states and other funders in ensuring access to diagnostic imaging services.³²

1.29 On 16 November 2017, the Senate granted the committee an extension of time for reporting until 7 March 2018 and on 7 March 2018 the Senate granted the committee an extension of time for reporting until 9 March 2018.³³

31 ADIA, *Quality Framework*, <http://www.adia.asn.au/policy-priorities/quality-framework/> (accessed 1 February 2018).

32 *Journals of the Senate*, No. 55, 17 August 2017, p. 1760.

33 *Journals of the Senate*, No. 71, 16 November 2017, p. 2252; Senate Community Affairs References Committee, *Progress Report*, 7 March 2018.

Submissions

1.30 The committee's inquiry was advertised on the committee's website and the committee wrote to 192 stakeholders inviting them to make submissions.³⁴

1.31 The committee invited submissions to be lodged by 6 October 2017.

1.32 In total, the committee received 45 submissions. A list of submissions provided to the committee is available on the committee's webpage and at Appendix 1.

Public hearings

1.33 The committee held two public hearings: one in Perth on 9 November 2017 and one in Brisbane on 13 December 2017.

1.34 A list of the witnesses who provided evidence at the public hearings is available at Appendix 2.

1.35 The committee thanks all those who contributed to the inquiry.

Note on references

1.36 All references to Committee Hansard are to proof transcripts. Page numbers may vary between proof and official transcripts.

34 The committee's inquiry website can be located at: https://www.aph.gov.au/Parliamentary_Business/Committees/Senate/Community_Affairs/Diagnosticimaging (accessed 1 February 2018).

Chapter 2

Availability and accessibility of diagnostic imaging

Introduction

2.1 The availability and accessibility of diagnostic imaging was a central concern in this inquiry. This chapter will focus on the current distribution of the following diagnostic imaging machines across Australia and issues relating to access to them:

- ultrasound;
- computed tomography (CT);
- diagnostic radiology (such as x-ray and mammography) and
- nuclear medicine imaging, including positron emission tomography (PET).

2.2 Specific issues relating to the use of and accessibility of Magnetic Resonance Imaging (MRI) equipment is considered separately in chapter three of this report.

Distribution

2.3 The distribution of diagnostic imaging machines around Australia is determined by private providers, based on commercial considerations, and by the state and territory governments that provide public health services.¹

2.4 The Department of Health (Department) advised the committee that one method to consider whether Australia has enough diagnostic imaging machines is to consider how many machines Australia has per capita relative to other developed countries. The Organisation for Economic Co-operation and Development (OECD) collects data on the availability of CT and MRI machines in each country.

2.5 In 2015, Australia ranked 11th in its availability of CT equipment per million people compared to other OECD countries.² Between 2013 and 2015, Australia increased its availability of CT equipment from 53.7 per million to 59.6 per million. The table below shows a comparison between the top ranking OECD countries and the number of CT machines per million people from 1998 to 2015.

1 Department of Health (Department), *Submission 18*, p. 6.

2 Department, *Submission 18*, p. 35.

Table 2.1: CT equipment per million population OECD countries, 1998–2015

Country	1998	2003	2008	2013	2015
United States		58.5		86.9	81.9
Iceland	18.3	41.5	63.0	80.3	79.0
Denmark		28.9	43.0	75.5	75.6
South Korea	23.1	31.9	73.1	75.3	74.6
Switzerland	19.0	18.0	32.0	73.2	
Greece			31.1	70.2	
Latvia		27.1	47.8	69.6	
Germany	10.6	55.1	62.3	67.4	
Italy	36.0	47.8	61.9	66.2	
Austria	52.2	54.4	59.4	59.2	
Australia	24.2	40.6		53.7	59.6
Lithuania		18.2	27.5	47.3	
Luxembourg	25.9	26.6	53.2	44.2	35.5
Finland	24.4	28.0	0.0	43.4	42.8
Estonia			29.9	37.9	
Spain	10.1	12.9	14.7	35.2	
Poland	3.5	6.3	10.9	34.2	
Slovakia		18.2	27.5	30.7	
Czech Republic	8.1	12.7	26.8	30.1	
France	13.3	16.1	21.7	29.0	33.2

Source: Department, *Submission 18*, p. 35.

2.6 The Department submitted that there are no international benchmarks for the optimal number of diagnostic imaging machines per capita and for this reason the Department submitted that it was not possible to ascertain where Australia is positioned from an international perspective.³

2.7 Within Australia, the evidence provided by the Department indicated that there is a relatively equal spread of machines per capita between the different states and territories across most modalities.⁴ For example, the Department advised the committee that there are 28 CT machines in the Australian Capital Territory—6.9 units per 100 000 residents—and there are 562 CT machines in New South Wales—7.3 units per 100 000 residents.⁵

2.8 The original tables provided by the Department for each modality are available at Appendix 3.

2.9 Even if there is relatively equal distribution of machines by state and territory per capita around Australia, diagnostic imaging machines are not necessarily distributed evenly around those states, and the geographic disparities extend both to

3 Department, *Submission 18*, p. 12.

4 Department, *Submission 18*, p. 12.

5 Department, *Submission 18*, p. 14.

the availability of diagnostic imaging services and the availability of experts to operate the equipment and interpret the results.⁶

2.10 According to Primary Health Care Limited—a service provider—attracting and retaining radiologists and technical diagnostic professionals in regional centres or low-socioeconomic areas is difficult.⁷ Issues relating to the diagnostic imaging workforce are discussed in chapter four.

Case study: Queensland

2.11 Queensland, a decentralised state, is a good case study to consider questions of distribution. Mr Eastgate, President of the Australian Society of Medical Imaging and Radiation Therapy (ASMIRT) described Queensland as operating a hub-and-spoke model:

When you look at the hub-and-spoke model, the more the acuity of the condition the more likely you are to be funnelled back to one of the big centres. That's where they need the high-acuity equipment to make an accurate diagnosis for treatment.⁸

2.12 This means that the larger hospitals in major cities—the Royal Brisbane and Women's Hospitals, The Prince Charles Hospital (Brisbane), Toowoomba Hospital, Ipswich Hospital and Bundaberg Hospital—offer almost a complete suite of diagnostic imaging services.⁹

2.13 In other regional areas of Queensland, such as Warwick, Goondiwindi and Gatton, CT and Ultrasound services are provided in conjunction with a private provider under a fee-for-service arrangement.¹⁰ Alternatively, patients may need to be referred to a private provider in some cases. For example, Maryborough Hospital currently does not offer CT or nuclear medicine services, though these are available from private providers in Maryborough.¹¹

2.14 In some more regional Queensland areas, such as Dalby and Kingaroy, the Darling Downs Hospital and Health Service told the committee that CT services were

6 Professor John Magnussen, Professor of Radiology, Head of Neuroradiology and Cardiac Imaging, Macquarie University; Director of Research, Macquarie Medical Imaging, *Committee Hansard*, 13 December 2017, p. 27.

7 Mr Dean Lewsam, Chief Executive, Healthcare Imaging Services, Primary Health Care Limited, *Committee Hansard*, 13 December 2017, p. 28.

8 Mr Patrick Eastgate, President, Australian Society of Medical Imaging and Radiation Therapy (ASMIRT), *Committee Hansard*, 13 December 2017, p. 41.

9 Darling Downs Hospital and Health Service, *Submission 21*, p. 1; Metro North Hospital and Health Service, *Submission 23*, [p. 1]; West Moreton Health and Hospital Service, *Submission 25*, p. 1; Wide Bay Hospital and Health Service, *Submission 30*, [p. 1].

10 Darling Downs Hospital and Health Service, *Submission 21*, p. 2; West Moreton Hospital and Health Service, *Submission 25*, p. 2.

11 An expansion of Maryborough's emergency department may include on-site CT services. Wide Bay Hospital and Health Service, *Submission 30*, [p. 2].

'limited', even though they are considered to be regional hubs that provide 24-hour coverage for emergencies.¹²

2.15 In rural locations, such as Kilcoy, Laidley, Gin Gin and Monto, often only general x-ray services are provided.¹³ In some cases, these x-rays are taken by a non-radiographer and are reported from another hospital.¹⁴ The reason for this is explored in greater detail in chapter four.

2.16 The concentration of equipment and human resources in larger cities, as seen in Queensland, is replicated across Australia. Children's Healthcare Australasia (CHA) and Women's Healthcare Australasia (WHA) explained that state funded hospitals are the only providers of diagnostic imaging services in most parts of the Northern Territory, Western Australia, far western Queensland and far western New South Wales.¹⁵

Case study: PET services in New South Wales

2.17 PET is a nuclear medicine imaging technology that is used to image particular types of cancers, such as prostate cancer.¹⁶

2.18 Associate Professor Anthony Lowe from Prostate Cancer Foundation of Australia explained to the committee that this form of imaging enabled oncologists to understand if cancers are recurring and where those cancers are so that better treatment plans can be developed.¹⁷

2.19 The location of nuclear medicine imaging, such as PET, is restricted because PET equipment must be located 'within a facility that has comprehensive cancer services for Medicare benefits purposes'.¹⁸ A comprehensive facility, as defined by the Health Insurance (Diagnostic Imaging Services Table) Regulations 2017 (DIST), is a:

...building or part of a building, or more than one building, where all of the following services are performed (whether or not other services are also performed):

- (a) PET;
- (b) computed tomography;

12 Darling Downs Hospital and Health Service, *Submission 21*, pp. 1–2.

13 Metro North Hospital and Health Service, *Submission 23*, [p. 1]; West Moreton Hospital and Health Service, *Submission 25*, p. 2; Wide Bay Hospital and Health Service, *Submission 30*, [p. 2].

14 Metro North Hospital and Health Service, *Submission 23*, [p. 1]; Wide Bay Hospital and Health Service, *Submission 30*, [p. 2].

15 Children's Healthcare Australasia (CHA) and Women's Healthcare Australasia (WHA), *Submission 26*, p. 1.

16 Associate Professor Anthony Lowe, Chief Executive Officer, Prostate Cancer Foundation of Australia, *Committee Hansard*, 13 December 2017, p. 18.

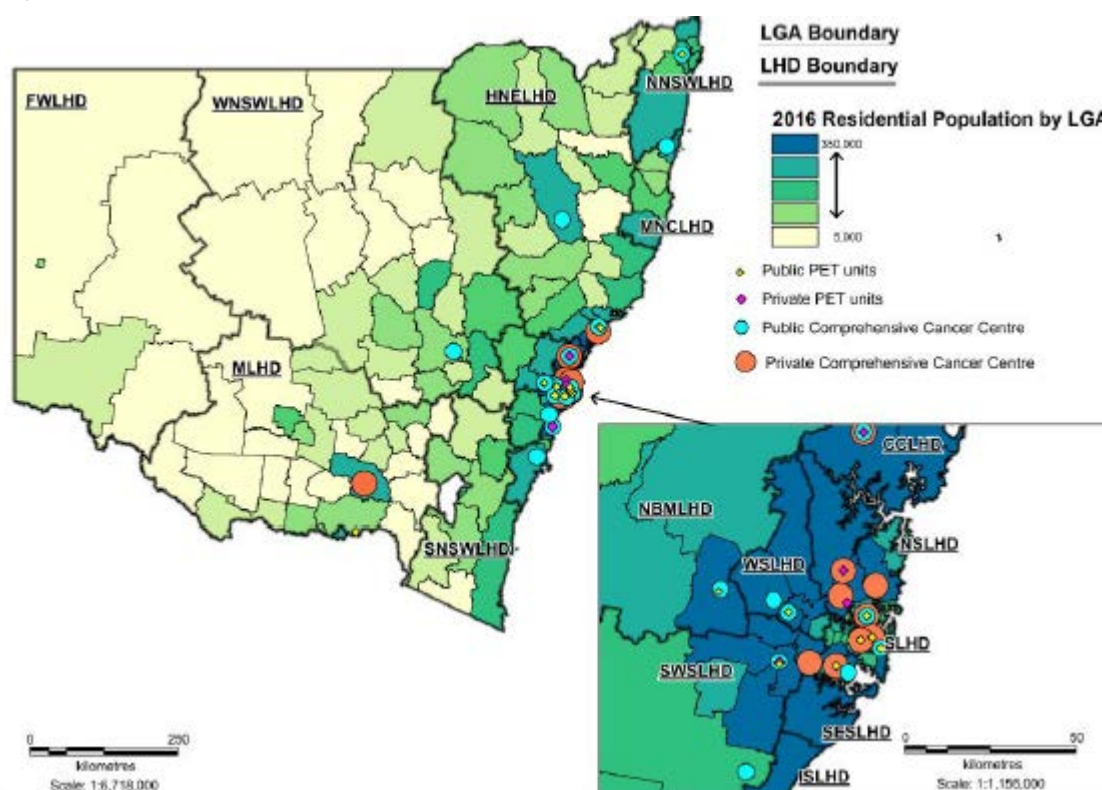
17 A/Prof Lowe, *Committee Hansard*, 13 December 2017, p. 19.

18 Department, *Submission 18*, p. 29.

- (c) diagnostic ultrasound;
- (d) medical oncology;
- (e) radiation oncology;
- (f) surgical oncology;
- (g) x-ray.¹⁹

2.20 The number of facilities that offer all of these services is limited. In New South Wales, the majority of these facilities are located in major cities. The below map demonstrates that, despite a number of comprehensive cancer centres being located around New South Wales, most of the PET scanners are located in and around Sydney.

Figure 2.1—Location of PET services in New South Wales



Source: New South Wales Health, *Submission 33*, p. 2.

2.21 One reason for this may be the difficulty associated with the production and transport of the radioisotopes required to operate the PET scanner due to their short half-life.²⁰

Accessibility of diagnostic imaging machines

2.22 Accessibility can take many forms and it means different things to different people. One of the more comprehensive definitions the committee received was from

19 Department, *Submission 18*, p. 29. The Department advised that the requirement for PET services to be located in a comprehensive facility has not been reviewed since 2010.

20 Department, *Submission 18*, pp. 29–30.

Cancer Voices Australia which told the committee that it considered that full accessibility required physical, geographic, financial and cultural access and timely reporting of the results.²¹ However, the definition the committee heard most frequently from submitters was based on geography.²²

Geographic accessibility

2.23 Submitters were concerned that living in regional, rural and remote areas has adverse consequences for patients, namely:

- patients have limited access to appropriate diagnostic imaging services; and
- patients face additional costs to access those services.

2.24 Access to up-to-date equipment (capital sensitivity measures) in regional, rural and remote areas was another key issue discussed with the committee, and is considered further in chapter five.

2.25 The committee was reminded by submitters that regional, rural and remote Australians have poorer health outcomes than their urban counterparts.²³ ASMIRT noted in its submission that 'statistics still demonstrate that the more remotely people live, the greater the risk of dying young...'²⁴ ASMIRT attributed the poorer health outcomes, in part, to diagnostic imaging not being available in regional, rural and remote areas.²⁵ ASMIRT also reported that common procedures, such as perfusion stroke imaging, are not available and private providers are not required to offer a full range of services.²⁶

2.26 The availability of services in rural areas varies between modalities. The representative of the Darling Downs Hospital and Health Service and the West Moreton Hospital and Health Service called the state of CT services in rural Queensland 'diabolical', and noted that access was particularly problematic for cases of trauma and stroke.²⁷

2.27 Even if the patient is able to obtain the required scan in a regional area, they are likely to pay more for it. Primary Health Care Limited advised the committee that independent research had found that rural patients pay almost 25 per cent more for

21 Cancer Voices Australia, *Submission 1*, p. 1.

22 See for example: Australian College of Rural and Remote Medicine (ACRRM), *Submission 4*, p. 4; Cancer Council Northern Territory, *Submission 6*, p. 3; Queensland Nurses and Midwives' Union (QNMU), *Submission 13*, p. 3; Ms Kate Reynolds, *Submission 34*, [p. 1].

23 Private Health Care Limited, *Submission 8*, p. 5; QNMU, *Submission 13*, p. 2; ASMIRT, *Submission 24*, p. 5.

24 ASMIRT, *Submission 24*, p. 5.

25 ASMIRT, *Submission 24*, p. 5.

26 ASMIRT, *Submission 24*, p. 5.

27 Mr Aiden Cook, Director of Medical Imaging, Darling Downs Hospital and Health Service, *Committee Hansard*, 13 December 2017, p. 14.

diagnostic images (the average out-of-pocket payment for an inner city service is \$86 whereas the average out-of-pocket charge in rural areas is \$107).²⁸

2.28 These factors often require rural patients to travel to access services.

Travel and patient travel subsidy schemes

2.29 Travel and other related expenses pose unique financial and personal challenges for patients from regional, rural and remote areas, including travel and accommodation costs, absence from work, family travel costs and arrangement for family members left behind.²⁹

2.30 The Queensland Nurses and Midwives' Union (QNMU) noted that 85 per cent of Australia is classified as remote and that in many cases people who live in rural, regional or remote parts of Australia must travel long distances to access imaging services. The QNMU provided the example that a patient who lives in Weipa must travel 800 kilometres to Cairns if they require an MRI.³⁰

2.31 The Australian Medical Association (AMA) provided the committee with an example of a rural patient who experiences chest pain and may have to make such a trip multiple times :

...a patient initially presenting to a general practitioner with chest pain would generally be referred for an X-ray; then if showing an abnormal result, for a CT scan. If the CT scan indicates a possible tumour, the patient will need to be referred to a specialist medical practitioner who may then arrange a fine needle biopsy...Under this scenario, a country patient moving through this pathway of care would need to return to the city for these services three separate times, because each time a new referral is required from the general practitioner and then specialist medical practitioner. Not only are multiple trips expensive and disruptive for the patient, but a definitive diagnosis is delayed by many weeks, even assuming the patient complies with each referral promptly.³¹

2.32 Service providers in both Queensland and Western Australia detailed the complexity of providing diagnostic imaging services in regional, rural and remote areas. In some cases, patients are transported from rural hospitals and taken to either a larger population centre, or to a private diagnostic imaging service provider.³²

28 Primary Health Care Limited, *Submission 8*, p. 7.

29 Australian Medical Association (AMA), *Submission 7*, p. 5. See also Mr Delan Adikari, *Submission 20*, [p. 2].

30 QNMU, *Submission 13*, p. 2.

31 AMA, *Submission 7*, p. 5.

32 See, Mr Cameron Robertson, Acting Director, Medical Imaging Services, Sunshine Coast Hospital and Health Service, *Committee Hansard*, 13 December 2017, pp. 11, 16; Mr Cook, *Committee Hansard*, 13 December 2017, p. 14; Mrs Marie Baxter, Executive Director of Nursing and Midwifery, WA Country Health Service, *Committee Hansard*, 9 November 2017, p. 29.

2.33 Some of these costs can be lessened through state-funded patient travel subsidy programs.³³ Rare Cancers Australia argued that travel schemes are needed as a matter of equity:

Geographical barriers need to be mediated by user-friendly and accessible transport and accommodation subsidy schemes. The current state-based travel schemes lack consistency and are funded as an add on healthcare benefit where they need to be viewed and funded as essential and first line. Timely access to diagnostic imaging should not be determined by someone's bank balance or postcode.³⁴

2.34 However, the committee heard that subsidy programs, if available, do not adequately alleviate these financial pressures. The AMA acknowledged that state and territory travel and accommodation assistance schemes for remote patients 'are administratively difficult and complex to access and provide relatively small reimbursements'.³⁵

2.35 That view was endorsed by the representative of the Darling Downs Hospital and Health Service and the West Moreton Hospital and Health Service who described the patient transport service in the following terms:

The process is paper-heavy and inefficient and sees a significant shortfall between the amounts provided by PTSS [Patient Travel Subsidy Scheme] and the actual cost of transport and accommodation, particularly for multiday stays for diagnostics or outpatient care. This acts as a significant disincentive for having imaging performed and leads to poorer outcomes for patients. Topping up the state-based PTS or otherwise financially supporting rural and remote patients for their travel and accommodation associated with imaging would go a long way to allowing better access to services by removing financial constraints to attending appointments. This is a particular issue for Aboriginal and Torres Strait Islander patients.³⁶

2.36 Aboriginal and Torres Strait Islander patients often culturally require an escort. Cancer Council Northern Territory told the committee that a lack of funding meant that having an escort travel with them was not always possible:

Patient Assistance Travel Scheme are not always able to provide funding for escorts for remote indigenous patients requiring invasive procedures or treatments. Patients will decline to come into town unless accompanied by a family member or escort thus delaying diagnosis, treatment and with the potential for poorer outcomes in an already disadvantaged population. Cost of transport from airport to accommodation is not provided and is a significant outlay for people travelling.³⁷

33 AMA, *Submission 7*, p. 5.

34 Rare Cancers Australia, *Submission 31*, [p. 2].

35 AMA, *Submission 7*, p. 5.

36 Mr Cook, *Committee Hansard*, 13 December 2017, p. 10.

37 Cancer Council Northern Territory, *Submission 6*, p. 2.

2.37 The QNMU noted that even in cases where funding is available, if the patient lives in a remote location, the escort may be the only health worker in the community or the transport vehicle may be the only emergency vehicle in the town.³⁸

2.38 In many cases, having to travel a long distance may either cause the patient to delay the procedure or elect not to have the diagnostic images taken at all.³⁹

2.39 These problems and costs are exacerbated if the patient requires multiple scans.

Multiple service rule

2.40 The financial burden is magnified when patients are required to travel back and forth to access multiple diagnostic services. This concern was raised by the representative of Breast Cancer Network Australia (BCNA) who explained that the multiple services rule prevents patients from accessing the Medicare rebate for the second procedure. For example, in instances of breast cancer diagnostic ultrasounds being followed by a core biopsy to confirm an ultrasound diagnostic result, patients wishing to access the Medicare rebate are required to return the following day to have that procedure.⁴⁰

2.41 Rules applying to the payment of Medicare benefits for multiple diagnostic imaging services were put in place to reflect efficiencies to the provider when multiple services are provided to a patient at the same attendance or on the same day. Providers have a responsibility to ensure they are reflecting these efficiencies in the costs they pass on to patients, rather than encouraging multiple visits.

