

# **REVIEW OF FUNDING FOR DIAGNOSTIC IMAGING SERVICES: FINAL REPORT**

**Medical Benefits Reviews Task Group  
Diagnostic Imaging Review Team  
Department of Health and Ageing**

**February 2012**

## Table of contents

Background to the Review.....	3
Key Findings of the Review.....	4
Government Expenditure .....	4
The Patient Perspective .....	5
Patient rebate campaign .....	7
Indexation.....	8
Capital .....	8
The Imaging Modalities.....	10
Diagnostic Radiology.....	10
Ultrasound .....	11
Computed Tomography (CT) .....	12
Magnetic Resonance Imaging.....	15
Nuclear Medicine Imaging.....	18
Diagnostic Imaging Accreditation Scheme .....	20
Requesting for Diagnostic Imaging Services.....	21
Outcomes of the Review of Funding for Diagnostic Imaging Services .....	23
<i>ATTACHMENT A:</i> Review of Funding for Diagnostic Imaging Services - Terms of Reference	
<i>ATTACHMENT B:</i> Diagnostic Imaging Review Consultation Committee	

## List of Figures and Tables

Figure 1: Annual Medicare Outlays on Diagnostic Imaging (\$ millions) .....	4
Table 1: Diagnostic Imaging Services per 1,000 population by state for 2009-10. ....	5
Table 2: Number of Diagnostic Imaging services per 100,000 of population by RRMA 2009-10 .....	5
Table 3: Percentage of DI services Bulk Billed by requestor type by modality for 2009-10. ....	6
Table 4: Patient Contribution by Modality for 2009-10 .....	7
Figure 2: Breakdown of Diagnostic Imaging Industry Costs for 2010 .....	9
Figure 3: Percentage distribution of diagnostic imaging services for 2009-10 .....	10
Table 5: Medicare Services and Expenditure on Diagnostic Radiology by Financial Year 11	
Table 6: Medicare Services and Expenditure on Ultrasound by Financial Year .....	11
Table 7: Radiologists verse Non-radiologist Performed Ultrasound Services by Financial Year.....	12
Table 8: Medicare Services and Expenditure on Computed Tomography by Financial Year .....	13
Figure 4: CT Scanners per million population, 2009 (or latest year available).....	14
Figure 5: CT procedures per 1,000 population, 2009 (or latest year available). ....	14
Table 9: Medicare Services and Expenditure on MRI by Financial Year .....	16
Table 10: Distribution of Medicare-eligible MRI .....	16
Table 11: Medicare Services and Expenditure on Nuclear Medicine by Financial Year ....	18
Table 12: Medicare Services and Expenditure on PET by Financial Year .....	19
Table 13 Percentage of DI services by requestor type by modality for 2009-10 .....	22

## Background to the Review

As part of the 2009-10 Budget, the Australian Government ('the Government') announced a review of funding arrangements for diagnostic imaging, to ensure that the Government is paying the right amount in the right way to support access for patients to quality diagnostic imaging services. The review focused on diagnostic imaging services currently funded through the Medicare Benefits Schedule (MBS), including x-ray, ultrasound, computed tomography (CT), magnetic resonance imaging (MRI), nuclear medicine imaging and positron emission tomography (PET).

The review of funding for diagnostic imaging services had four key tasks:

- to establish appropriate fee relativities for MBS items across and within different diagnostic imaging modalities;
- to develop alternatives to fee-for-service and establish whether there are areas of diagnostic imaging that would be more appropriately funded through a different mechanism;
- to review current funding arrangements for MRI, particularly restrictions around Medicare eligible/ineligible units; and
- to review current funding arrangements for PET, particularly around what capital arrangements should apply.

In addition, within these tasks the review also considered the long-term viability of diagnostic imaging services in rural, regional and outer-metropolitan areas. The detailed terms of reference for the review can be found at [Attachment A](#).

The review commenced in conjunction with additional diagnostic imaging funding measures introduced by the Government as part of the 2009-10 Budget. Funding was committed to, the diagnostic imaging bulk billing incentive, which commenced on 1 November 2009 to protect patient access to affordable diagnostic imaging services at a cost of \$600.7 million over four years. Funding of \$5.7 million over four years was also provided for diagnostic imaging and specialist training as part of the Improving the Quality of Services and Addressing Workforce Shortages measure.

Throughout the review there was both formal and informal discussion with the diagnostic imaging industry. The Diagnostic Imaging Review Consultation Committee (DIRCC) was established. Membership included representatives from professional organisations, requestors, providers, consumers, regulatory authorities and training providers of diagnostic imaging services. More detailed information on the DIRCC can be found at [Attachment B](#).

