

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 Stakeholders suggested that the licensing system was outdated, limited patient access to MRI, resulted in significant costs for patients, and even delayed the diagnosis and treatment of a patient's condition.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.

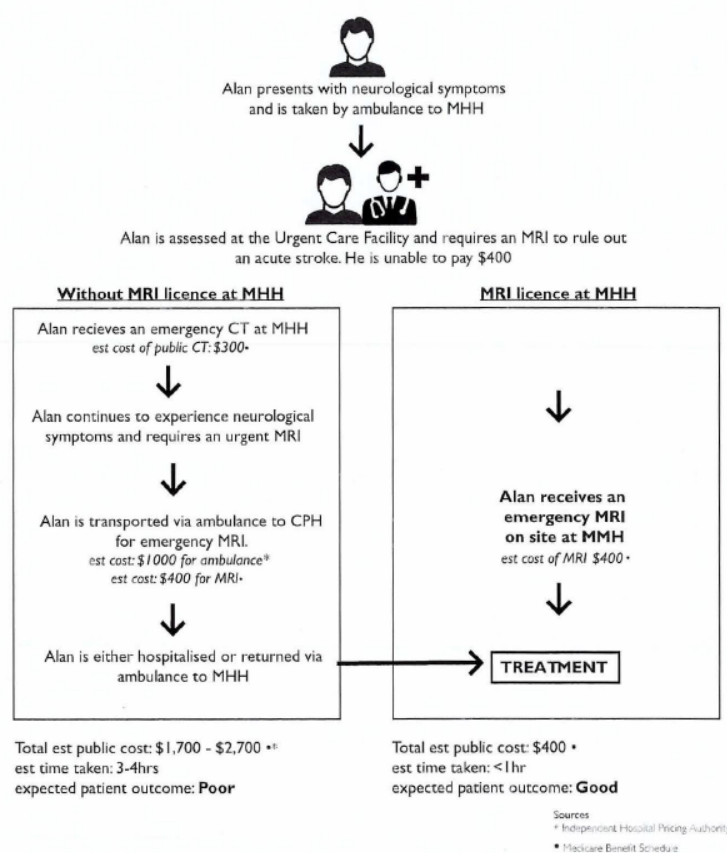
117 AMA, *Submission 7*, p. 2.

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.