2.42 BCNA's observations were supported by the Australasian Society for Ultrasound in Medicine which provided the committee with the example of a patient who attended a clinic with a breast lump:

...a patient who attends an imaging centre with a breast lump will have their mammogram and ultrasound performed. However, [sic] if it is decided that the patient requires a biopsy or aspiration for their own benefit and diagnosis, either the patient pays out-of-pocket or would need to return delaying the diagnosis or potentially no conclusive diagnosis at all.⁴¹

2.43 The committee raised the issue of referral pathways for regional, rural and remote patients with the Department. On notice, the Department responded to evidence provided by the BCNA regarding diagnostic ultrasound and ultrasound core biopsy. It explained that the rules that apply to payment of Medicare benefits when multiple diagnostic services are provided are:

38 QNMU, *Submission 13*, p. 3.

39 Mrs Baxter, *Committee Hansard*, 9 November 2017, p. 30; Professor Mark Khangure, Councillor, AMA, *Committee Hansard*, 9 November 2017, p. 2.

40 Ms Danielle Spence, Director of Policy and Advocacy, Breast Cancer Network Australia (BCNA), *Committee Hansard*, 13 December 2017, p. 18.

41 Australasian Society for Ultrasound in Medicine, *Submission 11*, p. 4.

...long-standing and were developed in conjunction with the diagnostic imaging profession. The rules reflect efficiencies to the provider when multiple services are provided to a patient at the same attendance or on the same day.⁴²

2.44 For ultrasound services, the Department stated that Medicare benefits are payable 'for one ultrasound examination performed within a three hour period on the same day'. The Department reconfirmed that the 'multiple services rules are being considered by the Medicare Benefits Schedule Review Taskforce'.⁴³

2.45 However, the AMA called for the Medicare system and the referral pathways for diagnostic imaging services to be:

...rationalised to prevent people living in the country having to travel back and forth to obtain multiple referrals as they move along the diagnostic and treatment pathway.⁴⁴

Teleradiology

2.46 New and innovative technological advancements have improved the accessibility of diagnostic imaging services, in particular for patients based in regional, rural and remote communities.⁴⁵ A large number of submitters told the committee of how telemedicine⁴⁶ has supported the work of diagnostic imaging clinicians, streamlined visits for patients and co-ordinating support for patients.⁴⁷ The Australian College of Rural and Remote Medicine (ACRRM) noted that telehealth (telemedicine) supports rural and regional diagnostic imaging services by increasing the 'accessibility and equity for rural and regional areas where it is difficult or impractical to recruit and retain radiologists.'⁴⁸ Further, the ACRRM reported that the use of telehealth in outer-metropolitan Brisbane had saved Redcliffe Hospital \$50 000 in one year alone.⁴⁹

42 Department, answers to questions on notice, 13 December 2017 [p. 10] (received 5 February 2018).

43 Department, answers to questions on notice, 13 December 2017 [p. 10] (received 5 February 2018).

44 AMA, *Submission 7*, p. 5.

45 ACRRM, *Submission 4*, p. 4.

46 ACRRM define teleradiology as the transmission of diagnostic radiological images in digital form from the acquisition site to the reporting site for diagnosis and reporting by a clinical radiologist. See, ACRRM, *Submission 4*, p. 4.

47 Associate Professor Thomas Doolan, Chairman, Education and Training Committee, ACRRM, *Committee Hansard*, 13 December 2017, p. 51; Mr Jim Aspinwall, Director, X-Ray and Imaging, *Committee Hansard*, 13 December 2017, p. 43; Dr Gary Cohen, Radiologist, Primary Health Care Limited, *Committee Hansard*, 13 December 2017, p. 32, p. 34; Dr Peter Heathcote, President, Urological Society of Australia and New Zealand, *Committee Hansard*, 13 December 2017, p. 23; Ms Spence, *Committee Hansard*, 13 December 2017, p. 24; and A/Prof Lowe, *Committee Hansard*, 13 December 2017, p. 24.

48 ACRRM, *Submission 4*, p. 4.

49 A/Prof Doolan, *Committee Hansard*, 13 December 2017, p. 52.

2.47 In instances where telehealth is used, ASMIRT pointed out that it is important for the images or reports to be added to a patient's electronic health record. However, ASMIRT noted that this was often not the case, making comparison with earlier scans difficult.⁵⁰

2.48 Telehealth works where there is coordination between hospitals and a swift transfer of images, but ASMIRT also noted that this is not currently possible in Tasmania:

At present there is no way to send the patient images except by DVD and via Australia Post, although images are sent to the mainland every day for reporting by radiologists. The key issue relates to no data sharing amongst public hospitals. Although the mainland states have this capability, Tasmanians are told it is too expensive resulting in 500,000 people being disadvantaged by this and other e health provisions.⁵¹

2.49 Cancer Council Northern Territory noted that it too had encountered similar problems related to the sharing of images:

Lack of co-ordinated/ national approach for sharing of digital images and reports between private and public radiology services can potential[ly] delay management plans & treatment when remote clients attend surgical or other appointments. Valuable staffing resources can be wasted trying to facilitate this sharing of information.⁵²

Physical accessibility

2.50 Spinal Cord Injuries Australia (SCIA) advised the committee of the unique challenges faced by people with spinal cord injury and other physical disability accessing diagnostic imaging equipment. SCIA submitted that people reliant on mobility aids (manual and power wheelchairs):

...often encounter access barriers to services, facilities, transport, buildings and the built environment, including access to diagnostic imaging equipment, due to the geographical access barriers, or especially the physical access barriers to this equipment.⁵³

2.51 For example, it is often difficult or impossible for women with disability to have a mammogram because:

- mobile mammogram units may not have lift access;

50 ASMIRT, *Submission 24*, p. 5.

51 ASMIRT, *Submission 24*, p. 6.

52 Cancer Council Northern Territory, *Submission 6*, p. 2.

53 Spinal Cord Injury Australia (SCIA), *Submission 37*, p. 3.

- a mammogram service with the infrastructure for mobility aids may be located at a distance resulting in the women having to incur relatively expensive taxi services;⁵⁴ and
- mammogram equipment may not be designed for women in mobility aids.⁵⁵

2.52 SCIA also explained that people using mobility aids may not be able to undergo scans that require the 'patient to be transferred onto an imaging bed or examination table if there is no lifting hoist and sling'.⁵⁶ Further, rooms that house diagnostic imaging equipment may not have adequate floor space for the wheelchair user and a mobile floor hoist (if available).⁵⁷ For bone density scans, patients are required to be weighed, and in some diagnostic imaging facilities there may not be a hoist or sling with a weighing mechanism.⁵⁸

2.53 SCIA recommended that the Commonwealth Government engage with diagnostic imaging equipment companies to ensure equipment, particularly mammography equipment is designed for people using mobility aids. Further, diagnostic imaging practices should ensure that patients using mobility aids have access to:

- ceiling or mobile hoists and slings that come in various sizes;
- mobile mammography facilities with wheelchair hoists that are serviced regularly;
- weight measuring devices that are used on the hoists;
- appropriate information about, and financial assistance for, accessible transport services; and
- mammography facilities which can accommodate a mobility aid with non-detachable armrests.⁵⁹

Regulatory barriers to accessibility: cone beam computed tomography in Western Australia

2.54 Regulation can sometimes create access issues. For example, the committee heard that there are regulatory barriers associated with dental professionals accessing cone beam computed tomography (CBCT) in Western Australia.⁶⁰

54 SCIA noted that this service is expensive even if the patient is eligible for government funded taxi transport subsidy scheme. See, SCIA, *Submission 37*, p. 3.

55 SCIA, *Submission 37*, p. 3.

56 SCIA, *Submission 37*, p. 3.

57 SCIA, *Submission 37*, p. 3.

58 SCIA, *Submission 37*, p. 3.

59 SCIA, *Submission 37*, p. 4.

60 Mr Troy Williams, Chief Executive Officer, Australian Dental Industry Association, *Committee Hansard*, 9 November 2017, p. 12.

2.55 Mr Troy Williams of the Australian Dental Industry Association outlined the benefit of this technology for dentists and allied professionals, such as orthodontists, explaining that health-care professionals use CBCT for a number of purposes, including:

... to produce 3-D digital images of teeth, soft tissue, nerve pathways and bone, and they can do it all with a single scan.⁶¹

2.56 The committee was informed that in Western Australia current restrictions mean that very few practitioners are able to own and operate this equipment.⁶²

2.57 The committee heard that, with the exception of Western Australia, healthcare professionals who wish to use the CBCT equipment are subject to only limited regulation:

...[professionals] must be registered with the Australian Health Practitioner Regulation Agency, usually via the Dental Board of Australia. There is then a requirement to possess experience in radiation safety, and often the professional will have completed a short course covering radiation safety, along with the operation of the CBCT equipment.⁶³

2.58 Mr Williams outlined that regulatory requirements in Western Australia require a dentist to be registered with the Australian Health Practitioner Regulation Agency in the speciality of dental maxillofacial radiology.⁶⁴ Mr Williams noted that '[a]lmost none of Western Australia's 1,780-odd dentists satisfy this requirement', with the result that Western Australia physicians have 'restricted access to this equipment'.⁶⁵

2.59 Mr Williams explained that these restrictions have limited the access of Western Australians to this technology:

The estimate on the number of CBCT machines used nationally in dentistry varies depending on the dataset, but it's estimated to be between 360 and 420 machines nationally. What is known is that fewer than 10 of these are in Western Australia. Clearly, access to this important diagnostic technology is an issue for those in Western Australia.⁶⁶

2.60 Mr Williams accepted that a uniform approach to CBCT regulation was not possible due to constitutional limitations, but he suggested it was important for the committee to understand the nature of these restrictions because it affected other parts of the health system:

61 Mr Williams, *Committee Hansard*, 9 November 2017, p. 12.

62 Australian Dental Industry Association, *Submission 12*, p. 3.

63 Mr Williams, *Committee Hansard*, 9 November 2017, p. 12.

64 Mr Williams, *Committee Hansard*, 9 November 2017, p. 12.

65 Mr Williams, *Committee Hansard*, 9 November 2017, p. 12.

66 Mr Williams, *Committee Hansard*, 9 November 2017, p. 12.

...there is an additional cost burden on the patient, particularly in Western Australia. So if you're in Bunbury, if you're in Broome, if you're in Karratha, the access to that technology is just not available...So it's a case of highlighting it and raising it with the Western Australian government in terms of broader health economics. It's either resulting in patients not getting the level of diagnosis and care that's appropriate to them, which manifests itself in costs otherwise or, in some cases—at the patient's expense and the broader healthcare system—of them travelling to Perth to get access to the technology. It is understood that the Commonwealth's powers in this area are limited...⁶⁷

2.61 Despite this, Mr Williams informed the committee that some reform may be forthcoming in this area. The committee understands that the Radiological Council of Western Australia has met and proposed reforms to this system, with the result that:

Western Australia now looks set to cut the red tape associated with owning CBCT digital imaging equipment. It's been proposed that registered dentists who have successfully completed a recognised CBCT course be able to apply for a licence to own and operate the equipment. The council looks set to recognise courses offered by the School of Dentistry at the University of Queensland and by the Adelaide Dental School, within the University of Adelaide and with a course by a private provider. There'll be a requirement that all CBCT images must be reported on by an [Australian Health Practitioner Regulation Agency]-registered radiologist or a dentomaxillofacial radiologist. As part of the initial registration of the CBCT equipment with the council, dentists will need to provide confirmation of a service agreement from the radiologist or the dentomaxillofacial radiologist.⁶⁸

2.62 However, the Australian Dental Industry Association opposes the aspect of the proposed reform that the operation of the CBCT equipment will be limited only to dentists who will not be permitted to direct and supervise other practitioners in the use of the unit.⁶⁹

Committee view

2.63 The committee considers that Australians should, to the greatest degree possible, have equitable access to quality medical care, including diagnostic imaging services.

2.64 The current geographical variation in diagnostic imaging equipment is greater between urban and rural areas than between the states and territories. To that extent, patient transport subsidies are especially important to rural patients. The committee notes that the existing state-funded patient transport subsidies are currently not sufficient to alleviate the financial burden placed on regional, rural and remote patients who are required to travel for diagnostic scans.

67 Mr Williams, *Committee Hansard*, 9 November 2017, p. 13.

68 Mr Williams, *Committee Hansard*, 9 November 2017, p. 12.

69 Mr Williams, *Committee Hansard*, 9 November 2017, p. 12.

2.65 The committee is concerned that the implementation of the multiple services rule requires patients to incur additional delays and costs in accessing services and treatment. The committee is particularly concerned about the impact this rule has on rural and remote Australians. The committee understands that the MBS multiple services rule is currently subject to review by the MBS Review Taskforce. The committee urges the MBS Review Taskforce to carefully consider the impact this rule is having on patients.

2.66 The committee is concerned and disappointed by reports that many diagnostic imaging services are not physically accessible for people with disability. The committee considers that this underscores the need for government and others to redouble their efforts to create accessible communities, as noted by the committee in its recent inquiry into the National Disability Strategy.⁷⁰

2.67 The committee agrees that the current restrictions in place in Western Australia for the use of CBCT seem to have hampered the access of Western Australians to this technology. The committee welcomes the discussions between the Western Australian Government and the Radiological Council of Western Australia and the Australian Dental Industry Association and expects that a suitable resolution can be found.

70 Committee, *Delivery of outcomes under the National Disability Strategy 2010–2020 to build inclusive and accessible communities*, November 2017, pp. 71–72.

Chapter 3

Use of MRI in Australia

Introduction

3.1 Magnetic Resonance Imaging (MRI) uses a powerful magnet and radio-frequency pulses to collect signals which are processed by a computer to form an image of part of the body.¹ MRI is most effective 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 breast, prostate, spinal cord and brain; and staging tests for various cancers.²

3.2 MRI is the only modality of diagnostic imaging in Australia which operates under a licensing system. Two factors must exist in order for an MRI scan to be eligible for Medicare Benefit Schedule (MBS) rebates:

- the type of scan must be included on the MBS; and
- the MRI machine must be fully or partially licensed.³

3.3 The unique licensing system of MRI in Australia was a prominent concern of many submitters and witnesses throughout the committee's inquiry. Stakeholders suggested that the licensing system was outdated, limited patient access to MRI, resulted in significant costs for patients, and even delayed the diagnosis and treatment of a patient's condition.

3.4 The Royal Australian and New Zealand College of Radiologists (RANZCR) informed the committee that reform was needed in order to improve patient access to MRI in Australia:

The current system of limiting Medicare rebates to particular machines is restricting patient access and must be reformed. There is no transparency from the Commonwealth government over criteria for new machines to become eligible for rebates under the Medicare system. RANZCR believes that the rules for MRI services in Australia must change to significantly increase access, support and patient management and thereby improve clinical outcomes.⁴

3.5 This chapter will outline the number of MRI machines in Australia, the process for referring a patient for an MRI scan, accessibility issues and the impact this has on both patients and the health system. It will also highlight a number of access and distribution issues relating to MRI machines, similar to those discussed in chapter two.

1 Department of Health (Department), *Submission 18*, p. 11.

2 Royal Australian and New Zealand College of Radiologists (RANZCR), *Submission 14*, p. 2.

3 Department, *Submission 18*, pp. 27–28.

4 Dr Greg Slater, President, RANZCR, *Committee Hansard*, 13 December 2017, p. 2.

Availability of MRI

MRI licensing system

3.6 MRI items were first listed on the MBS in 1998 with all 38 MRI machines operating in Australia at the time granted eligibility for MBS items.⁵ The method of allocating eligibility has changed over time and included open tender, invitation to apply and direct listings, however, there is currently no open process to apply for an MRI licence.⁶ A graph outlining the expansion of MBS eligible MRI machines between 1998 and 2017 is at Appendix 4.

3.7 MRI licences are conferred by the Health Insurance (Diagnostic Imaging Services Table) Regulations 2017 (DIST) through a Deed of Undertaking between the MRI provider and the Commonwealth. The licence grants MBS eligibility to a specific provider, in a specified location for a specific machine.⁷

3.8 Licences are granted on a full or partial basis. MRI machines with a full licence attract a Medicare rebate on all MRI services listed on the MBS, whereas MRI machines with a partial licence only attract a Medicare rebate on a small subset of items listed on the MBS.⁸

3.9 As at 30 September 2017, there were 348 Medicare licensed MRI machines in operation in Australia, 174 fully licensed and 174 partially licensed.⁹ In addition, there are approximately 160 unlicensed MRI machines across Australia which are privately funded and incur out-of-pocket expenses for patients.¹⁰

3.10 The last major expansion of MRI licences occurred in 2012 when 46 full and 179 partial licences were issued.¹¹ Since 2013, only four additional licences have been issued. These licences were granted at the discretion of government or on the basis of an election commitment.¹² There is currently no open application process to obtain an MRI licence. It is not clear on what basis full and partial licences were previously allocated.

3.11 While MRI licences are granted by the Commonwealth, the Department of Health (Department) noted that the Commonwealth Government does not determine the location of diagnostic imaging equipment.¹³ Decisions regarding the location of

5 Department, *Submission 18*, p. 27.

6 Department, *Submission 18*, p. 27; Australian National Audit Office, *Diagnostic Imaging Reforms*, Performance Audit No. 12, 2014–15, pp. 19, 26.

7 Department, *Submission 18*, pp. 27–28.

8 Department, *Submission 18*, p. 16.

9 Department, *Submission 18*, pp. 16, 27.

10 Department, *Submission 18*, p. 29.

11 Department, *Submission 18*, p. 41.

12 Department, *Submission 18*, p. 41; Department, answers to questions on notice, 13 December 2017 [p. 6] (received 5 February 2018).

13 Department, *Submission 18*, p. 11.

public diagnostic imaging facilities are made by state and territory governments and the location of private diagnostic imaging facilities are commercial decisions.¹⁴ However, the Commonwealth Government requires that MRI machines be located in a comprehensive radiology practice which also offers x-ray, ultrasound and computed tomography (CT) services.¹⁵

3.12 The Department advised that there are 1.4 MRI machines eligible for Medicare benefits per 100 000 population in Australia.¹⁶ The availability of licensed MRI machines in each state and territory is summarised in Table 3.1 below.

Table 3.1: Medicare eligible MRI equipment by state and territory as at 30 September 2017

		NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL
Full	Number	59	41	37	11	16	6	2	2	174
	Per 100,000 pop	0.8	0.7	0.7	0.6	0.6	1.1	0.8	0.5	0.7
Partial	Number	63	41	35	12	16			7	174
	Per 100,000 pop	0.8	0.7	0.7	0.7	0.6	0	0	1.7	0.7
Total	Number	122	82	72	23	32	6	2	9	348
	Per 100,000 pop	1.6	1.3	1.4	1.3	1.1	1.1	0.8	2.2	1.4

Source: Department of Health, *Submission 18*, p. 16.

3.13 The Organisation for Economic Co-operation and Development (OECD) ranked Australia 20th in the number of MRI machines per million population, compared to 11th in the number of CT machines which do not face the same accessibility and MBS restrictions.¹⁷

3.14 Furthermore, Australia's utilisation rate of MRI is disproportionately low compared to the number of MRI machines. In 2015, Australia performed 41 MRI scans per 1000 inhabitants, far less than comparable OECD nations such as Canada, and France, and despite Australia having a greater number of MRI units per million population.¹⁸

3.15 Professor Khangure from the Australian Medical Association (AMA) attributed the higher utilisation of MRI in European nations to evolutions in MRI technology which have improved the efficacy of MRI investigations and the lack of radiation emitted by MRI, meaning it is safer for the patient.¹⁹ However, Professor Khangure explained that MRI may not be as widely used in Australia, either because MRI machines are not available or because patients must pay out-of-pocket if there is

14 Department, *Submission 18*, p. 11.

15 Department, *Submission 18*, p. 28.

16 Department, *Submission 18*, p. 16.

17 Department, *Submission 18*, pp. 13, 35, 36.

18 RANZCR, *Submission 14*, pp. 4, 11.

19 Professor Mark Khangure, Councillor, Australian Medical Association (AMA), *Committee Hansard*, 9 November 2017, p. 2.

not an MBS subsidy for the required MRI scan.²⁰ As outlined further below, this often results in patients being exposed to a radiation-related investigation, such as a CT scan, rather than an MRI which does not emit radiation, and may increase the patient's risk of cancer.²¹

3.16 RANZCR expressed the view that while the locations of MRI machines have not quite kept up with recent changes in population in some areas, they are spread relatively evenly between each state.²² However, RANZCR also noted that focusing on the individual location of MRI machines will not address the systemic issues associated with the accessibility of MRI.²³

3.17 The Department informed the committee that on 30 August 2017 the Minister for Health requested that the Department undertake a review of the distribution and availability of MRI licences.²⁴ The Department advised that options on how the number of MRI licences may be expanded have been provided to the Minister for Health for consideration.²⁵

MRI referral pathways

3.18 At the heart of submitters and witnesses concerns was the way in which patients are referred for an MRI scan under the MRI licensing system.

3.19 General practitioners (GPs) can only provide patients with a referral to a partially licenced MRI machine for a sub-set of items listed on the MBS.²⁶ These items include specified GP requested items, a range of cancer staging services, Poly Implant Prosthese (PIP) breast items, Crohn's disease items and any new items added to the MBS on the recommendations of the Medical Services Advisory Committee (MSAC).²⁷ However, this subset represents only 45 of the 193 MRI items listed on the MBS.²⁸

20 Prof Khangure, *Committee Hansard*, 9 November 2017, p. 3.

21 Prof Khangure, *Committee Hansard*, 9 November 2017, p. 2.

22 Mr Mark Nevin, Senior Executive Officer, Faculty of Clinical Radiology, RANZCR, *Committee Hansard*, 13 December 2017, p. 5.