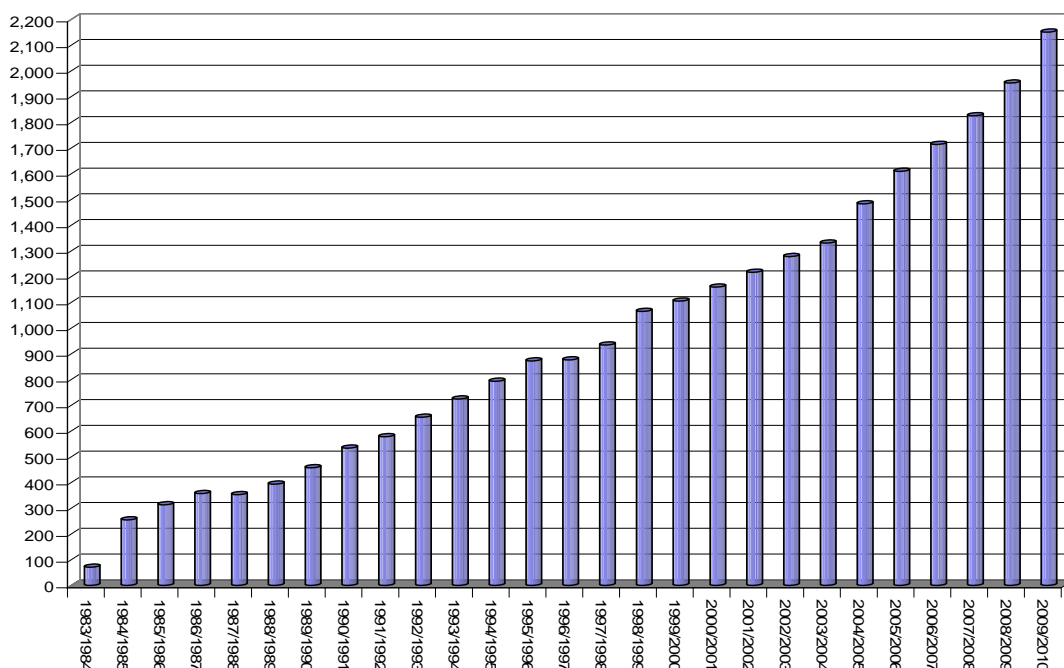
## Key Findings of the Review

### *Government Expenditure*

***The Government provides significant funding for diagnostic imaging services.***

In 2009-10 there were 308.4 million Medicare claims processed by Medicare Australia, of which 18.2 million services were for diagnostic imaging (5.9%). Medicare expenditure in 2009-10 was \$15.48 billion, of which \$2.15 billion was for diagnostic imaging services (13.9%) (see Figure 1). Of these diagnostic imaging services, 1.3 million were provided to in-hospital private patients with an expenditure of \$155.9 million (7.2% of Medicare diagnostic imaging services and expenditure). The remainder of these services were performed on an out-of-hospital basis.

**Figure 1: Annual Medicare Outlays on Diagnostic Imaging (\$ millions)**



***The amount of funding that the Government provides for diagnostic imaging continues to increase substantially each year.***

Expenditure on diagnostic imaging continues to rise over time as a result of increasing volumes of requests despite schedule fees not currently being increased through indexation.

Since 1984, when funding Diagnostic Imaging under Medicare began, outlays have increased from \$255 million (1984-85) to \$2.15 billion (2009-10), an annual average growth of 9.0%. Medicare expenditure on diagnostic imaging across the first ten years had an average annual growth rate of 12.2% despite schedule fee reductions that were applied in 1987-88. The most recent ten years produced an average annual growth rate of 6.9% and the last three years of 7.9%.

The most recent financial year 2009-10 produced a 10.1% increase in outlays over the previous financial year, the effect of a half year impact of the introduction of the bulk

billing incentive. The Government introduced the bulk billing incentive on 1 November 2009 to improve patient access to these services at an estimated cost of over \$600 million over four years.

The growth in utilisation of imaging services is likely to be due to a range of factors including demographic factors such as population growth, an ageing population and the increasing prevalence of chronic disease.

## ***The Patient Perspective***

Diagnostic imaging patients in Australia currently have excellent access to the full range of diagnostic imaging modalities and to high quality services. Despite Australia's challenging geography, patients across both metropolitan and rural areas can access quality diagnostic imaging services in a timely manner and within a reasonable distance from their home. Most diagnostic imaging services provided through the MBS in Australia are provided by private practitioners in a competitive market.