23 Ms Natalia Vukolova, Chief Executive Officer, RANZCR, *Committee Hansard*, 13 December 2017, p. 5.

24 Mr David Weiss, First Assistant Secretary, Department, *Committee Hansard*, 13 December 2017, p. 58.

25 Mr Weiss, *Committee Hansard*, 13 December 2017, p. 59.

26 Mr Nevin, *Committee Hansard*, 13 December 2017, p. 3.

27 Department, *Submission 18*, p. 16.

28 Mr Nevin, *Committee Hansard*, 13 December 2017, p. 3.

3.20 By contrast, medical specialists are only able to refer patients to a fully licensed MRI machine, but can refer the patient for the full range of MRI items listed on the MBS.²⁹

3.21 RANZCR explained that in an unrestricted market, referrers would funnel their patients towards the best or newest MRI machine. However, under the licence system, anomalies are created in which the opposite occurs, resulting in patients being referred to an older MRI machine because it has a licence and is eligible for a Medicare rebate.³⁰

3.22 Envision Medical Imaging expressed concern that when coupled with the capital sensitivity measure (discussed further in chapter five), the current MRI licensing system left no financial incentive to upgrade MRI equipment prior to the required 15 years.³¹ Envision Medical Imaging submitted that this resulted in Medicare eligible scans being conducted on older MRI equipment, rather than the newest available technology, and represented a poor return on investment for the Commonwealth's funding of Medicare scans.³²

3.23 Cancer Voices Australia submitted that the referral pathway between GPs and specialists added an extra layer of complexity and it is very difficult for patients to know where they can access a Medicare eligible MRI scan.

Accessibility of MRI

3.24 The committee heard that the MRI licensing system has a significant impact on the accessibility and utilisation of MRI across Australia. The committee notes that MRI accounted for only four per cent of diagnostic imaging MBS services claimed in 2016-17.³³

3.25 Submitters and witnesses maintained that the current MRI licensing system, rather than the geographic location of machines, has the greatest impact on the accessibility of MRI across Australia.³⁴ Synergy Medical Imaging Pty Ltd submitted that 'the ability for patients and referrers to choose their preferred imaging provider for MRI examinations is compromised by the current system which restricts access to Medicare eligible services.'³⁵

29 Dr Slater, *Committee Hansard*, 13 December 2017, p. 3; Mr Nevin, *Committee Hansard*, 13 December 2017, p. 3.

30 Dr Lincoln Gillam, Chair, Diagnostic Economics Committee, RANZCR, *Committee Hansard*, 13 December 2017, p. 8.

31 Envision Medical Imaging, *Submission 39*, p. 1.

32 Envision Medical Imaging, *Submission 39*, p. 2.

33 Department, *Submission 18*, p. 11.

34 See, for example: AMA, *Submission 7*; RANZCR, *Submission 14*; Australian Diagnostic Imaging Association (ADIA), *Submission 17*; UnitingCare Queensland, *Submission 36*, Envision Medical Imaging, *Submission 39*.

35 Synergy Medical Imaging Pty Ltd, *Submission 10*, pp. 4-5.

3.26 Similarly, Professor Khangure expressed the view that the current MRI licensing system only exists to ration services, rather than on the basis of clinical need or evidenced-based care.³⁶ Envision Medical Imaging agreed that the licensing system was initially intended to limit the cost of MRI to the Medicare system by restricting the referral and type of scans eligible for a Medicare rebate through the MBS.³⁷

3.27 RANZCR directly attributed the issues surrounding the accessibility and low utilisation of MRI to the licensing system. For example, Dr Slater noted that the lack of restriction to CT scans often results in patients being referred for a CT scan, even in circumstances when an MRI may be more appropriate, as a Medicare eligible MRI scan may not be accessible to the patient or their doctor.³⁸ Dr Slater also noted that in instances where this occurs to young people and children, they are particularly susceptible to subsequent cancers from exposure to radiation through the CT scan.³⁹

3.28 Professor John Magnussen from Macquarie Medical Imaging explained that the current Commonwealth subsidy does not address the geographic disparity in access to either equipment or expertise:

The current arrangements suffer from historical biases, as you've already heard from previous submissions, potentially oversubscribing to CT and geographically and diagnostically rationing the provision of MRI. This leads to unavailability and inaccessibility of vital imaging services due to the out-of-pocket expenses and travel to reach those services that are not subsidised by the Commonwealth.⁴⁰

3.29 By way of example, Envision Medical Imaging noted that the population of Perth has increased by approximately 40 per cent, or 700 000 people since 2007, yet no new full MRI licences have been issued in the past ten years.⁴¹ Envision Medical Imaging explained that the licensing system has created inequities in the accessibility of MRI in Perth:

For instance, there are currently 12 privately owned partially licensed MRI units in Perth compared with only 8 full licensed MRIs. In effect, GPs and their patients have greater choice in determining where they will have their scans and have shorter wait times and out of pocket gaps associated with those scans compared with specialists and their patients who are subject to less choice, longer wait times and higher out of pocket costs.⁴²

36 Prof Khangure, *Committee Hansard*, 9 November 2017, p. 1.

37 Envision Medical Imaging, *Submission 39*, p. 2.

38 Dr Slater, *Committee Hansard*, 13 December 2017, p. 4.

39 Dr Slater, *Committee Hansard*, 13 December 2017, p. 4.

40 Professor John Magnussen, Professor of Radiology, Head of Neuroradiology and Cardiac Imaging, Macquarie University; Director of Research, Macquarie Medical Imaging, *Committee Hansard*, 13 December 2017, p. 27.

41 Envision Medical Imaging, *Submission 39*, p. 1.

42 Envision Medical Imaging, *Submission 39*, p. 2.

3.30 Similarly, Perth Radiological Clinic submitted that the allocation of a partial MRI licence to St John of God Midland Public and Private Hospital (Midland Hospital) meant that only public inpatients could access an MRI at no cost whereas private patients must pay out-of-pocket.⁴³ Perth Radiological Clinic explained that a private inpatient's health insurer is also not required to cover the cost of the MRI, meaning private inpatients who contribute to their health care through the private health insurance system must pay for an MRI at the Midland Hospital due to the licensing system.⁴⁴

3.31 Furthermore, while a number of medical specialists have been attracted to the area since the Midland Hospital opened in 2015, they are unable to refer their patients to the hospital as it only holds a partial MRI licence, and not a full licence, creating significant confusion for medical specialists and restricting access for their patients.⁴⁵

3.32 Mr Jim Aspinwall, Director of X-Ray and Imaging located on the Sunshine Coast, Queensland suggested that historically MRI machines have been located in affluent areas around Australia where patients are more likely to be able to afford out-of-pocket costs.⁴⁶ Mr Aspinwall explained that as MRI machines became widely used, private radiology practices invested in their own machines independent of the licence system:

If we're going to put in a machine and spend \$1½ million to \$2 million on the machine and the only funding it's ever going to receive comes out of patients' pockets, we're only going to put that into an area where we think people might be able to afford to pay.⁴⁷

3.33 Consequently, this has led to less affluent suburbs having poorer access to MRI machines and resulted in longer wait times for these patients to receive a Medicare eligible scan.⁴⁸

3.34 Mr Mark Nevin of RANZCR acknowledged that while it is not practical for an MRI machine to be available in every town across Australia, the current distinction between fully and partially licenced machines restricts the accessibility of MRI machines:

In general terms, with diagnostic imaging equipment, you can't make an MRI machine available in every town in the country, so some patients are always going to have to travel a little bit to access services. But, at present, the fact that they have this distinction between being fully eligible and being partially eligible means that it's confusing for patients as to where

43 Perth Radiological Clinic, *Submission 29*, p. 1.

44 Mrs Lenka Psar-McCabe, Chief Executive Officer, Perth Radiological Clinic, *Committee Hansard*, 9 November 2017, p. 25.

45 Mrs Psar-McCabe, *Committee Hansard*, 9 November 2017, pp. 24–25.

46 Mr Jim Aspinwall, Director, X-Ray and Imaging, *Committee Hansard*, 13 December 2017, p. 43.

47 Mr Aspinwall, *Committee Hansard*, 13 December 2017, p. 44.

48 Mr Aspinwall, *Committee Hansard*, 13 December 2017, p. 43.

they can get access to a service if they need an MRI, and it's also confusing... for referrers as to where their patients can get access to an MRI when they need that clinical information.⁴⁹

Rural and regional accessibility

3.35 The Australian College of Rural and Remote Medicine (ACRRM) submitted that poor access to diagnostic imaging services contributes significantly to poorer health outcomes in rural and remote communities.⁵⁰ In addition, patients in rural and remote areas frequently face higher out of pocket costs as a result of undertaking travel for diagnostic imaging. This has the potential to further delay their diagnosis and treatment and can have a deleterious effect on health outcomes compared to patients in metropolitan areas.⁵¹

3.36 Women's Healthcare Australasia and Children's Healthcare Australasia informed the committee that MRI services in regional Western Australia, far western New South Wales and the Northern Territory are particularly poor.⁵² Submitters also suggested that there were shortages or issues relating to access to licensed MRI machines in a number of locations, including:

- Queensland—northern Brisbane,⁵³ Morayfield and Caboolture,⁵⁴ Redcliffe and Sunshine Coast,⁵⁵ Toowoomba,⁵⁶ Wide Bay,⁵⁷ Gladstone and Emerald⁵⁸ and regional Queensland;⁵⁹
- New South Wales—northern beaches of Sydney;⁶⁰ western Sydney,⁶¹ northern New South Wales,⁶² Cessnock;⁶³

49 Mr Nevin, *Committee Hansard*, 13 December 2017, p. 5.

50 Australian College of Rural and Remote Medicine (ACRRM), *Submission 4.1*, p. 3.

51 ACRRM, *Submission 4.1*, p. 3.

52 Women's Healthcare Australasia (WHA) and Children's Healthcare Australasia (CHA), *Submission 26*, p. 2.

53 Ms Julie Hale, Deputy Chief Executive Officer, CHA, *Committee Hansard*, 9 November 2017, p. 10.

54 Mr Aspinwall, *MRI Licence Requirement Morayfield Health Hub*, p. 1 (tabled 13 December 2017).

55 Ms Noelle Cridland, Executive Director, Metro North Medical Imaging and Acting Executive Director, Clinical Governance, Safety, Quality and Risk, Metro North Hospital and Health Service, *Committee Hansard*, 13 December 2017, p. 13.

56 Mr Aiden Cook, Director, Medical Imaging, Darling Downs Hospital and Health Service, *Committee Hansard*, 13 December 2017, p. 15.

57 Wide Bay Hospital and Health Service, *Submission 30*, p. 2.

58 Dr Shivash Es'hagi, President, Australian Society of Medical Imaging and Radiation Therapy (ASMIRT), *Committee Hansard*, 13 December 2017, p. 6.

59 Ms Hale, *Committee Hansard*, 9 November 2017, p. 10.

60 Mr Dean Lewsam, Chief Executive, Healthcare Imaging Services, Primary Healthcare Limited, *Committee Hansard*, 13 December 2017, p. 31.

- Victoria—western Melbourne;⁶⁴
- Western Australia—Kalgoorlie,⁶⁵ Pilbara and areas north of Geraldton.⁶⁶

3.37 The committee notes that this is not an exhaustive list of places with access issues, but provides an indication of the areas identified by submitters and witnesses.

3.38 Synergy Medical Imaging Pty Ltd, a private, independent radiology practice in Cessnock, New South Wales, expressed concern that patients within their electorate must travel approximately 43 kilometres to the nearest Medicare eligible MRI machine. Alternatively, the nearest privately owned MRI machine is 30 kilometres away where patients must pay out-of-pocket.⁶⁷

3.39 Synergy Medical Imaging Pty Ltd noted that there has been no significant improvement in the availability of MRI services since 2012, despite the fact that there has been a shift in the demographics of the region, resulting in an increase in demand for high quality healthcare services.⁶⁸

3.40 Similarly, in the Sunshine Coast region north of Brisbane, the electorate of Longman has a population of 159 345 people and only one full MRI licence.⁶⁹ As medical specialists are only able to refer patients to MRI machines with a full licence, specialists have priority access to the only MRI machine in the Longman, effectively precluding GPs from referring patients for an MRI within their electorate.⁷⁰ This is in stark contrast to the neighbouring electorate of Fisher which has seven MRI licences, equating to a population of just 19 886 per MRI licence.⁷¹

3.41 The committee also heard that patients in regional Western Australia have limited access to MRI:

Patients then have to travel to Perth if they are in the northern part of Western Australia. Currently we have MRI equipment in Geraldton but

61 Ms Hale, *Committee Hansard*, 9 November 2017, p. 10.

62 Associate Professor Susan Moloney, Member, CHA, *Committee Hansard*, 9 November 2017, p. 10.

63 Synergy Medical Imaging Pty Ltd, *Submission 10*, p. 3.

64 Ms Hale, *Committee Hansard*, 9 November 2017, p. 10.

65 Prof Khangure, *Committee Hansard*, 9 November 2017, p. 2; Mrs Marie Baxter, Executive Director, Nursing and Midwifery, WA Country Health Service, *Committee Hansard*, 9 November 2017, p. 32.

66 Mr Kevin Michel MLA, Member for Pilbara, *Submission 9*, pp. 1, 3.

67 Synergy Medical Imaging Pty Ltd, *Submission 10*, p. 3.

68 Synergy Medical Imaging Pty Ltd, *Submission 10*, p. 4.

69 Mr Aspinwall, *MRI Licence Requirement Morayfield Health Hub*, p. 1 (tabled 13 December 2017).

70 Mr Aspinwall, *Committee Hansard*, 13 December 2017, p. 46.

71 Mr Aspinwall, *MRI Licence Requirement Morayfield Health Hub*, p. 1 (tabled 13 December 2017).

nothing further north. We have country MRI in Bunbury and Albany but nothing in Kalgoorlie. If these patients need a clinical service or they need something imaged, they actually have to travel to Perth to get that information. If you could do it locally then at least you could decide whether the treatment can be offered remotely or whether they need to be referred. At this point in time they don't have an option; they have to travel to Perth. They have CT in some of these locations. They have ultrasound and plain X-rays but no access to MRI.⁷²

3.42 WA Country Health Service told the committee that the travel burden for regional patients is significant and should be taken into account when considering any further expansion of Medicare eligible MRI machines.⁷³

Committee view

3.43 The committee notes that there is no formal process available to apply for an MRI licence and that consequently, the distribution of licenced MRI machines does not account for recent population growth.

3.44 The committee is concerned that the MRI licensing system creates confusion for patients and medical professionals alike and limits the accessibility of MRI.

3.45 The committee agrees that the MRI licensing system has had a significant impact on the accessibility of MRI for both metropolitan and rural and regional patients and that this may have contributed to the underutilisation of MRI in Australia.

3.46 The committee is concerned by reports that referral restrictions on MRI scans has skewed GPs towards the use of CT, which is not restricted, and has potentially compromised the clinically optimal diagnostic imaging and care of patients.

Impact on patients

3.47 The committee heard that the current MRI licensing system leads to patients travelling to receive a Medicare eligible MRI scan, increases out of pocket costs, potentially delays diagnosis and has a particular impact on the diagnosis of children.

Out-of-pocket costs

3.48 The committee heard that the restrictive MRI licensing system results in out-of-pocket costs for patients for the MRI scan itself and for costs associated with seeing a medical specialist in order to be referred for a certain scan and potentially travelling long distances to access a Medicare eligible MRI scan in a timely manner.⁷⁴

3.49 New South Wales Health submitted that a gap payment may be charged by private providers for an MBS eligible scan, even when the scan is performed by an

72 Prof Khangure, *Committee Hansard*, 9 November 2017, p. 2.

73 Mrs Baxter, *Committee Hansard*, 9 November 2017, p. 30.

74 See, for example: Macquarie Medical Imaging, *Submission 5*; Synergy Medical Imaging Pty Ltd, *Submission 10*; Queensland Nurses and Midwives' Union (QNMU), *Submission 13*; RANZCR, *Submission 14*; Sunshine Coast Hospital and Health Service, *Submission 22*, [p. 1]; ASMIRT, *Submission 24*; New South Wales Health, *Submission 33*, p. 4.

MBS eligible MRI machine as the Medicare rebate may not reflect the actual cost of performing the scan.⁷⁵

3.50 The Australian Diagnostic Imaging Association (ADIA) informed the committee that between 2010-11 and 2015-16, the average gap payment between the Medicare rebate and amount charged for an MRI scan has increased from \$143 to \$184.⁷⁶ This is significantly more than the average out-of-pocket cost for diagnostic imaging services in 2016-17 of \$97.11.⁷⁷

3.51 As discussed further in chapter five, there are a number of MRI scans which are considered standard of care but are not included on the MBS and are therefore not eligible for a Medicare rebate. Scans can only be added to the MBS on the advice of MSAC, and at this stage these scans have not received MSAC recommendation.

3.52 For example, Breast Cancer Network Australia (BCNA) submitted that as a breast MRI is not included on the MBS, patients face high out-of-pocket costs for this scan which varies significantly between radiology practices.⁷⁸ In response to a survey conducted by BCNA, a respondent noted that 'my surgeon recommends having an MRI but it is very expensive. It seems unfair that this valuable test is only available to women who can afford it.'⁷⁹

3.53 Research conducted by Deloitte Access Economics showed that a breast MRI can cost between \$450 and \$1500 and over half of women paid at least \$753 for the MRI scan.⁸⁰ BCNA added that young women who are diagnosed with breast cancer face further financial strain as they often do not have the life savings which older women have to fund their treatment.⁸¹

3.54 Similarly, the Prostate Cancer Foundation of Australia told the committee that there is currently no Medicare rebate for a multiparametric MRI which results in patients paying approximately \$500–\$600 per scan.⁸² Associate Professor Lowe noted that prostate cancer patients are often retirees and therefore the out-of-pocket costs represent a substantial amount compared to a working age person.⁸³

75 New South Wales Health, *Submission 33*, p. 5.

76 ADIA, *Submission 17*, p. 7.

77 Department, *Submission 18*, p. 23.

78 Breast Cancer Network Australia (BCNA), *Submission 32*, p. 3.

79 BCNA, *Submission 32*, p. 3.

80 BCNA, *Submission 32*, p. 4.

81 Ms Danielle Spence, Director of Policy and Advocacy, BCNA, *Committee Hansard*, 13 December 2017, p. 20.

82 Associate Professor Anthony Lowe, Chief Executive Officer, Prostate Cancer Foundation of Australia, *Committee Hansard*, 13 December 2017, p. 19.

83 A/Prof Lowe, *Committee Hansard*, 13 December 2017, p. 20.

3.55 An individual told Rare Cancers Australia that their grandfather had to travel significant distance to receive an MRI scan with the associated travel costs representing a further financial burden, in addition to the cost of the MRI:

My grandfather had to travel 3 hours each way for his first MRI scan, at which point neither his scan or petrol costs or anything were covered, despite getting a cancer diagnosis from the MRI.⁸⁴

3.56 Dr Evan Jones, Director of Morayfield Family Doctors in Queensland, explained that the current licensing system can generate further out-of-pocket costs for patients as GPs often refer patients to a specialist, at a cost to the patient, as only the specialist can refer the patient for a scan on a fully licenced MRI machine.⁸⁵ Dr Jones explained that:

...GPs are restricted from ordering MRIs on a range of conditions. Therefore, to get an MRI under a Medicare rebate they have to be referred to a specialist. To see, say, an orthopaedic specialist privately they might have to pay \$400 or \$450. That is a lot of out-of-pocket cost to see the specialist, who will see them and say, 'You need an MRI' and fill out the MRI form, and then they have to wait, have the MRI, wait for the next appointment and pay the next bill to the orthopaedic surgeon or what have you.

3.57 The licensing system can also lead to out-of-pocket costs for patients in a hospital with a partial MRI licence who require an MRI which only attracts a Medicare rebate on a fully licenced MRI machine.⁸⁶ UnitingCare Queensland explained that transporting patients to a fully licenced MRI machine is often not possible and this results in a cost to the patient:

In times of emergency, particularly with brain or spinal trauma where immediate access to an MRI scan is required, the last thing we want to do is expose the patient to excessive and avoidable movement. It is therefore in the patient's interest to conduct a full Medicare MRI scan, but then the patient will be met with substantial out of pockets costs for doing so. [...]

Even if patient transport is an option, the costs of doing so are not minimal and utilise scarce resources that could no doubt be better utilised elsewhere.⁸⁷

3.58 The burden of out-of-pocket costs for an MRI scan can lead to patients choosing to forego the scan or face extended waiting periods for a Medicare eligible scan, if the scan required is listed on the MBS.⁸⁸

84 Rare Cancers Australia, *Submission 31*, p. 2.

85 Dr Evan Jones, Director, Morayfield Family Doctors, *Committee Hansard*, 13 December 2017, p. 45.

86 UnitingCare Queensland, *Submission 36*, p. 3. See also: Macquarie Medical Imaging, *Submission 5*, p. 4.

87 UnitingCare Queensland, *Submission 36*, p. 3.

Delayed diagnosis and treatment

3.59 Both out-of-pocket costs and the accessibility of an MRI can contribute to a delay in the diagnosis and treatment of a patient's condition. Professor Khangure explained that:

If they can't travel for whatever reason or the access is through an unlicensed machine, that is another out-of-pocket cost, so it still ends up a situation where the patient ends up with both a delay and a cost. Sometimes they delay the investigation.⁸⁹

3.60 Similarly, the committee was told that where patients cannot afford to pay out-of-pocket for an MRI they may be forced to join long waiting lists which prolongs the diagnosis and treatment of their illness:

They have to wait months just to get the outpatient clinic appointment, then they would be waiting to get a diagnosis, then waiting to see a specialist and then waiting for surgery.⁹⁰

3.61 Cancer Council Northern Territory reported that patients can wait between two and three weeks for an outpatient MRI scan which ultimately 'puts significant delays in their cancer journey, the road to a definitive diagnosis, delays to MDT [multidisciplinary team] discussion and treatment plan.'⁹¹

3.62 The committee heard that MRI is a 'one stop imaging shop' for the diagnosis of many conditions but that restricted access to MRI can delay this diagnosis.⁹² Dr Jones provided an example of a patient who went undiagnosed and untreated for five years before undergoing an MRI scan:

He'd had lots of investigations. He'd had X-rays and he'd had CT scans but he hadn't had the right investigation, which was an MRI. I convinced him to spend the money and he went out and got an MRI and of course what it showed was that he had widespread multiple sclerosis. That's a 37-year-old man who for five years has not been able to work. He now has significant cognitive impairment: he has difficulties with memory; he has difficulties with concentration. He will never be able to work again. If he'd had the right diagnosis at the right time in the right way, we could have instituted treatment and he could have continued with his life.⁹³

3.63 Similarly, MS Research Australia (MSRA) submitted that the diagnosis, ongoing monitoring and treatment of multiple sclerosis (MS) is heavily reliant upon

88 See, for example: ACRRM, *Submission 4*, p. 3; Australasian Society for Ultrasound in Medicine, *Submission 11*, pp. 3–4; RANZCR, *Submission 14*, p. 8.

89 Prof Khangure, *Committee Hansard*, 9 November 2017, p. 2.

90 Mrs Geraldine Ormonde, Senior Marketing Manager, Perth Radiological Clinic, *Committee Hansard*, 9 November 2017, p. 26.

91 Cancer Council Northern Territory, *Submission 6*, p. 2.

92 Dr Slater, *Committee Hansard*, 13 December 2017, p. 4.

93 Dr Jones, *Committee Hansard*, 13 December 2017, p. 45.

the use of MRI scans.⁹⁴ MSRA explained that increased accessibility to MRI would reduce the delay in the diagnosis of MS and hence improve outcomes for the initiation of treatment and long term disability outcomes of patients with MS.⁹⁵

3.64 As outlined in chapter two, repeated travel from rural and regional locations to access an MRI scan and other diagnostic imaging services, further delays the diagnosis and treatment of patients who do not live in metropolitan areas.⁹⁶

Impact on children

3.65 The committee also heard that the difficulties associated with accessing MRI machines and the tendency instead towards performing CT scans has a particular impact on children. Dr Slater explained that CT is not only an inferior test to MRI, but that CT also exposes children to radiation:

The risk, firstly, is of the diagnosis not being made. A CT is a test that is inferior to MRI for the diagnosis of brain pathology. Secondly, there is the risk of radiation. Young people and children are particularly susceptible to subsequent cancers from exposure to radiation in their childhood. Thirdly, there's a risk that subsequent tests would still have to be done to make the diagnosis. You heard the unfortunate situation where the child might have a CT and would still end up having an MRI later.⁹⁷

3.66 Similarly, Women's Healthcare Australasia (WHA) and Children's Healthcare Australasia (CHA) submitted that the widespread use of CT as a proxy to MRI, due to the lack of available MRI services, exposes children to high levels of radiation.⁹⁸ Associate Professor Susan Moloney, Member of CHA, informed the committee that for approximately every 1000 CT scans performed on children, one child will develop cancer.⁹⁹

3.67 Dr Richard Zwar from the Peter MacCallum Cancer Centre noted that modern CT scanners are dual energy which expose patients to significantly less radiation, equivalent to only background radiation every individual receives.¹⁰⁰ However, Associate Professor Moloney added that the varying ages and doses of radiation from CT scanners still contribute to children developing cancer from a CT scan, with

94 MS Research Australia (MSRA), *Submission 27*, p. 1.

95 MSRA, *Submission 27*, p. 2.

96 AMA, *Submission 7*, p. 5.

97 Dr Slater, *Committee Hansard*, 13 December 2017, p. 4. See also Children's Health Queensland, *Submission 19*, [p. 1].

98 WHA and CHA, *Submission 26*, p. 3.

99 A/Prof Moloney, *Committee Hansard*, 9 November 2017, p. 6. See, also: RANZCR, *Submission 14*, p. 6.

100 Dr Richard Zwar, Director of Radiology, Peter MacCallum Cancer Centre, *Committee Hansard*, 9 November 2017, p. 15. See also Peter MacCallum Cancer Centre, *Submission 16*, p. 2.

machines in rural and regional Australia more likely to be older and have higher radiation doses.¹⁰¹

3.68 Further restricting children's access to MRI is the time taken to conduct the scan. An MRI scan requires children to stay still in a noisy machine and can take between 45 minutes and an hour to complete, compared to only 45 seconds for a CT scan.¹⁰² Therefore, children under the age of eight often require a general anaesthetic in a tertiary medical centre to undergo an MRI scan, further limiting the accessibility of MRI to children.¹⁰³

3.69 Ms Julie Hale, Deputy Chief Executive Officer, CHA, noted that while young children can undergo an MRI scan without general anaesthetic, this requires time for the child to become acclimatised to the machine, and there is no incentive to allocate additional time for a child's MRI scan under the current system.¹⁰⁴

Committee view

3.70 The committee recognises that the cost of an MRI scan can place a significant financial burden on patients, often at a time when they are severely injured or unwell, worsening an already stressful time in their lives.

3.71 The committee acknowledges that the out-of-pocket costs faced by patients, in addition to the travel required to access a Medicare eligible MRI scan, may delay or even prevent a patient receiving their diagnosis. The committee notes that this can have devastating impacts for the patient and may have a deleterious impact on the health system if the patient's condition worsens and requires acute care in the future.

3.72 The committee is particularly concerned by reports that children are being subjected to the radiation of CT scans due to issues associated with the accessibility of MRI machines and a lack of incentive to accommodate the additional time required for children.

Impact on the health system

3.73 The MRI licensing system and its impact on patients has ramifications across the whole health system. Submitters and witnesses called for reform of the MRI licence system, but recognised that any reform also requires consideration of the effect on the broader health system.

Reforming the MRI licence process

3.74 A criticism put to the committee by submitters and witnesses was the lack of an objective and transparent application process for new MRI licences. Stakeholders were overwhelmingly in favour of reforming the current MRI licence system and

101 A/Prof Moloney, *Committee Hansard*, 9 November 2017, p. 6.

102 Ms Hale, *Committee Hansard*, 9 November 2017, p. 8; WHA and CHA, *Submission 26*, p. 3.

103 A/Prof Moloney, *Committee Hansard*, 9 November 2017, p. 6.

104 Ms Hale, *Committee Hansard*, 9 November 2017, p. 8.

stressed the need for an objective and transparent process, but differed somewhat on the proposed criteria for new licences.¹⁰⁵

3.75 RANZCR submitted that GPs should have the ability to refer patients for the full range of MRI scans to enable GPs to maintain management of their patients and potentially avoid unnecessary specialist referrals, saving both the patient and health system time and money.¹⁰⁶

3.76 The AMA supported the idea that patients should be able to access an MRI on the basis of clinical need, rather than through a licence system.¹⁰⁷

3.77 Mr Dean Lewsham, Chief Executive, Primary Health Care Limited also agreed that clinical need should be an aspect of an objective application process but that consideration should also be given to the gap between accessibility of MRI in regional and metropolitan areas.¹⁰⁸

3.78 In order to address the accessibility of MRI in Australia, the Perth Radiological Clinic suggested the introduction of an application process for licences which responded to specific criteria including need in the community, health demographics, level of disadvantage in the community, level of investment for the equipment and a profile of the operating clinician.¹⁰⁹

3.79 Similarly, New South Wales Health recommended that an area of need approach, similar to the Commonwealth Government's radiation oncology health program grant scheme, should be implemented to ensure that the process under which licences were granted promoted equity in access for all patients.¹¹⁰

3.80 A number of witnesses and submitters also questioned whether the differentiation between partial and full licences should be removed. Cancer Voices Australia recommended that all MRI machines be eligible for Medicare rebates to ensure that all cancer patients in Australia have equal access to MRI and are provided quality care.¹¹¹

3.81 However, some witnesses were hesitant to suggest that the MRI licensing system should be completely de-regulated as it would be very costly and may not improve the outcome or accessibility for patients.¹¹²

105 See, for example: Dr Slater, *Committee Hansard*, 13 December 2017, p. 2; Cancer Voices Australia, *Submission 1*, p. 2; AMA, *Submission 7*, pp. 3–4; Synergy Medical Imaging Pty Ltd, *Submission 10*, p. 5; ADIA, *Submission 17*, p. 2; Perth Radiological Clinic, *Submission 29*, [pp. 1–3].

106 RANZCR, *Submission 14*, p. 4.

107 Prof Khangure, *Committee Hansard*, 9 November 2017, p. 2.

108 Mr Lewsam, *Committee Hansard*, 13 December 2017, p. 31.

109 Perth Radiological Clinic, *Submission 29*, p. 2.

110 New South Wales Health, *Submission 33*, pp. 3–4.

111 Cancer Voices Australia, *Submission 1*, p. 2. See also Cairns Radiology, *Submission 38*, [p. 1].

112 See, for example: Dr Zwar, *Committee Hansard*, 9 November 2017, p. 16.

3.82 Professor John Magnussen emphasised that any change to the MRI licensing system should consider patient care as paramount:

And in all of this an important thing to remember is that we have to aim for quality outcomes. We want to improve patient care, because if we're not improving patient care, if we just open up licences everywhere, we haven't achieved much but we've spent a lot of money.¹¹³

3.83 While MRI scans amounted to only four percent of MBS services claimed in 2016-17, this equated to a disproportionately high 13 per cent of all MBS benefits paid.¹¹⁴ Therefore reform to the MRI licensing system is likely to have significant cost implications.

3.84 The Department advised that upgrading all current partially licensed MRI machines to a full licence would cost approximately \$150 million per year.¹¹⁵ Full deregulation of the MRI licence system, including upgrading all partial machines to a full licence and conferring eligibility on existing privately operated MRI machines, would cost over \$400 million per year if all machines were operating at full capacity.¹¹⁶

Offsetting the cost to the health system

3.85 The committee heard that the current MRI licensing system places significant cost not only on patients, but also on the public health system. This is a result of patients deferring medical care, receiving multiple tests in place of MRI and the cost of transporting patients between hospitals for an MRI scan on a licensed machine.

3.86 The AMA submitted that when people defer or avoid medical care due to cost, there are consequences downstream in the health system.¹¹⁷ Professor Khangure explained that when diagnostic imaging is used appropriately and effectively, it saves the health system money:

It saves money because it is critical to an early diagnosis, treatment and disease monitoring. Early diagnosis and treatment and appropriate monitoring prevent much higher downstream costs arising from more expensive hospital stays and higher cost medical care.¹¹⁸

3.87 In regard to offsetting the cost of a potential increase in the use of MRI, Professor Khangure explained that often the alternative diagnostic imaging modality to an MRI is more than one test, such as a combined ultrasound and CT, or an invasive hospital procedure, and that the cost to the health system must be considered holistically:

113 Prof Magnussen, *Committee Hansard*, 13 December 2017, p. 32.

114 Department, *Submission 18*, p. 11.

115 Department, *Submission 18*, p. 28.

116 Department, *Submission 18*, p. 29.

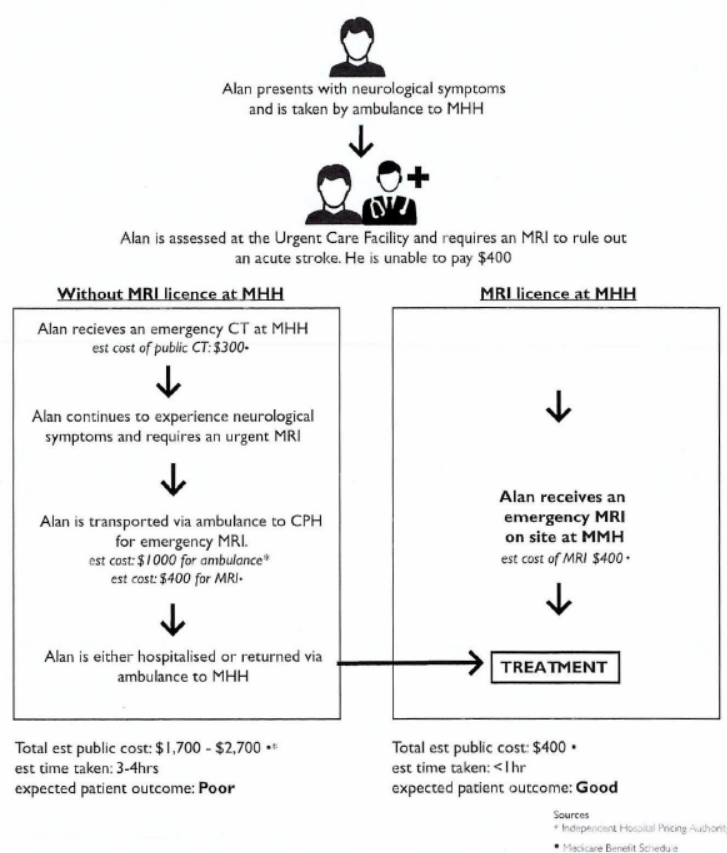
117 AMA, *Submission 7*, p. 2.

118 Prof Khangure, *Committee Hansard*, 9 November 2017, p. 1.

The question is: what is the overall cost of health care, not just the cost of the imaging component? If you reduce the overall cost in health care by not having the patient hospitalised for a more invasive procedure but the alternative is a little more expensive in investigation, the overall cost structure is still less. It's a bit more complex than simply saying that doing an MRI reduces the cost of imaging—it may not—but it reduces the cost in health care, which is really the bit we need to be looking at.¹¹⁹

3.88 Mr Jim Aspinwall provided an example to the committee of a hypothetical patient named Alan who presents at a local health hub with neurological symptoms.¹²⁰

Figure 3.1—Treatment pathways for patients with access to fully licensed MRI



Source: Mr Jim Aspinwall, Director, X-ray and Imaging, *MRI Licence Requirement Morayfield Health Hub*, p. 1 (tabled 13 December 2017).

Committee view

3.89 The committee is of the view that there is a need for reform of the MRI licensing system. The committee is pleased that advice has been provided to the Minister for Health regarding the distribution and availability of MRI licences, including possible options for reform and urges the Minister to urgently consider this information with a view to reform.

119 Prof Khangure, *Committee Hansard*, 9 November 2017, p. 3.

120 Mr Aspinwall, *MRI Licence Requirement Morayfield Health Hub*, p. 1 (tabled 13 December 2017).

3.90 The committee recognises that an expansion in the number of MRI licences may incur significant cost to the Australian government, but notes that these costs may be offset elsewhere within the public health system.

Chapter 4

Diagnostic imaging workforce

4.1 Regardless of the modality, a highly trained workforce is essential to obtaining high quality diagnostic images.¹ The Department of Health, Western Australia told the committee that having the right workforce improves the quality of diagnostic images and increases diagnostic accuracy:

I think it is important that we focus on not just having machines around the country and reducing the travel time but also on having the right workforce. The breadth of the workforce spans the radiologists, radiographers, sonographers, nuclear med physicians and technicians, physicists, nursing staff and, these days, also potentially IT support. If you have the right workforce, the quality of the images improve, your useful lifespan is potentially increased and the diagnostic accuracy is also increased.²

4.2 This chapter will outline that there is a shortage of diagnostic imaging specialists and technicians—sonographers, radiographers and radiologists—to meet Australia's current and future need, but some steps have been taken to manage this shortage.

Sonographers

4.3 Sonographers are specialists in conducting and interpreting diagnostic ultrasounds.³ The Australian Sonographers Association (ASA) informed the committee that, like other forms of diagnostic imaging, diagnostic ultrasound is 'highly operator dependent' so there is a need for highly trained sonographers across the country.⁴

4.4 The call for additional sonographers was reiterated by the WA Country Health Service which explained that a lack of sonographers was delaying access to services for patients in rural areas:

...some facilities may only have sonography once a week, and that's because we can only get a sonographer once a week.⁵

1 Dr Richard Zwar, Director of Radiology, Peter MacCallum Cancer Centre, *Committee Hansard*, 9 November 2017, p. 16; Australian Medical Association (AMA), *Submission 7*, pp. 2–3; Medical Oncology Group of Australia, *Submission 28*, p. 1.

2 Dr Audrey Koay, Executive Director, Patient Safety and Clinical Quality, Department of Health, Western Australia, *Committee Hansard*, 9 November 2017, p. 29.

3 Australian Sonographers Association (ASA), *Submission 40*, p. 3.

4 ASA, *Submission 40*, p. 3.

5 Mrs Marie Baxter, Executive Director of Nursing and Midwifery, WA Country Health Service, *Committee Hansard*, 9 November 2017, p. 33.

Training and clinical placement

4.5 The Australasian Society for Ultrasound in Medicine (ASUM) highlighted that there is currently a recognised shortage of trained sonographers and there has been for at least 10 years.⁶

4.6 Training to become a sonographer involves both a course of study and clinical practice, but there are not enough clinical training places for the number of available graduates.⁷ The ASA told the committee that clinical practice is a vital part of a sonographer's training, but these places are becoming increasingly scarce:

There are a number of academic courses available to student sonographers, including two and three-year postgraduate diplomas and a four-year comprehensive course. However, the bulk of the student training needs to be conducted in a clinical setting, and the places available for this training are rapidly diminishing.⁸

4.7 Both the ASA and ASUM explained that independent practices are reluctant to incur the significant financial burden required to facilitate clinical training for sonographers and that the number of training places is diminishing as a result.⁹ Both organisations noted that training a sonographer requires an independent practice to pay both a senior staff member and the trainee for up to two years to allow the trainee to undertake at least 2000 hours of clinical practice.¹⁰

4.8 ASUM explained to the committee that the shortage of training places was leading students seeking clinical places to work for free:

Many sonographer trainees are offering to work for free to gain a clinical placement and open up an opportunity for employment if they are able to prove their value. Even these students struggle to be trained due to the cost of insurance for the practices and the issues around employment and work health and safety.¹¹

4.9 To encourage independent practices to facilitate the clinical training of sonographers, both ASUM and the ASA requested that a subsidy be provided to independent radiology practices.¹²

Accreditation

4.10 In the absence of a sufficient supply of trained sonographers, ASUM told the committee that in some cases practitioners in other fields, who may not be trained to do so, are providing point of care ultrasound.¹³

6 Australasian Society for Ultrasound in Medicine (ASUM), *Submission 11*, p. 2.

7 ASA, *Submission 40*, p. 3.

8 ASA, *Submission 40*, p. 3.

9 ASUM, *Submission 11*, p. 2; ASA, *Submission 40*, p. 3.

10 ASA, *Submission 40*, p. 3.

11 ASUM, *Submission 11*, p. 3.

12 ASUM, *Submission 11*, p. 3; ASA, *Submission 40*, p. 3.

4.11 ASUM explained that, under current accreditation rules, any specialist can perform and claim an ultrasound under the Medicare Benefits Schedule (MBS).¹⁴

4.12 ASUM argued that allowing an unqualified practitioner to perform an ultrasound could be detrimental to both the patients and the public health system because it often led to scans having to be redone at additional expense:

...patients would therefore assume, if they get an ultrasound... that person would indeed be qualified. This is an expectation the patients should be able to have, but unfortunately it is not always the case. This will potentially lead to many examinations, requiring an ultrasound study to be repeated and again putting the patient at risk of potential missed diagnosis or misdiagnosis, as well as adding a further burden on the Commonwealth purse.¹⁵

4.13 The Australian College of Rural and Remote Medicine (ACRRM) notes in its submission that a lack of specialist staff requires rural practitioners to 'take on roles ordinarily the preserve of specialists in the cities'.¹⁶ This may include taking on the role of sonographer.

4.14 To ensure that its members can continue to provide high quality care, the ACRRM offers six training courses per year in the provision of high quality diagnostic ultrasound.¹⁷

4.15 The ACRRM noted that the Commonwealth Government Department of Health (Department), in response to a large increase in the number of ultrasounds being conducted in Australia, is considering revising accreditation standards to require practitioners to undertake formal training and assessment before being allowed to claim Medicare benefits for conducting diagnostic ultrasounds.¹⁸

4.16 ACRRM advised the committee that the Department is considering requiring practitioners to complete the Diploma of Diagnostic Ultrasound from ASUM.¹⁹

4.17 However, the ACRRM suggested that the 'access for candidates, content requirements/relevance and time necessary for completion' meant that the Diploma of Diagnostic Imaging from ASUM was not appropriate for rural doctors.²⁰

4.18 The ACRRM warned that if the wrong accreditation standard was selected, it could end up having 'a very deleterious effect on the timely access to services to rural and remote communities'.²¹

13 ASUM, *Submission 11*, p. 2.

14 Professor George Condous, President, ASUM, *Committee Hansard*, 13 December 2017, p. 36.

15 Prof Condous, *Committee Hansard*, 13 December 2017, p. 36.

16 Australian College of Rural and Remote Medicine (ACRRM), *Submission 4*, pp. 2–3.

17 ACRRM, *Submission 4.1*, p. 4.

18 ACRRM, *Submission 4.1*, p. 5.

19 ACRRM, *Submission 4.1*, p. 5.

20 ACRRM, *Submission 4.1*, p. 5.

4.19 The ACCRM advised the committee that it would continue to work with the Department to identify suitable training for rural practitioners.²²

Nurses and nurse practitioners

4.20 One option to address the sonographer shortage is to invest additional resources to upskill nurses and nurse practitioners to perform some diagnostic ultrasounds.