**Table 1: Diagnostic Imaging Services per 1,000 population by state for 2009-10.**

<b>2009-10</b>	<b>NSW</b>	<b>VIC</b>	<b>QLD</b>	<b>SA</b>	<b>WA</b>	<b>TAS</b>	<b>NT</b>	<b>ACT</b>	<b>Australia</b>
<b>Ultrasound</b>	320.3	283.0	258.2	266.0	242.0	231.4	134.7	225.9	<b>281.0</b>
<b>CT</b>	105.7	92.6	85.6	100.2	71.0	89.4	31.8	65.4	<b>92.6</b>
<b>Diagnostic Radiology</b>	442.2	413.9	370.4	410.7	316.4	402.6	149.9	295.0	<b>399.1</b>
<b>Nuclear Medicine</b>	28.4	18.8	15.8	14.5	12.5	19.8	8.0	19.9	<b>20.3</b>
<b>MRI</b>	24.2	24.3	20.7	22.2	23.2	24.0	9.1	14.8	<b>22.9</b>
<b>Total</b>	<b>920.9</b>	<b>832.5</b>	<b>750.6</b>	<b>813.5</b>	<b>665.1</b>	<b>767.3</b>	<b>333.4</b>	<b>621.0</b>	<b>815.9</b>

Source: date of processing Medicare data and population statistics utilised by the Department.

Tables 1 and 2 demonstrate that the number of services per 100,000 of population is largely consistent across states and metropolitan and rural areas. Service numbers only decrease in per capita terms in remote areas. This shortfall is driven in large part by reduced availability of doctors in rural and remote locations.

**Table 2: Number of Diagnostic Imaging services per 100,000 of population by RRMA 2009-10**

<b>RRMA</b>	<b>Diagnostic imaging services per 100,000 of population</b>
Capital City	83,943
Other Metro Centre	83,991
Large Rural Centre	79,960
Small Rural Centre	81,397
Other Rural	76,264
Remote Centre	43,908
Other Remote Area	48,407

Source: date of processing Medicare data and population statistics utilised by the Department.

Research has shown that many requesting practitioners adapt their practices to meet the resources that are locally available. An examination of several new technologies found that increases in the availability of a service tend to be associated with higher utilisation of and spending on that service. With respect to imaging, increased availability of MRI has been associated with increases in utilisation of and spending on both MRI and CT imaging technology.<sup>1</sup>

<sup>1</sup> See for example Baker L, Birnbaum H, Geppert J, et al. The relationship between technology availability and health care spending. Health Affairs-Web Exclusive. November 5, 2003.

***Diagnostic imaging services are readily accessible.***

Over 90% of all Australians currently live within 100 km of a comprehensive diagnostic imaging facility, providing MRI, CT, ultrasound and diagnostic radiology. Some 83% of patients live within 10km of a CT machine and 63% of patients live within 10km of a Medicare eligible MRI unit.<sup>2</sup>

***Patients referred from General Practitioners (GPs) are more likely to be bulk billed.***

Rates of patient bulk billing are different depending on whether imaging services are requested by GPs or specialists, as shown by the table below. As highlighted by Table 3, imaging requested by a GP is much more likely to be bulk billed.

**Table 3: Percentage of DI services Bulk Billed by requestor type by modality for 2009-10.**

Requestor	Ultrasound	CT	Diagnostic Radiology	Nuclear Medicine (inc PET)	Total *
% of services Bulk Billed requested by GPs	67.5%	81.1%	81.2%	78.6%	75.7%
% of services Bulk Billed requested by a Specialist	49.4%	63.1%	48.5%	73.5%	52.9%
% of all services Bulk Billed	60.5%	74.4%	74.9%	75.2%	69.7%

Source: date of processing Medicare data.

\* Note: Total includes all DI services (in-hospital and out-of-hospital) excluding MRI.

This may be due to several factors. One is that GPs are more likely to refer their patients to an imaging practice that bulk bills, exerting competitive pressure. While patients are able to select which imaging practice to attend, they are likely to be swayed by the GP preference and also have a preference for bulk billing.

Specialists are generally more likely to base their preference for an imaging practice on the level of clinical input, quality of the images and the way they are provided, rather than on cost. Specialist consultations generally incur copayments and this is normally understood and accepted by patients. Imaging requested by specialists is also more likely to involve copayments, although the reasons for this are unclear.

***With assistance from the bulk billing incentive, patient affordability has been improving.***

The bulk billing rate grew from 65.7% in the December quarter 2008 to 73.1% in the March quarter 2011. The bulk billing rate continues to grow across all modalities, as does schedule fee observance, where the patient is charged at 100% (or less) of the MBS schedule fee.