4.21 The Queensland Nurses and Midwives' Union (QNMU) told the committee that nurses were already well-placed to provide access to x-ray and diagnostic ultrasound services, and in many cases already do so.²³

4.22 Since 2011, to address a shortage of specialist sonographers, nurse practitioners have been trained to provide pelvic ultrasound in cases of suspected miscarriage.²⁴ The QNMU advised the committee that this expanded scope of practice was first introduced in a metropolitan hospital, but could be extended to rural areas.²⁵

4.23 The ACCRM endorsed the nurse practitioner model and agreed that nurse practitioners could take on a larger role in some circumstances.²⁶

4.24 ACCRM also suggested that some sonography could be done with remote supervision, provided the trainee had access to the internet:

...there's no reason why the person at the point of care can't be moving the scan head around, with somebody remotely saying, 'Just turn it a little bit this way or that way or shift it over here.' I've been at a medical education conference in Sydney where we were watching medical students in Armidale undergoing ultrasound training by a professor of ultrasonography, live from Los Angeles, who was doing exactly the same thing. There's this weird territoriality around radiology that doesn't have much to do with the quality of care and access to care for rural and remote communities. You can make this happen. It's just a matter of initiating policy that mandates that this can occur.

Committee view

4.25 The committee recognises that there has been a substantial shortage of specialist sonographers in Australia for more than a decade. The committee considers that diagnostic ultrasound is an important and useful diagnostic modality that requires specialist training.

21 Associate Professor Thomas Doolan, Chairman, Education and Training Committee, ACCRM, *Committee Hansard*, 13 December 2017, p. 52.

22 ACCRM, *Submission 4.1*, p. 5.

23 Mr Jamie Shepherd, Professional Officer, Queensland Nurses and Midwives' Union (QNMU), *Committee Hansard*, 13 December 2017, p. 51.

24 QNMU, *Submission 13*, p. 4.

25 QNMU, *Submission 13*, p.

26 A/Prof Doolan, *Committee Hansard*, 13 December 2017, p. 54.

4.26 The committee understands that training a sonographer is expensive and that private radiology practices are reluctant to employ trainees. The committee also accepts that only a limited number of sonographers can be placed in public hospitals.

4.27 In the short term, the committee supports the upskilling of nurses and nurse practitioners to perform some sonography in both metropolitan and rural areas.

4.28 The committee accepts that rural and regional practice includes particular constraints that need to be accommodated when considering an appropriate accreditation standard. The committee welcomes the collaborative nature of the talks between the ACRRM and the Department and expects that an accreditation standard can be found that is mutually acceptable to both parties.

Radiographers / x-ray operators

4.29 Radiographers are highly skilled technicians who operate the various diagnostic imaging machines. Professor Richard Zwar from the Peter MacCallum Cancer Centre explained to the committee that radiographers specialise in operating particular machines:

They're highly skilled technicians, and they've now become very subspecialist... They are grouped into subgroups, basically, who operate the different modalities... This is because they need to have specific skills. There are hundreds of protocols on each of these instruments that need to be tweaked and nuanced for the individual patient's situation, often in consultation with the radiologist, who has to be on-site.²⁷

4.30 Mr Cook, Director of Medical Imaging with the Darling Downs Hospital and Health Service advised the committee that Queensland has a lack of specialist radiographers and that other staff have had to be trained to perform x-rays in addition to their other duties:

...there are over 130 X-ray-capable public sites in Queensland, and only 48 of those sites have professional and discretely employed radiographers. The remaining sites rely on non-radiographers or X-ray operators to perform the X-ray examinations on top of their substantive roles as doctors, nurses or operational and administrative staff.²⁸

4.31 A number of Queensland Hospital and Health Services advised the committee that where a non-radiographer workforce exists, there is often supervision from radiographers in larger hospitals and the images are reported via teleradiology.²⁹

27 Dr Zwar, *Committee Hansard*, 9 November 2017, p. 16.

28 Mr Aiden Cook, Director of Medical Imaging, Darling Downs Hospital and Health Service, *Committee Hansard*, 13 December 2017, p. 11. See also Mackay Hospital and Health Service, *Submission 43*, [pp. 1–2].

29 Metro North Hospital and Health Service, *Submission 23*, [p. 1]; West Moreton Hospital and Health Service, *Submission 25*, p. 2; Wide Bay Hospital and Health Service, *Submission 30*, [p. 2].

4.32 Whilst the Hospital and Health Services noted that having trained radiographers in rural hospitals would be ideal, the services accepted that other staff could be trained to take on these roles safely and efficiently with appropriate supervision.³⁰

4.33 Darling Downs Hospital and Health Service expressed concern that a better coordinated training regimen for non-radiographer staff was required:

X-ray operators are essential for the provision of basic imaging services to a significant rural and remote population and the majority of the geographical area of this country. There is a lack of modern and focused vocational qualification and training at a federal level to provide consistency of training to non-radiographer X-ray operators in low-volume rural and remote sites. This is desperately required to build and maintain an appropriately trained and regulated workforce.³¹

Radiologists

4.34 Radiologists are specialists in interpreting diagnostic images and also perform some interventional image-guided procedures.³²

4.35 As noted in chapter one, the Royal Australian and New Zealand College of Radiologists (RANZCR) and the Australian Diagnostic Imaging Association (ADIA) recommend the implementation of the *Quality Framework for Diagnostic Imaging* (Quality Framework).³³ The Quality Framework requires on-site supervision by a clinical radiologist 'to improve supervision and clinical oversight' of radiology services.³⁴

4.36 ADIA told the committee that implementing the Quality Framework would improve patient care and avoid unnecessary scans because an on-site radiologist would be able to advise practitioners and radiographers about the right test for a particular patient.³⁵

4.37 RANZCR President, Dr Greg Slater, provided the committee with an example from his own practice to demonstrate the benefits of having a radiologist on-site:

I was working recently in a practice in Cairns that my employer owns, and we received a referral for an eight-year-old child for a CT of the head. The

30 West Moreton Hospital and Health Service, *Submission 25*, p. 2; Wide Bay Hospital and Health Service, *Submission 30*, p. 2.

31 Mr Cook, *Committee Hansard*, 13 December 2017, p. 11. See also: Darling Downs Health and Hospital Service, *Submission 21*, p. 2.

32 See for example AMA, *Submission 7*, p. 1; Australian Diagnostic Imaging Association (ADIA), *Submission 17*, p. 5.

33 Dr Greg Slater, President, Royal Australian and New Zealand College of Radiologists (RANZCR), *Committee Hansard*, 13 December 2017, p. 2; RANZCR, *Submission 14*, p. 1.

34 RANZCR, *Submission 14*, p. 3. See also ADIA, *Submission 17*, p. 5; Department of Health (Department), *Submission 18*, pp. 31–32.

35 Dr Sivash Es'haghi, President, ADIA, *Committee Hansard*, 13 December 2017, p. 4.

child had been having strange visual symptoms and headaches and was referred for the CT. The CT radiographer came to me, concerned about this referral, to seek advice. I contacted their referring doctor and suggested that an MRI would be a more appropriate test. The referring doctor was unaware that MRI was available. He thought his only option was to refer for CT. So we performed an MRI and it turned out that the child was perfectly okay. Nevertheless, the investigation needed to be done and it was quite clear that MRI was the appropriate test to be done in that situation.³⁶

4.38 Some other submitters disagreed that on-site radiologists were necessarily required.

4.39 Primary Health Care Limited, a private radiology clinic, argued that a more flexible model—one that permitted radiologists to provide supervision to multiple sites—could be a more efficient way of providing supervision:

For the last, say, 15 years I've been working for Primary [Health Care Limited] and almost sort of pioneered a model where radiologists travel between centres every day to provide supervision, procedures and attendance for things that require attendance. That's been tremendously successful in allowing us to maintain bulk-billing through a huge number of practices for a huge number of people, despite the fact that there have been no rebate rises and despite the fact that everything else has increased in cost. So, it's been incredibly efficient, and we've used teleradiology and other technologies very effectively.³⁷

4.40 Primary Health Care Limited suggested that accepting the Quality Framework could lead to some unintended consequences and negatively affect access to imaging services for some patients.³⁸

4.41 Primary Health Care Limited suggested that some of these unintended consequences could include increased workforce costs, reduced bulk billing, increased out-of-pocket costs and less innovation.³⁹ Primary Health Care Limited also suggested that requiring an on-site radiologist does not recognise that some current practice (in the case of non-contrast CT or cases of low complexity) does not require an on-site radiologist.⁴⁰

4.42 Primary Health Care Limited also suggested that the Quality Framework was not supported by evidence:

...the supervision rules proposed in the 'Quality' framework with regard to non-contrast CT imaging services are not evidence based, and will have a negative impact on the affordability and accessibility of diagnostic imaging

36 Dr Slater, *Committee Hansard*, 13 December 2017, p. 4.

37 Dr Gary Cohen, Radiologist, Private Health Care Limited, *Committee Hansard*, 13 December 2017, p. 32.

38 Primary Health Care Limited, *Submission 8*, p. 9.

39 Primary Health Care Limited, *Submission 8*, pp. 9–10.

40 Primary Health Care Limited, *Submission 8*, p. 10.

services. In fact, an independent report did not support a rules based approach to supervision of non-contrast CT.⁴¹

4.43 ADIA strongly disagreed with the arguments raised by Primary Health Care Limited. ADIA reassured the committee that the Quality Framework was developed to apply to metropolitan centres and reiterated that the on-site supervision requirement would not affect practices in rural and regional Australia from being able to provide CT or MRI services.⁴²

4.44 ADIA also pointed out that most radiology practices already employed a full-time on-site radiologist, that current rules require a radiologist to attend on a patient personally if required and that 81.2 per cent of CT services were bulk billed in 2016–17.⁴³

4.45 The Department advised that the Quality Framework would have significant implications for the diagnostic imaging sector and that the Commonwealth Government made a 2016 election commitment to the Quality Framework and is currently considering implementation of the Quality Framework.⁴⁴

Number of radiologists

4.46 A further concern raised by Primary Health Care Limited was that there are not enough radiologists to meet current or future supply.⁴⁵

The practical reality is that Australia does not have enough radiologists in the country to provide the level of supervision outlined in the RANZCR 'Quality' framework for current diagnostic imaging services around the country, let alone for the [diagnostic imaging] services that will be needed over the next decade as the population grows and ages.⁴⁶

4.47 ADIA refuted that suggestion, claiming that there is a sufficient number of radiologists to meet both current and future demand:

Based on the number of radiologists currently in practice and in training, there are enough radiologists in Australia to meet the proposed supervision requirements for CT, and meet future demand for radiology services.⁴⁷

41 Primary Health Care Limited, *Submission 8*, p. 9.

42 ADIA, *Statement to Senate Standing Committee of Community Affairs References Committee*, 13 December 2017, [p. 1] (tabled 13 December 2017).

43 ADIA, *Statement to Senate Standing Committee of Community Affairs References Committee*, 13 December 2017, [p. 1] (tabled 13 December 2017).

44 Department, *Submission 18*, p. 32; Mr David Weiss, First Assistant Secretary, Department, *Committee Hansard*, 13 December 2017, p. 63.

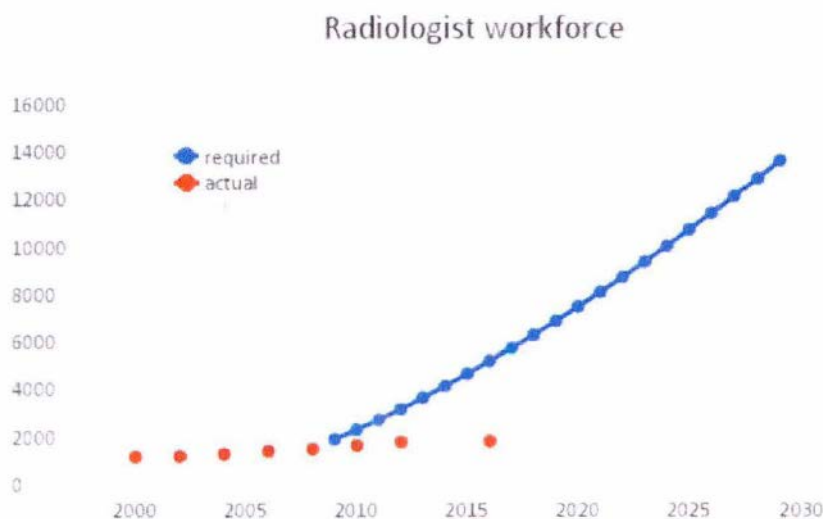
45 Primary Health Care Limited, *Submission 8*, p. 10.

46 Primary Health Care Limited, *Submission 8*, p. 9.

47 ADIA, *Statement to Senate Standing Committee of Community Affairs References Committee*, 13 December 2017, [p. 1] (tabled 13 December 2017).

4.48 Mr Jim Aspinwall, Director of X-Ray and Imaging disagreed with ADIA's assessment and provided the committee with a graph that demonstrated the gap between the actual number of radiologists and a projected number required to meet future need.⁴⁸

Graph 4.1—Radiologist workforce projection



Source: Mr Aspinwall, *Radiologist Shortage* (Tabled 13 December 2017).

4.49 The above graph demonstrates that there is a disparity between the number of radiologists currently employed in Australia and the number that is likely to be required to meet Australia's future radiology need.⁴⁹

4.50 Health Workforce Australia undertook workforce planning for the health system to help address shortages and growing demands for healthcare prior to its abolition in 2014. The Department considered that there was an undersupply of radiologists and radiation oncologists in 2014.⁵⁰ In 2016, the Department's modelling forecast that by 2030 there would be a workforce undersupply of radiologists and radiation oncologists of 25 per cent and 63 per cent respectively.⁵¹

48 Mr Jim Aspinwall, Director, X-ray and Imaging, *Radiology shortage*, December 2017, [p. 1] (tabled 13 December 2017).

49 Mr Aspinwall, *Radiology shortage*, December 2017, [p. 1] (tabled 13 December 2017).

50 Department, [Review of the Specialist Training Program and the Emergency Medicine Program](#), March 2017, p. 40.

51 Department, *Review of the Specialist Training Program and the Emergency Medicine Program*, March 2017, p. 40.

Table 4.1—2014 workforce undersupply and 2016 Department workforce forecast for 2030

Speciality	Table 4: 2014 workforce undersupply colour and assigned percentage	2016 Department workforce oversupply undersupply forecast for 2030
Anaesthesia	5%	-3.19%
Anatomical pathology n.a.	5%	-3.62%
Cardiology n.a.	0%	4.40%
Dermatology	5%	-5.82%
Endocrinology n.a.	5%	4.77%
Gastroenterology and hepatology n.a.	0%	15.04%
General medicine n.a.	10%	3.74%
General surgery	5%	-5.53%
Geriatric medicine	5%	1.45%
Intensive Care	0%	1.97%
Medical oncology n.a.	10%	8.96%
Nephrology n.a.	5%	-8.79%
Neurology n.a.	0%	3.70%
Obstetrics and gynaecology	5%	-10.47%
Ophthalmology	5%	-14.81%
Orthopaedic surgery n.a. (incl in general surgery)	0%	-13.52%
Other (clinical) pathology(a) n.a.	5%	-13.68
Other surgery(b)	0%	2.08%
Otolaryngology n.a. (incl in general surgery)	0%	25.25%
Paediatrics and child health	5%	-2.67%
Plastic surgery	0%	20.74%
Psychiatry	10%	-8.41%
Radiation oncology	10%	-63.70%
Radiology	5%	-23.53%

Source: Department, *Review of Specialist Training Program and Emergency Medicine Program*, March 2017, p. 40.

4.51 Dr Evan Jones, Director, Morayfield Family Doctors, told the committee that he believed that RANZCR was restricting the number of radiologists in Australia:

...we see as general practitioners that there's a protectionism within the specialist colleges. If you limit supply into your specialty, you can then command higher incomes. And we see this in numerous professions, not just radiology.⁵²

4.52 Dr Jones explained that specialist colleges are able to do this because they are able to control how many graduates they take each year:

52 Dr Evan Jones, Director, Morayfield Family Doctors, *Committee Hansard*, 13 December 2017, p. 44.

They're limiting the number of graduates who actually qualify, and they can do that in various ways: training positions, who actually passes the exam or doesn't pass the exam—all sorts of things. As a general practitioner trying to provide services into rural Australia, this is galling, because specialists want to stay in the cities; they want to command high incomes. And who loses out? Patients lose out.⁵³

4.53 A review of the Special Training Program and Emergency Medicine Program by the Department of Health recommended that the quota of training places for specialist radiologists be increased from 47 to 82 (54 for radiology and 26 radiation oncology).⁵⁴

Committee view

4.54 The committee considers that radiographers are an important part of the diagnostic imaging workforce, but also understands that hospitals operate under cost pressures. The committee commends Queensland's Health and Hospital Services on working with its existing workforce and using technology to ensure that patients in non-metropolitan centres continue to get access to x-ray services, even if the images have to be interpreted by teleradiology.

4.55 The committee understands that having a radiologist on-site, as required by the Quality Framework, may lead to better outcomes for patients as an on-site radiologist can advise on the radiology procedure. However, the committee also understands that more flexible ways of working may have their advantages but quality patient outcomes must be a priority.

4.56 The committee is concerned by the prospect that Australia may be facing a workforce shortage in radiology, especially as it is likely to further exacerbate the health disadvantage that is already experienced by Australians who live in regional and rural areas.

4.57 The committee welcomes the prospect that more training places for radiologists will become available under the Specialist Training Program. However, the committee calls on the RANZCR to do more to help increase the supply of Australian radiologists.

53 Dr Jones, *Committee Hansard*, 13 December 2017, p. 44.

54 Department, *Review of Specialist Training Program and Emergency Medicine Program*, Final Report, March 2017, p. 81.

Chapter 5

Funding and the Medicare Benefits Schedule

5.1 The Commonwealth Government funds diagnostic imaging services through the Medicare Benefits Schedule (MBS) and the National Health Reform Agreement (NHRA).¹

5.2 The MBS is a Commonwealth Government funded subsidy scheme.² Under the MBS, subsidised professional services are allocated an item number. At the point of service delivery, if the conditions of the item number are met, the patient is entitled to a rebate.

5.3 The NHRA was a health funding arrangement signed by the Commonwealth Government and all state and territory governments in 2011.³ The NHRA allows public patients in public hospitals to have their diagnostic imaging provided to them free of charge.⁴

5.4 This chapter will consider the challenges posed by attempting to provide financial assistance to the largest number of patients with costly health conditions against maintaining a sustainable system over the medium to long term. In particular, this chapter will consider: the number of services that are currently provided and the cost of providing those services; the benefits and challenges of managing MBS indexation; items that are currently standard practice but are not on the MBS; and the operation of special diagnostic imaging provisions of the MBS.

Volume and cost of services

5.5 According to data provided by the Department, 394.3 million services were funded under the MBS in 2016–17 at a total cost of \$22 billion.⁵ Of this total, diagnostic imaging services accounted for 25.7 million services (seven per cent) and \$3.4 billion in benefits (16 per cent).⁶ A visual representation of these services and their cost appears in Figures 5.1 and 5.2.

1 Department of Health (Department), *Submission 18*, p. 5.

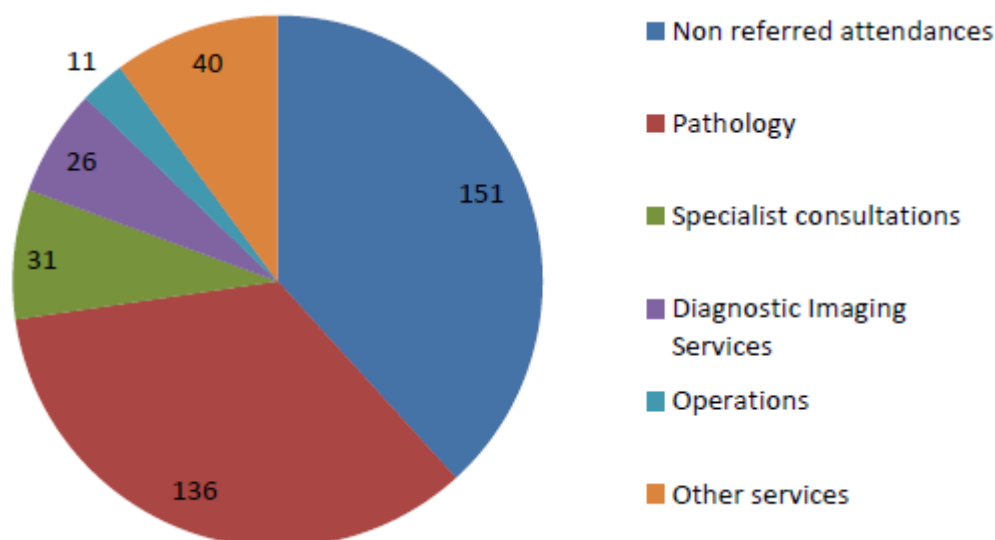
2 Department, *MBSOnline*, <http://www.mbsonline.gov.au/internet/mbsonline/publishing.nsf/Content/Home> (accessed 22 February 2018).

3 Administrator of the National Health Funding Pool, *National Health Reform Agreement summary*, <https://www.publichospitalfunding.gov.au/national-health-reform/agreement> (accessed 22 February 2018).

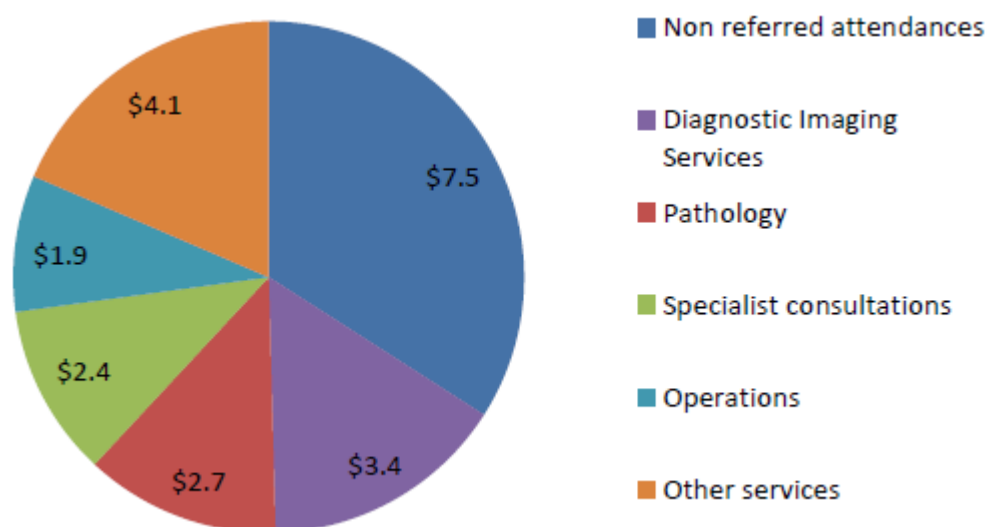
4 Administrator of the National Health Funding Pool, *National Health Reform Agreement*, http://www.federalfinancialrelations.gov.au/content/npa/health/_archive/national-agreement.pdf (accessed 22 February 2018).

5 Department, *Submission 18*, p. 17.

6 Department, *Submission 18*, p. 17.

Figure 5.1: Number of MBS services by category (millions) 2016–17

Source: Department, *Submission 18*, p. 17.

Figure 5.2: MBS benefits by category (billions) 2016–17

Source: Department, *Submission 18*, p. 17.

5.6 The funding for diagnostic imaging services is provided for by the *Health Insurance Act 1973* (Cth), and its associated regulations, the *Health Insurance Regulations 1975* and the *Health Insurance (Diagnostic Imaging Services Table) Regulation 2017 (DIST)*.⁷ The *Health Insurance Act 1973* and the DIST provide for 'the conditions under which Medicare benefits are payable'.⁸

7 Each Medicare Benefits Schedule (MBS) service is allocated a schedule fee. Generally, this fee takes into account the expense incurred by a service provider to deliver a service, including capital costs of the equipment used. See, Department, *Submission 18*, p. 17.

8 Department, *Submission 18*, pp. 16–17.

Re-indexation of diagnostic imaging services

5.7 Whilst the diagnostic imaging component of the MBS is substantial, the cost to the MBS has been constrained by freezing the schedule fee for diagnostic imaging services.

5.8 Prior to 1998, decisions about MBS fee increases were made annually.⁹ Between 1 July 1998 and 30 June 2008, diagnostic imaging expenditure was managed under Memoranda of Understanding (MoU) between the Commonwealth Government and the diagnostic imaging sector.¹⁰ In April 2008, the government announced that the MoUs would be discontinued and 'MBS fees applicable at that time would apply'.¹¹

5.9 The MBS schedule fee for diagnostic imaging services has remained the same since 2007.¹² Table 5.1 lists the dates of the last schedule fee increase for diagnostic imaging services.

Table 5.1: Dates of last schedule fee increase for diagnostic imaging services

Group	Date of last schedule fee increase
Ultrasound (except cardiac)	1 November 2004
Ultrasound—Cardiac	1 November 2007
CT	1 November 2004
Diagnostic radiology	1 November 2004
Nuclear medicine imaging	1 November 2006
MRI	1 July 2006

Source: Department, *Submission 18*, p. 21.

5.10 Professor Mark Khangure from the Australian Medical Association told the committee that the failure of MBS benefits to keep up with real costs means that practices have had to continually absorb costs or pass the costs on to patients:

Indexation for general practice items is a few years; indexation, or loss of, for imaging is virtually two decades. The total cost of equipment, of staff salaries, of running the practice itself, has gone up, with CPI [Consumer Price Index] alone well above, so there's a point in time where the practice

9 Department, *Submission 18*, p. 20.

10 Department, *Submission 18*, p. 20.

11 Department, *Submission 18*, p. 21.

12 Department, *Submission 18*, p. 19.

either folds up or it actually has to just say up-front to the patients: 'I'm sorry. You have to pay.'¹³

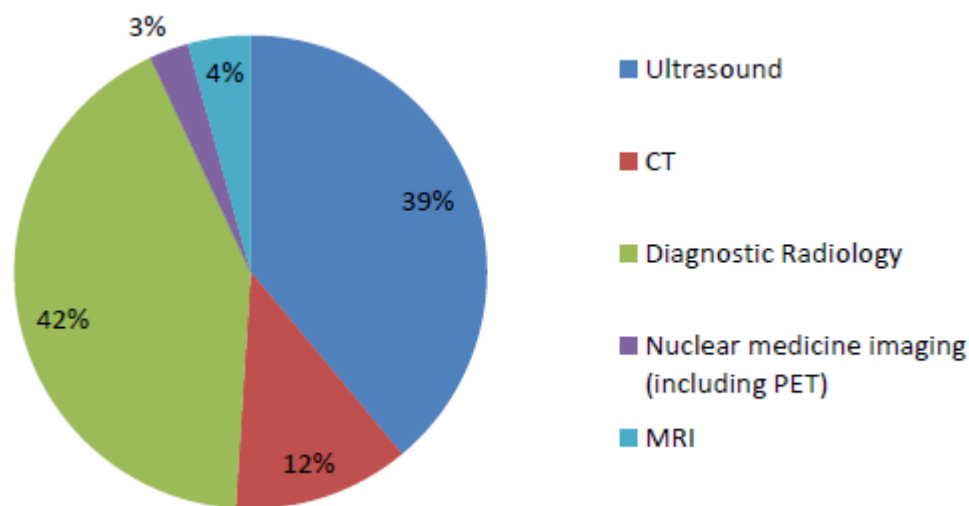
5.11 The WA Country Health Service also explained that current MBS revenue was not sufficient to cover the cost of public imaging services in rural Western Australia:

MBS rebates are a gross underrepresentation of the costs associated with providing an imaging service—particularly in regional areas, where costs are significantly higher. Almost every externally referred patient presenting for imaging in WA Country Health Service's imaging department costs the health service a sum of money, even after MBS revenue.¹⁴

5.12 In the 2017–18 Budget, the Commonwealth Government announced that some diagnostic imaging services would be re-indexed from 1 July 2020.¹⁵ The Department advised the committee that this limited re-indexation would cost \$20.6 million in 2020 and would increase diagnostic imaging expenditure by \$700 million over ten years.¹⁶ The committee heard from the Australian Diagnostic Imaging Association (ADIA) that the Government's 2016 election commitment to ensure that diagnostic imaging indexation resumes when the current GP rebate indexation freeze concludes is yet to be implemented.¹⁷

5.13 During 2016–17, patients claimed the following diagnostic imaging services as detailed in Figure 5.3.

Figure 5.3—Percentage MBS services by modality 2016–17



Source: Department, *Submission 18*, p. 5.

13 Professor Mark Khangure, Councillor, Australian Medical Association, *Committee Hansard*, 9 November 2017, pp. 3–4.

14 Mrs Marie Baxter, Executive Director of Nursing and Midwifery, WA Country Health Service, *Committee Hansard*, 9 November 2017, p. 30.

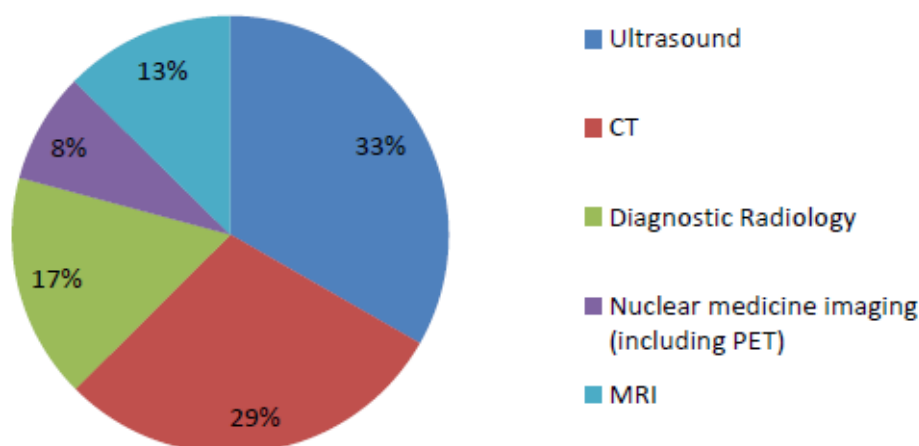
15 Commonwealth of Australia, *Budget Measures: Budget Paper No. 2 2017–18*, p. 108.

16 Department, *Submission 18*, p. 21.

17 Australian Diagnostic Imaging Association (ADIA), *Submission 17*, p. 5.

5.14 The Commonwealth Government paid over \$3.4 billion in patient rebates during the 2016–17 financial year.¹⁸ Thirty-three per cent of this \$3.4 billion was provided as ultrasound rebates, followed by 29 per cent for CT, 17 per cent for diagnostic radiology, 13 per cent for MRI and eight per cent for nuclear medicine imaging.¹⁹ A visual representation is included below in Figure 5.4.

Figure 5.4—Percentage MBS benefits by modality 2016–17



Source: Department, *Submission 18*, p. 18.

5.15 The Department has also identified that demand for diagnostic imaging services and the benefits paid (per capita) have grown in line with other MBS funded services.²⁰ Compounded annual growth has increased by three per cent for services and by five per cent for benefits paid.²¹

Bulk billing for diagnostic imaging services

5.16 The rates of bulk billing for diagnostic imaging services differ depending on whether it is an out-of-hospital service or a service provided by, or on behalf of, a general practitioner (GP).²² For out-of-hospital diagnostic imaging services, the general Medicare rate is 85 per cent of the MBS fee.²³ For GP services, the Medicare benefit is 100 per cent of the MBS fee.²⁴

5.17 In 2016–17, 84 per cent of diagnostic services provided out of hospital were bulked billed. The Department submitted that the 'average out-of-pocket costs for out-of-hospital non bulk billed diagnostic imaging services in 2016-17 was just over \$97'²⁵ and '[o]ut-of-pocket costs have grown at an average annualised rate of four

18 Department, *Submission 18*, p. 5.

19 Department, *Submission 18*, p. 5.

20 Department, *Submission 18*, p. 18.

21 Department, *Submission 18*, p. 18.

22 Department, *Submission 18*, p. 21.

23 Department, *Submission 18*, p. 21.

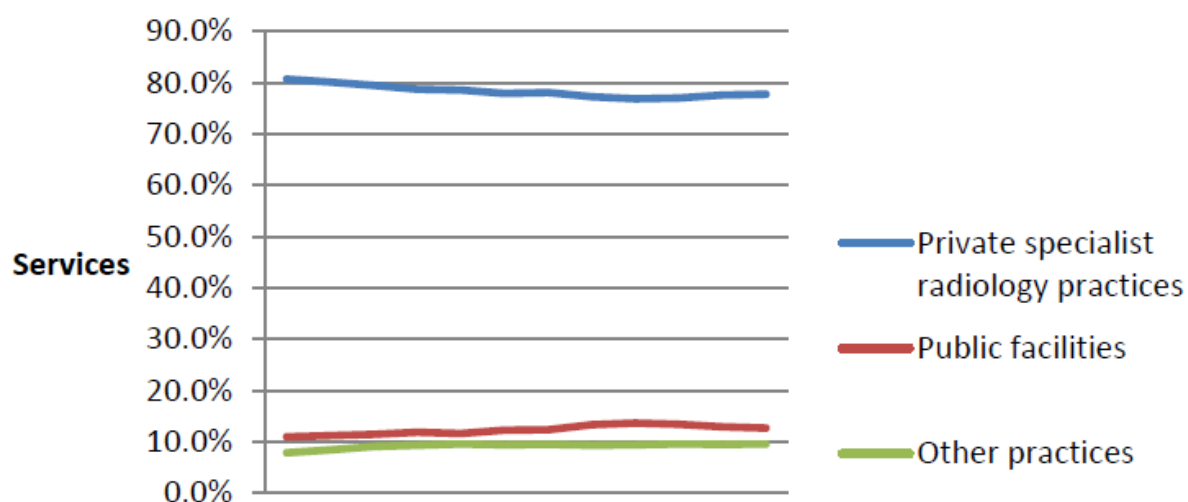
24 Department, *Submission 18*, p. 21.

25 Department, *Submission 18*, p. 7.

percent since 2004'.²⁶ The Department noted that this increase exceeded the average consumer price index increase of three per cent per annum.²⁷

5.18 Seventy eight per cent of services claimed under the MBS in 2016–17 were provided by private specialist radiology practices, followed by public facilities (13 per cent), and other practices (10 per cent).²⁸

Figure 5.5—Percentage of MBS services claimed by practice type 2004–05 to 2015–16



Source: Department, *Submission 18*, p. 34.

Standard items not included on MBS

5.19 Throughout the inquiry, submitters raised concerns that the number of diagnostic imaging tests listed on the MBS was too limited and did not include a number of tests which are now considered as standard.²⁹

5.20 Items are only added to the MBS on the advice of the Medical Services Advisory Committee (MSAC). MSAC is an independent non-statutory committee largely made up of clinicians and academics to advise the Minister for Health about

26 Department, *Submission 18*, p. 7.

27 Department, *Submission 18*, p. 7.

28 Other practices include cardiology practices, GP clinics, vascular laboratories, obstetrics and gynaecological practices. See, Department, *Submission 18*, p. 7.

29 Cancer Voices Australia, *Submission 1*, p. 2; Prostate Cancer Foundation Australia, *Submission 15*, pp. 2–3; Rare Cancers Australia, *Submission 31*, [pp. 2–3]; Breast Cancer Network Australia (BCNA), *Submission 32*, p. 2.

the MBS.³⁰ According to the Department, MSAC assesses new technologies for comparative safety, clinical effectiveness and cost effectiveness.³¹

5.21 Breast Cancer Network Australia (BCNA) highlighted that, despite an MRI being required to confirm a breast cancer diagnosis, no MRI is currently available for many women.³² Ms Spence from BCNA explained to the committee that a failure to rebate breast MRI caused a significant financial impost on those women:

We know they're paying anywhere from \$500 to \$1,500 out of pocket for that procedure. The fact that there's no rebate really does add to the fact that it's variable depending on where you're referred to.³³

5.22 Prostate Cancer Foundation Australia expressed similar concerns for men who require multiparametric MRI or PET scanning. Associate Professor Anthony Lowe from Prostate Cancer Foundation Australia explained that multiparametric MRI is required for improved diagnostic accuracy and to prevent unnecessary prostate biopsies.³⁴ PET scanning also allows the specialist to tell if a cancer is recurring.³⁵ Associate Professor Lowe explained to the committee how PSMA PET scanning works:

The technique uses a radioactive tracer to attach to the cancer cell, and then it can be imaged in a PET CT scanner. As people say, it lights up the Christmas tree when you have cancer. You can see exactly where the cancer is. It's particularly important for men who've had primary treatment, whose PSAs reduce to an undetectable level so they feel they've been cured... After a number of years—possibly 10 years—their PSA starts to rise again, so we know that the cancer is recurring.³⁶

5.23 However, these scans are not currently rebated on the MBS. Associate Professor Lowe explained that men who require scans to manage their prostate cancer can incur significant out-of-pocket costs:

On average, they are in the order of \$5,000 to \$10,000 for a man over the treatment period but there is currently no Medicare rebate either for

30 Department, *Frequently asked questions: What is MSAC?*, 20 July 2016, <http://www.msac.gov.au/internet/msac/publishing.nsf/Content/factsheet-04> (accessed 22 February 2018).

31 Department, *Submission 18*, p. 7; Department, *About MSAC*, 29 June 2016, <http://www.msac.gov.au/internet/msac/publishing.nsf/Content/about-msac> (accessed 22 February 2018).

32 Ms Danielle Spence, Director of Policy and Advocacy, BCNA, *Committee Hansard*, 13 December 2017, p. 18.

33 Ms Spence, *Committee Hansard*, 13 December 2018, p. 18.

34 Associate Professor Anthony Lowe, Chief Executive Officer, Prostate Cancer Foundation Australia, *Committee Hansard*, 13 December 2017, p. 18. See also Ms Emma Hornsey, *Submission 41*, [p. 1].

35 A/Prof Lowe, *Committee Hansard*, 13 December 2017, p. 19.

36 A/Prof Lowe, *Committee Hansard*, 13 December 2017, p. 19.

multiparametric MRI or for the PET scanning so men are out of pocket in the order of \$500 to \$600 per scan.³⁷

5.24 Associate Professor Lowe and Ms Spence agreed that the cost of essential diagnostic imaging services not included on the MBS places additional financial stress on patients already suffering from a cancer diagnosis.³⁸ An individual told Rare Cancers Australia that 'it is embarrassing and stressful when you can't afford these things which your specialist teams need in order to help you.'³⁹

5.25 As noted in chapter two, the limited assistance patient transport schemes provide is often not available if the procedure they are being transported for does not have an MBS item number attached to it.⁴⁰ Depending upon the person, whether the item is rebated or not may be the difference between the patient being able to have the scan or not.

5.26 Associate Professor Lowe told the committee that patients are often confused about why these essential tests do not attract an MBS rebate:

And that probably is the biggest inquiry we receive from men in our national office. They ask: why is it not rebated? Why do I have to pay this when my clinician is telling me it is essential for me to have this scan in order for them to be able to manage the situation?⁴¹

Adding new items to the MBS

5.27 The committee heard from the Urological Society of Australia and New Zealand (Urological Society) and BCNA that they have tried to have these scans added to the MBS.⁴²

5.28 As noted above, new items are only added to the MBS on the advice of MSAC. Dr Peter Heathcote, President of the Urological Society told the committee that it had been seeking a rebate for multiparametric MRI for prostate cancer diagnosis and management for the past three and a half years and would soon be pursuing an application for the PSMA PET scanning.⁴³

5.29 Similarly, BCNA told the committee that it had pursued a number of applications for breast MRI and genomic testing.⁴⁴ The genomic test, Oncotype DX, could have been prescribed to help an oncologist ascertain whether chemotherapy will

37 A/Prof Lowe, *Committee Hansard*, 13 December 2017, p. 19.

38 A/Prof Lowe, *Committee Hansard*, 13 December 2017, p. 20; Ms Spence, *Committee Hansard*, 13 December 2018, p. 18.

39 Rare Cancers Australia, *Submission 31*, [p. 3].

40 Rare Cancers Australia, *Submission 31*, [p. 2].

41 A/Prof Lowe, *Committee Hansard*, 13 December 2017, p. 19.

42 Dr Peter Heathcote, President, Urological Society of Australia and New Zealand, *Committee Hansard*, 13 December 2017, p. 20.

43 Dr Heathcote, *Committee Hansard*, 13 December 2017, p. 20.

44 Ms Spence, *Committee Hansard*, 13 December 2017, pp. 20–21.

help the patient. However, BCNA advised the committee that the application was unsuccessful:

...the MSAC decision, unfortunately, didn't approve Oncotype DX, even though it's standard care in most developed countries around the world. So, for women, if they want to access a genomic test it's \$4,500.⁴⁵

5.30 BCNA explained that it had taken MSAC so long to process the application that the MSAC preferred (and cheaper) solution was no longer available:

Interestingly, the online tool that was cited... It's not available at the moment because everywhere around the world people are using Oncotype DX. So the test that MSAC referred to, where people can use this online algorithm, is not being used by oncologists at the moment because it's not available.⁴⁶

5.31 Other submitters agreed that the application process and approval of new items on the MBS by MSAC was too slow.⁴⁷

5.32 The Royal Australian and New Zealand College of Radiologists (RANZCR) told the committee that there were a number of useful scans that were still making their way through the MSAC process:

...there are several areas of the body for which imaging under MRI are very useful. They're not listed yet on the MBS and have been chugging very slowly through the MSAC process. Examples of that are cardiac MRI, liver MRI, breast MRI and prostate MRI...⁴⁸

5.33 Submitters were sometimes unsure about why the approval had taken so long or why their application was refused.⁴⁹ Submitters highlighted that clinical best practice was evolving much faster than MSAC was able to consider the applications brought to it.⁵⁰ Ms Spence told the committee that MSAC's process need to be compressed:

I think we need to find a way to keep MSAC up to date with innovation because, by the time these rulings come out, often we've moved on to something that's standard practice overseas and that we're just now making the call on, and things have happened in between. As a consumer based organisation, we don't know whether that new evidence is part of the decision-making or whether it's just on the dossier that was presented in the

45 Ms Spence, *Committee Hansard*, 13 December 2017, pp. 20–21.

46 Ms Spence, *Committee Hansard*, 13 December 2017, p. 21.

47 Cancer Voices Australia, *Submission 1*, p. 2.

48 Mr Mark Nevin, Senior Executive Officer, Faculty of Clinical Radiology, Royal Australian and New Zealand College of Radiologists (RANZCR), *Committee Hansard*, 13 December 2017, p. 5.

49 Ms Spence, *Committee Hansard*, 13 December 2017, p. 21; Dr Heathcote, *Committee Hansard*, 13 December 2017, p. 21.

50 A/Prof Lowe, *Committee Hansard*, 13 December 2017, pp. 21–22; Ms Spence, *Committee Hansard*, 13 December 2017, p. 22.

beginning of that process, so it's hard to have that transparency around what influenced that decision. Was it just what was put forward three years ago, or is it taking into account the new evidence that's available?⁵¹

5.34 The Department told the committee that MSAC would next consider the applications for multiparametric MRI for prostate cancer, breast MRI, obstetric MRI and other diagnostic imaging applications at upcoming meetings in March and July 2018.⁵²

Reviewing items currently on the MBS

5.35 In order to align clinical practice with the MBS, the MBS Review Taskforce is currently conducting a review of all 5700 items on the MBS.⁵³

5.36 Since its establishment in 2015, the MBS Review Taskforce has provided the Minister for Health with a report on obsolete MBS items and two subsequent tranches of recommendations relating to diagnostic imaging: one into lower back pain and one into bone densitometry.⁵⁴

5.37 The obsolete items report identified five MBS items for removal on the basis that their use did not accord with clinical best practice; recommended limiting the use of one item to a smaller clinical population and recommended further consideration of a seventh item.⁵⁵ Subsequent reports made four recommendations in relation to imaging for lower back pain and five recommendations in relation to unnecessary testing of bone densitometry.⁵⁶

5.38 The MBS Review Taskforce will continue its work into 2018 with a view to examining co-claiming and capital sensitivity.⁵⁷

51 Ms Spence, *Committee Hansard*, 13 December 2017, p. 22.

52 Department, *Submission 18*, p. 25.

53 Department, *Submission 18*, p. 23.

54 Department, *About the Medicare Benefits Schedule Review*, 14 February 2018, <http://www.health.gov.au/internet/main/publishing.nsf/Content/MBSR-about> (accessed 22 February 2018).

55 Medicare Benefits Schedule Review Taskforce, *Obsolete MBS Items Report 2016*, pp. 1–3, [http://www.health.gov.au/internet/main/publishing.nsf/Content/6FB549C45F86EF9FCA257F5E001937B5/\\$File/Taskforce%20Summary%20-%20Obsolete.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/6FB549C45F86EF9FCA257F5E001937B5/$File/Taskforce%20Summary%20-%20Obsolete.pdf) (accessed 22 February 2018).

56 Medicare Benefits Schedule Review Taskforce—Diagnostic Imaging Clinical Committee, *Bone Densitometry Report: Taskforce Findings*, [http://www.health.gov.au/internet/main/publishing.nsf/Content/3E9F15BC250DDB89CA2580180018BD22/\\$File/Taskforce%20Summary%20-%20DI%20bone%20densitometry.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/3E9F15BC250DDB89CA2580180018BD22/$File/Taskforce%20Summary%20-%20DI%20bone%20densitometry.pdf) (access 22 February 2018); Medicare Benefits Schedule Review Taskforce—Diagnostic Imaging Clinical Committee, *Low Back Pain Report: Taskforce Findings*, [http://www.health.gov.au/internet/main/publishing.nsf/Content/E1FEC9FFE18698C0CA25801800184170/\\$File/MBS-Review-Taskforce-Recommendations-DI-Low-Back-Pain-Report.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/E1FEC9FFE18698C0CA25801800184170/$File/MBS-Review-Taskforce-Recommendations-DI-Low-Back-Pain-Report.pdf) (accessed 22 February 2018).

57 Medicare Benefits Schedule Review Taskforce, *Public Consultation Timeline 2017/18*, [http://www.health.gov.au/internet/main/publishing.nsf/Content/AEABC7BCD0C0A321CA257F5D00715DE1/\\$File/MBS%20Review%20Consultation%20Timeline%202017-18.pdf](http://www.health.gov.au/internet/main/publishing.nsf/Content/AEABC7BCD0C0A321CA257F5D00715DE1/$File/MBS%20Review%20Consultation%20Timeline%202017-18.pdf) (accessed 22 February 2018).

Committee view

5.39 The committee understands that the government operates under fiscal constraints and that there is a need for the MBS to be sustainable over time. It also recognises that diagnostic imaging services currently account for a substantial portion of the MBS budget.

5.40 The committee acknowledges that freezing indexation of the diagnostic imaging service items on the MBS has required private providers and public health services to either absorb the difference between the cost of the service and the Medicare benefit, or pass costs on to patients.

5.41 The committee also acknowledges that, whilst it is a substantial investment to list an item on the MBS, patients are being forced to incur large out-of-pocket costs in order to have essential imaging services performed.

5.42 Whilst the committee understands that adding new items may be an increase in public expenditure, the committee considers that patients should be able to access medical services without placing themselves under significant financial stress.

5.43 The committee also considers that it would be advantageous if the speed of MSAC's processes could be increased to allow MSAC to consider all applications with up-to-date scientific evidence.

5.44 The MBS Review Taskforce appears to be consulting with stakeholders and completing its work diligently. The committee notes that the changes proposed to date have been largely focused on the identification of obsolete items, and there appears to be scope for broader review.

Other MBS funding

5.45 The Commonwealth Government uses the MBS to provide an economic incentive for providers to upgrade their equipment. This is called the capital sensitivity measure.

Capital sensitivity measure

5.46 The capital sensitivity measure aims to improve patient access to newer and better quality diagnostic imaging equipment by reducing the MBS fee once equipment reaches a certain age, thereby encouraging providers to upgrade or replace older equipment.⁵⁸

5.47 All diagnostic imaging services listed on the MBS (with the exception of PET services) have two different MBS fees, schedule K items and schedule NK items. A schedule K diagnostic imaging service can be claimed if the service is performed on newer or upgraded equipment, whereas an NK schedule item is claimed on older equipment with the MBS fee reducing by approximately 50 per cent.⁵⁹

58 Department, *Submission 18*, p. 26.

59 Department, *Submission 18*, p. 26.

5.48 The Department noted that the number of NK schedule items claimed is less than one per cent, indicating that the capital sensitivity measure is effective at ensuring diagnostic imaging equipment in metropolitan areas is upgraded.⁶⁰

5.49 In accordance with the capital sensitivity measure, diagnostic imaging equipment must be replaced after 10–15 years (new effective life age), depending on the modality, or between 15 and 20 years (maximum extended life age) if the equipment has been upgraded prior to reaching its new effective life age.⁶¹

5.50 The Australian Society of Medical Imaging and Radiation Therapy (ASMIRT) questioned the appropriateness of the life ages, noting that while the new effective life age and maximum extended life ages may have been appropriate previously, advancements in technology now occur at a much more rapid pace.⁶²

5.51 ASMIRT submitted that diagnostic imaging equipment may now be obsolete or superseded within only five to eight years, far sooner than the current new effective life age.⁶³

5.52 ASMIRT explained equipment should be upgraded more frequently because older equipment could lead to worse health outcomes for patients:

An ultrasound scanner that is 10 years old is less able to diagnose not only foetal abnormalities because the TV screen would have lost its brilliance or resolution, (a bit like your TV at home) but the electronics is so poor by today's standards the entire range of examination quality is poor.⁶⁴

5.53 RANZCR told the committee that it believed that the current measure was adequate, but that it could be reviewed:

In terms of whether the times that have been set for CT, angiography equipment and MRI are appropriate or not, I think they're reasonable and cost achievable. Whether they should be less or not I think should be looked at by committees. It requires funding by the payer, essentially, which is the government, so that's a question that needs to be addressed...⁶⁵

Regional, rural and remote exemptions

5.54 Practices in outer regional, remote and very remote areas are automatically exempt from the capital sensitivity measure and other inner regional practices may apply for exemptions in certain circumstances to ensure continued access to diagnostic imaging services in these locations, despite the use of older equipment.⁶⁶

60 Department, *Submission 18*, p. 26.

61 Department, *Submission 18*, p. 39.

62 Australian Society of Medical Imaging and Radiation Therapy (ASMIRT), *Submission 24*, p. 7.

63 ASMIRT, *Submission 24*, p. 7.

64 ASMIRT, *Submission 24*, p. 7.

65 Dr Greg Slater, President, RANZCR, *Committee Hansard*, 13 December 2017, p. 7. See also ACT Health, *Submission 35*, p. 4.

66 Department, *Submission 18*, p. 27.

5.55 However, RANZCR expressed concern about whether allowing older equipment to be used in country areas was a disservice to regional, rural and remote residents:

Basically the old machines are being shipped out to the country. And I think you could argue that regional patients are being subjected to imaging on older equipment, which may not be in their best interests. So I think this should be reviewed. It may be inevitable, given the lower utilisation of machines in regional areas, but it's a subject of personal concern for me.⁶⁷

5.56 The Department of Health Western Australia advised that diagnostic imaging services in regional centres were often conducted on older models which provide lower quality imaging services compared to technology available in Perth:

Where there are imaging services in regional WA, these do tend to be older models—for example, in Esperance, Kalgoorlie, Broome and Geraldton, where there is a 16-slice CT scanner. By contrast, Sir Charles Gairdner Hospital has a 320-slice scanner, and the new Fiona Stanley Hospital has two 256-slice scanners. The significance of this for the patient is that the quality of the images may be lower, the dose of the radiation required may be higher and the dose of the contrast agent that's required, which can have risks in terms of renal failure, may be higher. The older machines may also lend themselves less to hybrid technologies like CT/SPECT, necessitating trips to Perth.⁶⁸

5.57 Rural service providers made it clear to the committee that the regional, rural and remote capital sensitivity exemptions were required to make imaging services in those locations viable.⁶⁹ The WA Country Health Service told the committee that if the rural capital sensitivity exemption was removed, it may struggle to continue to provide the same range of services:

The Commonwealth must maintain the current remoteness around capital sensitivity exemptions for medical imaging in order to maximise the availability of services to those regional patients. If removed, the costs associated with providing imaging may further increase, making it more expensive for [WA Country Health Service] due to more frequent equipment replacement and possibly resulting in the removal of some imaging services due to prohibitively expensive costs.⁷⁰

5.58 Whilst equipment may only make up between 10 and 12 per cent of the cost of imaging, it can be a very substantial cost for rural communities.⁷¹ Mr Aiden Cook from the Darling Downs Hospital and Health Service told the committee that whilst

67 Dr Slater, *Committee Hansard*, 13 December 2017, p. 8.

68 Dr Audrey Koay, Executive Director, Patient Safety and Clinical Quality, Department of Health, Western Australia, *Committee Hansard*, 9 November 2017, p. 29.

69 Mrs Baxter, *Committee Hansard*, 9 November 2017, p. 30.

70 Mrs Baxter, *Committee Hansard*, 9 November 2017, p. 30.

71 Ms Pattie Beerens, Chief Executive Officer, ADIA, *Committee Hansard*, 13 December 2017, p. 8.

upgrading rural equipment was required, some thought also needed to be given to the cost required to do so:

We have a need to upgrade regional machinery as much as anywhere, and it comes down to small hospitals and their ability to replace machinery at \$300,000 a pop. It's not easy. That's a lot of cakes that they need to come up with in some of these small places.⁷²

5.59 ADIA told the committee that the capital sensitivity arrangements were being considered by the MBS Review Taskforce and may be the subject of an upcoming recommendation.⁷³

Section 19(2) exemptions

5.60 To support the availability of diagnostic imaging and defray the cost of purchasing new equipment in rural areas, the Council of Australian Governments introduced the Section 19(2) Exemptions Initiative to permit a list of rural sites to claim Medicare benefits for non-admitted, non-referred professional services (such as midwifery, nursing and dental services).⁷⁴

5.61 Section 19(2) of the *Health Insurance Act 1973* provides that Medicare benefits are not payable where another payment is available to cover the service.

5.62 The WA Country Health Service noted that the exemption permits hospitals to retain Medicare benefits for providing professional services, including diagnostic imaging services to ensure that imaging can continue in rural areas:

This [exemption] allows the health service provider to charge Medicare for imaging procedures on patients referred through the hospital system and not just externally through GPs. The 19(2) exemption significantly improves the revenue stream to [WA Country Health Service] hospitals to ensure that we can maintain these needed imaging services.⁷⁵

5.63 In addition to helping maintain the existing imaging services, the Darling Downs Hospital and Health Service noted that holding a section 19(2) exemption assisted smaller hospitals to accumulate revenue to purchase or upgrade its diagnostic imaging equipment:

...some of the smallish hospitals, particularly the 19(2) exemption sites, have a need to maintain some revenue out of those privately referred patients to enter the public hospital. The technology at the top end is quite expensive. In the pool of money available to replace equipment across Queensland, the pressure will come on to replace those high-value

72 Mr Aiden Cook, Director Medical Imaging, Darling Downs Hospital and Health Service, *Committee Hansard*, 13 December 2017, p. 16.

73 Ms Beerens, *Committee Hansard*, 13 December 2017, p. 8.

74 Department, *Council of Australian Governments (COAG) Improving Access to Primary Care in Rural and Remote Areas – COAG s19(2) Exemptions Initiative*, 18 July 2017, <http://www.health.gov.au/internet/main/publishing.nsf/Content/COAG+s19%282%29+Exemptions+Initiative> (accessed 7 February 2018).

75 Mrs Baxter, *Committee Hansard*, 9 November 2017, p. 30.

machines, and the low-value machines in general X-ray will probably have longer and longer life spans, and I think that a lot of these rural hospitals will start to run into difficulty.⁷⁶

5.64 Currently, 19(2) exemption sites are determined based on population and geographic remoteness using the Modified Monash Model.⁷⁷

5.65 The Queensland Nurses and Midwives' Union (QNMU) noted that two Queensland hospitals (Roma and Mareeba) have recently lost their section 19(2) exemptions.⁷⁸ The QNMU was concerned because, in addition to the lost revenue stream, the nurses and midwives operating the diagnostic imaging equipment in those hospitals have lost their ability to independently claim Medicare rebates.⁷⁹

5.66 The QNMU submitted that the loss of the exemption led to a reversion to less innovative and efficient ways of working in the hospitals concerned.

5.67 The QNMU instead suggested that the social determinants of health or some other measure should be considered when deciding which areas ought to be eligible for section 19(2) exemptions to ensure that the overall number of hospitals eligible for section 19(2) exemptions was not reduced.⁸⁰

Committee view

5.68 The committee understands that medical technology evolves rapidly and that newer equipment will provide patients with a better quality of care and improved chance of accurate diagnosis. The committee considers that capital sensitivity measures could be reviewed for metropolitan centres and understands that this will be considered as part of the MBS Review.

5.69 While understanding the issues involved in regional, rural and remote areas, the committee is concerned about the impact on patient health of the current rural capital sensitivity exemptions and the section 19(2) exemptions to assist with the cost of services and equipment. While the committee expects that tighter capital sensitivity measures for metropolitan centres may permit modern equipment to be deployed to rural areas more frequently and at lower cost, the committee believes there needs to be consideration given to the possible poorer health outcomes of regional, rural and remote patients.

76 Mr Cook, *Committee Hansard*, 13 December 2017, p. 16.

77 The Modified Monash Model uses population size and distance to determine whether a particular location should be considered urban, inner or outer regional, rural or remote. Queensland Nurses and Midwives' Union (QNMU), *Submission 13*, p. 5.

78 QNMU, *Submission 13*, p. 5.

79 QNMU, *Submission 13*, p. 5; Mr Jamie Shepherd, Professional Officer, QNMU, answers to questions on notice, 13 December 2017 (received 18 January 2018).

80 QNMU, *Submission 13*, p. 5; Mr Shepherd, answers to questions on notice, 13 December 2017 (received 18 January 2018).

Chapter 6

Recommendations and conclusions

6.1 The committee recognises that diagnostic imaging plays a vital part in assisting health practitioners to diagnose and assess many medical conditions.

6.2 Throughout the course of this inquiry, submitters raised concerns with the committee about the licensing of Magnetic Resonance Imaging (MRI) machines, availability and accessibility of diagnostic imaging (especially as it relates to regional, rural and remote Australians) and the future of the diagnostic imaging workforce.

Magnetic Resonance Imaging licensing

6.3 In chapter three the committee considered the licensing of MRI machines. Unlike other diagnostic imaging modalities, MRI is subject to a licensing system that grants Medicare Benefits Schedule (MBS) eligibility to a specific provider, in a specified location for a specific machine. However, the committee also received evidence that MRI licences may be transferred in some instances.¹

6.4 Currently, there are fully licensed machines, which can provide Medicare rebates on all of the diagnostic imaging items listed on the MBS, partially licensed machines, which can provide Medicare rebates on a subset of items on the MBS, and unlicensed machines, which attract no Medicare rebate and require all scans to be paid for by patients out of their own pockets.

6.5 The distinction between these machines is historic. Machines that were operating at the time that licences were first granted received full licences and those that commenced operation later received either a full or partial licence. Submitters told the committee that there is currently no pathway to apply for a licence. As a result, some places which have experienced substantial population growth, such as Perth, have been unable to obtain additional licences to ensure that patients have access to affordable diagnostic imaging.

6.6 The committee heard that under current licensing arrangements general practitioners are only able to refer patients to partially licensed machines, while specialists are able to refer patients to fully licensed machines. The committee received evidence that these different referral pathways are confusing, inconvenient and potentially lead to poorer outcomes for patients.

6.7 The committee also received evidence that many practitioners, in an attempt to save patients' money, order computed tomography (CT) scans instead of MRI scans because patients would be eligible for a rebate on a CT scan. However, because MRI is clinically superior for some conditions, patients are often required to undergo a CT and then an MRI scan to ascertain the necessary diagnostic information. Submitters

1 Mrs Lenka Psar-McCabe, Chief Executive Officer, Perth Radiological Clinic, *Committee Hansard*, 9 November 2017, p. 26; Mr Dean Lewsam, Chief Executive, Healthcare Imaging Services, Primary Health Care Limited, *Committee Hansard*, 13 December 2017, p. 31.

told the committee that there may be some cost substitution in a deregulated MRI market because medical practitioners may elect to send patients for the more clinically appropriate MRI scan first, rather than requiring patients to undergo a CT and then an MRI scan.

6.8 Some submitters suggested that the system of referral should be entirely deregulated and that medical practitioners ought to be able to direct patients to the most convenient or newest machine in the vicinity to prevent unnecessary travel and cost for patients. Others suggested that deregulating the MRI licensing system would lead to a considerable increase in expenditure for the Commonwealth Government but may only provide marginal benefits to a vast majority of patients.

6.9 The committee considers that there should be a process or pathway for providers to be able to apply to the Department of Health (Department) to be granted a full or partial licence. A number of witnesses and submitters suggested that an application process should be introduced which takes into account current population data, clinical need and the need to improve patient outcomes. One possible suggestion was to model the application process on the Department's Radiation Oncology Health Program Grant scheme. The committee considers that it is important that a transparent process is created to award MRI licences.

6.10 The committee notes that the Department has provided advice to the Minister for Health about reforming the MRI licensing system. The committee expects that this will be progressed as a matter of urgency.

Recommendation 1

6.11 The committee recommends that the Commonwealth Government immediately implement an application process with clear, objective and transparent assessment criteria to permit hospitals and radiology practices to apply for licences for Magnetic Resonance Imaging machines.

Recommendation 2

6.12 The committee recommends that the Medicare Benefits Schedule Review Taskforce review the Magnetic Resonance Imaging referral pathway and rebates, including consideration of options to allow specialists and general practitioners to refer patients to both fully licensed and partially licensed machines.

6.13 The committee considers that, in the longer term, the Minister for Health should review the future of the licensing system.

Access to diagnostic imaging services

6.14 Throughout the course of this inquiry, the committee heard from submitters who experienced barriers to accessing diagnostic imaging services. These barriers are partly a function of the current distribution of diagnostic imaging machines and also a function of a lack of skilled specialists being available in those areas.

6.15 The committee was very concerned by evidence it received that people with physical disabilities may be unable to obtain diagnostic imaging because they cannot

access the facilities. The committee considers that all health services ought to be physically accessible to all people, including those with a physical disability.

6.16 The committee notes that obligations already exist to ensure that people with disabilities are able to access health care facilities. The committee considers that access obligations ought to extend to the services inside the building as well. The committee heard that in some cases it may only require a sling or a hoist to make diagnostic imaging services accessible. The committee notes that in other sectors service providers, such as swimming pool operators, are already required to accommodate access for persons with physical disabilities under the National Construction Code.² The committee calls on all health care providers to ensure that their premises and services are accessible to all people who may require them, including those with disability.

Recommendation 3

6.17 The committee recommends that the Department of Health consider how to make diagnostic imaging services fully accessible to people with physical disability.

6.18 The most common form of disadvantage that was brought to the committee's attention during this inquiry related to geographic access. The committee understands that regional, rural and remote Australians experience poorer health outcomes than their urban counterparts and that a lack of access to high quality diagnostic imaging services contributes to that disparity.

6.19 The committee considered evidence in chapter two that regional, rural and remote Australians often have to travel considerable distances in order to receive diagnostic imaging services. To defray the cost of obtaining these scans, state and territory governments often subsidise the cost of traveling to obtain the scan. However, submitters told the committee that the current subsidies provided by state and territory governments are inadequate to cover the costs of transport and accommodation.

6.20 The committee also heard that Aboriginal and Torres Strait Islander peoples often culturally require an escort to leave their community. Current patient transport subsidy services often do not cover costs associated with this. The committee accepts that it is not feasible to provide all diagnostic imaging services in all communities, but the committee considers that regional, rural and remote Australians should not be disadvantaged because of where they live. The committee considers that in order to provide equitable access for all Australians, state and territory governments should review the subsidies that are currently available.

2 Australian Construction Codes Board, *National Construction Code 2016—Volume One Amendment 1*, February 2016, pp. 219–222.

Recommendation 4

6.21 The committee recommends that state and territory governments review the adequacy of patient transport subsidies that are currently available with a specific view to ensuring access to diagnostic imaging.

6.22 The committee heard from the Australian Medical Association that the multiple services rule means that regional, rural and remote Australians must travel to the city on multiple occasions or face extended stays away from home if they wish to receive Medicare benefits for multiple procedures. The implementation of the multiple services rule has resulted in issues with Medicare benefits being claimed on multiple items on the same day. The committee considers that this is inefficient and places additional costs on regional, rural and remote residents.

6.23 The committee understands that the MBS Review Taskforce is currently reviewing all of the items on the MBS. As part of that review, the committee understands that the MBS Review Taskforce will consider the multiple services rule. The committee urges the MBS Review Taskforce to consult with stakeholders on whether the multiple services rule should be altered or abolished.

Recommendation 5

6.24 The committee recommends that the Department of Health review the operations of the multiple services rule to ensure that it is achieving its policy intent and consider any changes required.

6.25 The committee also understands that the MBS Review Taskforce will consider the current capital sensitivity measures. Capital sensitivity measures encourage providers to update their equipment by halving the available Medicare rebate if the equipment is beyond the life age specified by the Department. In chapter five the committee considered the evidence it received that the pace of innovation in medical technology meant that capital sensitivity measures may be too long and should be reviewed.

6.26 Submitters raised concerns with the committee that lax capital sensitivity measures may be leading to patients having MRI scans on older rather than newer machines. Currently, the MRI licences that entitle patients to Medicare rebates are attached to older machines and because there is little incentive for providers to update their equipment early, more patients are having scans on older rather than newer machines. The committee considers that this scheme should be reviewed.

6.27 Submitters also told the committee that the current capital sensitivity measures meant that older equipment is being sent to country areas, resulting in regional, rural and remote Australians receiving lower quality images.

6.28 The committee accepts that it is difficult for regional, rural and remote health services to acquire the funds necessary to replace equipment on a regular basis. Therefore, the committee supports, in the short term, the current capital sensitivity exemptions for regional, rural and remote Australia. The committee also acknowledges that the exemptions from section 19(2) of the *Health Insurance Act 1973* help rural and remote health services to afford the cost of new equipment. The committee heard from some submitters that the exemptions are vital to the

continuation of services in regional, rural and remote areas. The committee hopes that the combination of these two measures will permit health services in regional, rural and remote areas to purchase more modern diagnostic imaging more frequently, resulting in better imaging for country Australians.

Recommendation 6

6.29 The committee recommends that the Department of Health consider tightening capital sensitivity measures in metropolitan centres.

Recommendation 7

6.30 The committee recommends that the Commonwealth Government reinvest into the Medicare Benefits Schedule, savings obtained from the removal or alteration of diagnostic imaging items in the Medicare Benefits Schedule Review.

Recommendation 8

6.31 The committee recommends that the capital sensitivity exemptions and the *Health Insurance Act 1973* section 19(2) exemptions for regional, rural and remote Australian health services should be reviewed to establish the impact on regional, rural and remote health outcomes.

6.32 The committee received evidence that teleradiology, where expert radiology advice on images is provided from an off-site location, has the benefit of being able to harness expertise that may not be locally available. However, the committee received evidence that in Tasmania discs containing the patient's images must be sent via post to a hospital in Victoria to obtain this specialist advice.

6.33 The committee considers that this is not acceptable. If teleradiology is to work in the interests of all patients, Australia's services for securely sharing diagnostic images must be improved.

Recommendation 9

6.34 The committee recommends that state and territory governments investigate how data sharing measures between public hospitals can be improved to support teleradiology services and that these improvements are implemented as soon as practicable.

6.35 The committee understands that the Medical Services Advisory Committee (MSAC) is responsible for assessing whether an item ought to be added to the MBS. There are several diagnostic imaging applications that are currently pending before MSAC. Submitters told the committee that some applications made to MSAC could take a number of years. In some cases, this meant that the most up-to-date technology had evolved whilst the application was being considered.

6.36 The committee appreciates that MSAC needs to be thorough in its assessment of the clinical and cost effectiveness of an item before it is added to the MBS. However, the committee is concerned that MSAC's processes are delaying access to affordable treatment for patients and may be leading MSAC to make decisions without the most up-to-date information.

Recommendation 10

6.37 The committee recommends that the Minister for Health commission a review into the Medical Services Advisory Committee's processes with a view to reducing the time between submission of an application and a decision being made.

Workforce

6.38 In chapter four the committee also considered the effect of workforce shortages on diagnostic imaging. The committee heard that Australia has and will continue to have a shortage of radiologists. The committee understands that part of the reason for the shortage of radiologists is that the Royal Australian and New Zealand College of Radiologists (RANZCR) limits the number of trainee radiologists that it accepts every year.

6.39 The committee understands that the Department administers the grant program for specialist training which is delivered by RANZCR. A review by the Department in March 2017 recommended that the number of radiology positions in the Specialist Training Program be increased to address the shortfall. The committee understands that the Commonwealth Government has increased the number of radiology positions that are available in the Specialist Training Program. The committee welcomes the increase in radiology positions but considers that more are needed to address the dramatic shortfall.

Recommendation 11

6.40 The committee recommends that the number of radiologists trained each year be increased following consultation between the Department of Health and the Royal Australian and New Zealand College of Radiologists.

6.41 The committee also heard that there is a longstanding shortage of sonographers and that at the same time, trainee sonographers are experiencing difficulty finding clinical placements to complete their training. Submitters told the committee that sonography is a highly operator dependent and requires specialist training to avoid misdiagnosis or false negatives. The Australian Sonographers Association and the Australasian Society for Ultrasound in Medicine requested that a subsidy be provided to radiology practices to encourage the training of sonographers.

6.42 The committee understands that training a sonographer requires some investment, however, the current sonographer shortage will only be remedied with the assistance of private radiology practices. The committee considers that private radiology practices should be encouraged to hire a trainee sonographer.

Recommendation 12

6.43 The committee recommends that the Department of Health consider if there are mechanisms that can be put in place to encourage private radiology practices to train sonographers.

Recommendation 13

6.44 The committee recommends that private radiology practices train more sonographers.

6.45 In the absence of an adequate supply of sonographers, the committee understands that, in some cases, nurse practitioners have been trained to perform pelvic ultrasounds. The committee considers that practitioners should be encouraged to expand their scope of practice with appropriate supervision and training. The committee understands that some scans are already being safely performed in regional, rural and remote areas and the committee considers that an expanded scope of practice ought to be open to nurses and nurse practitioners in other areas.

Recommendation 14

6.46 The committee recommends that the Department of Health work with stakeholders to facilitate nurses and nurse practitioners expanding their clinical scope of practice to include certain ultrasounds, where they have received proper training and sonographers are not available to do so.

Senator Rachel Siewert

Chair

APPENDIX 1

Submissions and additional information received by the Committee

Submissions

- 1** Cancer Voices Australia
- 2** Name Withheld
- 3** Australian National Audit Office
- 4** Australian College of Rural and Remote Medicine (plus a supplementary submission)
- 5** Macquarie Medical Imaging
- 6** Cancer Council NT
- 7** Australian Medical Association
- 8** Primary Health Care Limited
- 9** Mr Kevin Michel MLA, Member for Pilbara
- 10** Synergy Medical Imaging P/L
- 11** Australasian Society for Ultrasound in Medicine
- 12** Australian Dental Industry Association
- 13** Queensland Nurses and Midwives' Union
- 14** The Royal Australian and New Zealand College of Radiologists
- 15** Prostate Cancer Foundation of Australia
- 16** Peter MacCallum Cancer Centre
- 17** Australian Diagnostic Imaging Association

- 18 Department of Health
- 19 Childrens Health Queensland
- 20 Mr Delan Adikari
- 21 Darling Downs Hospital and Health Service
- 22 Sunshine Coast Hospital and Health Service
- 23 Metro North Hospital and Health Service
- 24 Australian Society of Medical Imaging and Radiation Therapy
- 25 West Moreton Hospital and Health Service
- 26 Children's Healthcare Australasia and Women's Healthcare Australasia
- 27 MS Research Australia
- 28 Medical Oncology Group of Australia
- 29 Perth Radiological Clinic (plus an attachment)
- 30 Wide Bay Hospital and Health Service
- 31 Rare Cancers Australia
- 32 Breast Cancer Network Australia
- 33 NSW Health
- 34 Ms Kate Reynolds
- 35 ACT Government
- 36 UnitingCare Queensland
- 37 Spinal Cord Injuries Australia
- 38 Cairns Radiology
- 39 Envision Medical Imaging

- 40 Australasian Sonographers Association
- 41 Ms Emma Hornsey
- 42 Confidential
- 43 Mackay Hospital and Health Service
- 44 Name Withheld
- 45 Austin Health

Answers to Questions on Notice

- 1 Answers to Questions taken on Notice during 13 December public hearing, received from Darling Downs Hospital and Health Service, 5 January 2018
- 2 Answers to Questions taken on Notice during 13 December public hearing, received from Queensland Nurses and Midwives' Union, 18 January 2018
- 3 Answers to Questions taken on Notice during 13 December public hearing, received from Department of Health, 5 February 2018
- 4 Answers to Questions taken on Notice during 13 December public hearing, received from Australian Diagnostic Imaging Association, 2 March 2018

Tabled Documents

- 1 Costs of radiology services for diagnosis and treatment of common conditions, tabled by Australian Diagnostic Imaging Association, at Brisbane public hearing, 13 December 2017
- 2 Statement, tabled by Australian Diagnostic Imaging Association, at Brisbane public hearing, 13 December 2017
- 3 MRI Licence Requirement, Morayfield Health Hub, tabled by Mr Jim Aspinwall, at Brisbane public hearing, 13 December 2017
- 4 Radiologist Shortage, tabled by Mr Jim Aspinwall, at Brisbane public hearing, 13 December 2017

APPENDIX 2

Public hearings

Thursday, 9 November 2017

Four Points by Sheraton Hotel, Perth

Witnesses

Australian Medical Association

KHANGURE, Professor Mark, Councillor

Women's Healthcare Australasia and Children's Healthcare Australasia

HALE, Ms Julie, Deputy Chief Executive Officer

CHALLIS, Associate Professor Daniel, Director, Women's Healthcare Australasia

MOLONEY, Associate Professor Susan, Member, Children's Healthcare Australasia

Australian Dental Industry Association

WILLIAMS, Mr Troy, Chief Executive Officer

Peter MacCallum Cancer Centre

ZWAR, Dr Richard, Director of Radiology

Perth Radiological Clinic

PSAR-McCABE, Mrs Lenka, Chief Executive Officer

ORMONDE, Mrs Geraldine, Senior Marketing Manager

Western Australian Government

KOAY, Dr Audrey, Executive Director, Patient Safety and Clinical Quality,
Department of Health, Western Australia

WA Country Health Service

BAXTER, Mrs Marie Bernadette, Executive Director of Nursing and Midwifery

Wednesday, 13 December 2017

Venue, Brisbane

Witnesses

Australian Diagnostic Imaging Association

ES'HAGHI, Dr Siavash, President
BEERENS, Ms Pattie, Chief Executive Officer
KANE, Mr Chris, Senior Policy Adviser

Royal Australian and New Zealand College of Radiologists

SLATER, Dr Greg, Slater, President
VUKOLOVA, Ms Natalia, Chief Executive Officer
NEVIN, Mr Mark, Senior Executive Officer, Faculty of Clinical Radiology
GILLAM, Dr Lincoln, Chair, Diagnostic Economics Committee

Metro North Hospital and Health Service

CRIDLAND, Ms Noelle, Executive Director Metro North Medical Imaging and
Acting Executive Director Clinical Governance, Safety, Quality and Risk
BARCLAY, Ms Vanessa, Acting Operations Director, Metro North Medical Imaging

Sunshine Coast Hospital and Health Service

ROBERTSON, Mr Cameron, Acting Director, Medical Imaging Services

Darling Downs Hospital and Health Service and West Moreton Hospital and Health Service

COOK, Mr Aiden Paul, Director Medical Imaging

Breast Cancer Network Australia

SPENCE, Ms Danielle, Director of Policy and Advocacy

Prostate Cancer Foundation of Australia

LOWE, Associate Professor Anthony, Chief Executive Officer
HEATHCOTE, Dr Peter, President, Urological Society of Australia and New Zealand

Macquarie Medical Imaging

MAGNUSSEN, Professor John, Professor of Radiology, Head of Neuroradiology and
Cardiac Imaging, Macquarie University; Director of Research
HO-SHON, Associate Professor Kevin, Director

Primary Health Care Ltd

LEWSAM, Mr Dean, Chief Executive, Healthcare Imaging Services
COHEN, Dr Gary, Radiologist

Australasian Society for Ultrasound in Medicine

CONDOUS, Professor George, President

MACPHERSON, Mrs Lyndal, Chief Executive Officer

Australian Society of Medical Imaging and Radiation Therapy

EASTGATE, Mr Patrick, President

JONES, Dr Evan, Director, Morayfield Family Doctors

ASPINWALL, Mr Jim, Director, X-Ray and Imaging

Australian College of Rural and Remote Medicine

DOOLAN, Associate Professor Thomas, Chairman, Education and Training Committee

MUTCHMOR, Mr Sean, General Manager, Quality and Safety

Queensland Nurses and Midwives' Union

SHEPHERD, Mr Jamie, Professional Officer

MASKELL, Lucynda, Clinical Nurse

Department of Health

WEISS, Mr David, First Assistant Secretary

STREET, Ms Celia, Assistant Secretary

APPENDIX 3

Number of diagnostic imaging units and lag times around Australia

Ultrasound

Table 1: Ultrasound equipment and average time between request and date of service by state and territory, 2015–16

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Number of units	2,963	1,958	1,764	635	875	186	86	162	8,629
Units per 100,000 population	38.3	31.7	36.4	37.1	34.2	35.9	35.0	40.2	35.6
Average time between date of request and date of service (days)	23	22	21	25	21	25	28	26	22

Source: Department of Health (Department), *Submission 18*, p. 13.

Computed tomography (CT)

Table 2: CT equipment and average time between request and date of service by state and territory, 2015–16

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Number of units	562	355	302	103	123	21	13	28	1,507
Units per 100,000 population	7.3	5.7	6.2	6.0	4.8	4.1	5.3	6.9	6.2
Average time between date of request and date of service (days)	11	14	13	17	13	13	12	13	13

Source: Department, *Submission 18*, p. 13.

Diagnostic Radiology (x-ray, fluoroscopy, angiography, orthopantomography and mammography)

Table 3: General x-ray equipment and average time between request and date of service by state and territory, 2015–16

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Number of units	1,350	890	828	307	356	78	54	58	3,921
Units per 100,000 population	17.4	14.4	17.1	17.9	13.9	15.1	22.0	14.4	16.2
Average time between date of request and date of service (days)	10	12	10	15	11	11	6	11	11

Source: Department, *Submission 18*, p. 14.

Table 4: Fluoroscopy equipment and average time between request and date of service by state and territory, 2015–16

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Number of units	404	315	253	89	155	26	5	22	1,269
Units per 100,000 population	5.2	5.1	5.2	5.2	6.1	5.0	2.0	5.5	5.2
Average time between date of request and date of service (days)	21	17	13	16	24	5	13	19	18

Source: Department, *Submission 18*, p. 14.

Table 5: Angiography equipment and average time between request and date of service by state and territory, 2015–16

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Number of units	170	102	93	29	45	8	2	11	460
Units per 100,000 population	2.2	1.7	1.9	1.7	1.8	1.5	0.8	2.7	1.9
Average time between date of request and date of service (days)	43	62	89	34	70	36	35	18	56

Source: Department, *Submission 18*, p. 15.

Table 6: Orthopantomography equipment and average time between request and date of service by state and territory, 2015–16

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Number of units	393	314	249	62	94	22	12	19	1,165
Units per 100,000 population	5.1	5.1	5.1	3.6	3.7	4.3	4.9	4.7	4.8
Average time between date of request and date of service (days)	12	14	14	15	17	16	9	16	14

Source: Department, *Submission 18*, p. 15.

Table 7: Mammography equipment and average time between request and date of service by state and territory, 2015–16

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Number of units	236	145	109	42	37	5	4	13	591
Units per 100,000 population	3.0	2.3	2.2	2.5	1.4	1.0	1.6	3.2	2.4
Average time between date of request and date of service (days) - GP requested	34	28	24	41	30	23	23	27	30
Average time between date of request and date of service (days) - specialist requested	63	114	118	99	97	117	72	77	95
Average time between date of request and date of service (days) - all requesting practitioners	42	68	47	70	42	56	39	41	52

Note: The number of mammography machines shown in Table 5 are those providing MBS-eligible mammograms. They do not include mammography machines used under the BreastScreen Australia program, which are not recorded under the LSPN provisions.

Source: Department, *Submission 18*, p. 14.

Nuclear medicine imaging equipment

Table 8: Nuclear medicine imaging equipment (other than PET) and average time between request and date of service by state and territory, 2015–16

	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Number of units	202	93	85	30	32	9	1	9	461
Units per 100,000 population	2.6	1.5	1.8	1.8	1.3	1.7	0.4	2.2	1.9
Average waiting time	12	16	15	21	18	13	21	9	14

Source: Department, *Submission 18*, p. 15.

Positron emission tomography (PET)

Table 9: PET equipment and average time between request and date of service by state and territory, 2015–16

	NSW	VIC	QLD	SA	WA	TAS	NT*	ACT	Australia
Number of units	18	20	18	2	7	2	0	2	69
Units per 100,000 population	0.2	0.3	0.4	0.1	0.3	0.4	0.0	0.5	0.3
Average waiting time	12	20	19	18	32	34	22	5	19

* Note: A PET machine was committed for Darwin in the 2016 election but has not yet been installed.

Source: Department, *Submission 18*, p. 15.

Magnetic Resonance Imaging (MRI)

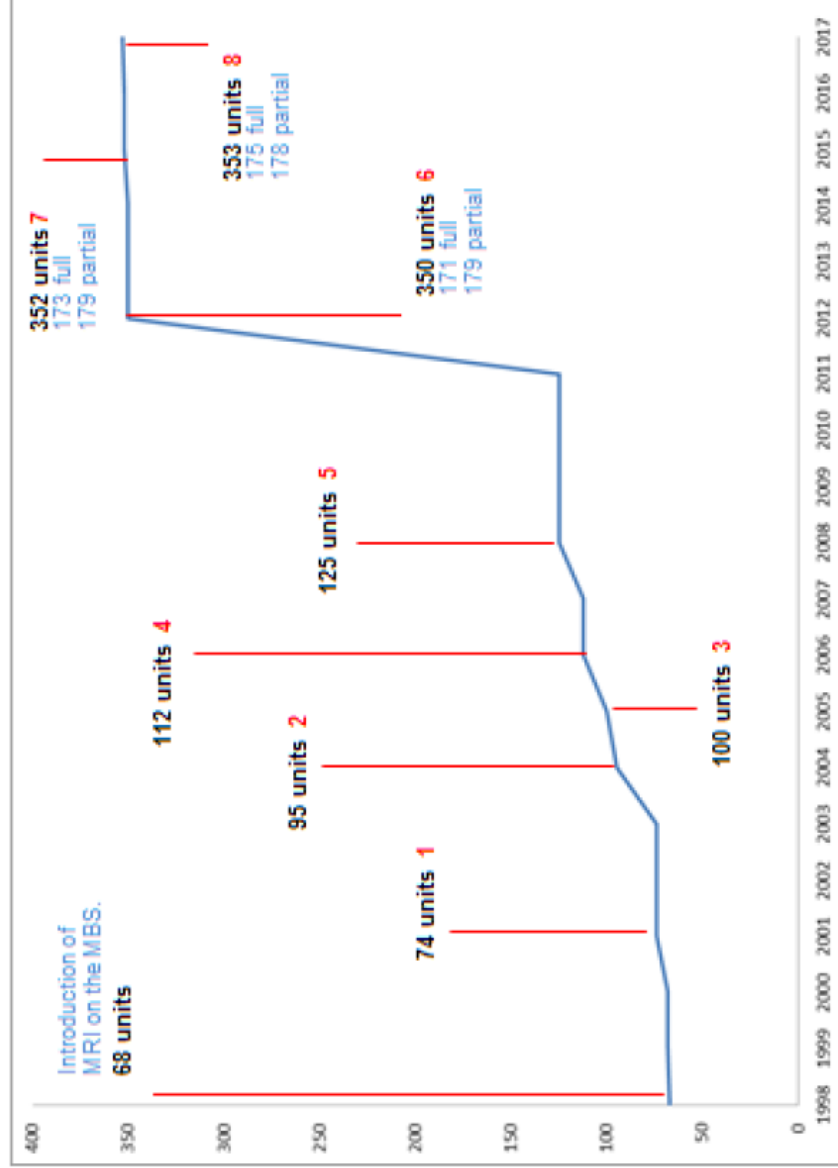
Table 10: MRI – average lag time between request and date of service by state and territory 2015–16

Requesting provider	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	TOTAL
GP	9	8	8	10	9	10	10	9	9
Specialist	21	38	29	36	37	27	20	17	30
All providers	17	29	21	28	30	23	18	14	23

Source: Department, *Submission 18*, p. 16.

APPENDIX 4

Expansion of MRI Medicare eligibility over time



Source: Department of Health

Note: There are five units that have not commenced operation from the 2012 expansion round. As noted in the body of this Submission, there are 348 Medicare eligible units operating.

- 1 – 2001
 - 2 – 2004
 - 3 – 2005
 - 4 – 2006
 - 5 – 2008
 - 6 – 2012
 - 7 – 2015
 - 8 – 2017
- Area of need expansion - 6 units
 - ITA based on mandatory criteria – 21 units
 - Children’s hospital expansion – 5 units
 - Area of need expansion – 10 units
 - Election commitment - Dubbo – 1 unit
 - Gippsland mobile unit – 1 unit
 - Public hospital expansion – 13 units
 - Metropolitan and regional expansion – 34 full, 179 partial eligibility
 - Area of need – 12 units (full)
 - Government discretion – Mount Gambier – 1 unit (full)
 - Government discretion – Epworth Richmond Hospital – 1 unit (full)
 - Election commitment – Frankston and Maroondah public hospitals – 1 unit (full) and 1 unit (partial to full)

Source: Department, *Submission 18*, p. 41.