***Some patients are still charged significant co-payments.***

The average patient contribution continues to grow across all modalities (most notably in diagnostic radiology with an annual growth of 9%). As shown in Table 4, the total patient contributions for 2009-10 totalled \$303 million, which is 2.3% lower than the patient contributions for 2008-09 which totalled \$310 million. This reduction results

<sup>2</sup> Geocoding of Medicare data against departmental population statistics.

from fewer services being patient billed, despite those patients who are billed paying more.

**Table 4: Patient Contribution by Modality for 2009-10**

Modality	Services	% Change in Services from 2008-09	Total patient contribution (\$)	% Change in total patient contribution from 2008-09	Average patient contribution per service (\$)	% Change in average patient contribution from 2008-09
Ultrasound	2,209,991	-3.2	171,203,283	2.5	77.47	6.0
CT	368,560	-14.8	41,936,027	-8.8	113.78	6.9
Diagnostic Radiology	1,414,969	-14.6	59,823,589	-6.9	42.28	9.0
Nuclear Medicine (inc PET)	83,601	-13.8	7,984,453	-13.4	95.51	0.4
MRI	163,958	-10.8	22,239,002	-7.3	135.64	4.0
<b>Total</b>	<b>4,241,079</b>	<b>-8.9</b>	<b>303,186,354</b>	<b>-2.3</b>	<b>71.49</b>	<b>7.2</b>

Source: date of processing Medicare data.

***Patients would like improved quality use of diagnostic imaging.***

In 2010, the Department of Health and Ageing (DHA) funded the Consumer Health Forum to undertake a Consumer Consultation Project on Quality Use of Diagnostic Imaging.<sup>3</sup> At a workshop involving 11 consumers, seven principles for improved quality use of diagnostic imaging were identified:

- Receive high quality information before, during and after testing;
- More attention paid to their physical and emotional wellbeing;
- Be viewed as active partners in their health care and to be given the opportunity to review their own test results;
- Results should be communicated quickly and where possible, practitioners should be on hand to discuss results immediately;
- Better availability of health records and better record keeping around exposure to radiation;
- Practitioners should communicate more effectively with one another; and
- Better access to diagnostic imaging services.

***Patient rebate campaign***

A campaign led by the Australian Diagnostic Imaging Association (ADIA) and Cancer Voices was launched in early 2011 calling for reinstatement of indexation of Medicare rebates for diagnostic imaging services. As part of the campaign, the Government received a large number of representations from patients who support continued access to affordable diagnostic imaging services.

<sup>3</sup> Consumer Health Forum of Australia, *Quality Use of Diagnostic Imaging, Consumer Consultation Project, Final Report*, August 2010.

## ***Indexation***

### ***The continued non-indexation of diagnostic imaging schedule fees is of significant concern to the sector.***

Routine annual indexation of imaging schedule fees has not been applied since November 1998. Apart from diagnostic imaging there are two other areas of the MBS where annual indexation is not routinely applied – pathology and a small group of items for other medical practitioners (non-vocationally registered GPs). The diagnostic imaging sector including patient advocacy groups and referrers argued throughout the review that a restoration of annual indexation and an increase in imaging schedule fees are important in ensuring patient rebates are maintained at what they view as a realistic level.

### ***The cost of returning annual indexation to diagnostic imaging would be substantial.***

The estimated cost of returning annual indexation, from 1 November 2011, to diagnostic imaging schedule fees would be at least \$420 million over four years. Given increasing rates of bulk billing, evidence of market fragmentation, and a lack of robust evidence about the cost of providing efficient diagnostic imaging services, indexation is not currently a priority for Government. However, in the long term, the Government will continue to monitor schedule fees to ensure that imaging services remain affordable and accessible.

### ***Initial impact of the introduction of the diagnostic imaging bulk-billing incentive***

The Government introduced the bulk billing incentive on 1 November 2009 to protect patient access to diagnostic imaging services at a cost of \$600.7 million over four years. At this time ADIA described this measure as being of ‘immense value’. The bulk billing rates for diagnostic imaging have climbed from 66.1% in the 2008/09 financial year to 72.7% in the 2010/11 financial year and the bulk billing rate continues to grow across all modalities.

## ***Capital***

### ***Capital is not the most substantial component of diagnostic imaging services.***

Diagnostic imaging requires significant capital investment in high cost equipment and technology and its integration with information technology systems. In general, the MBS includes a capital component for diagnostic imaging in the schedule fee for each item (apart from PET items), although over time the relative share of capital and other costs has become hard to quantify.

Applied Economics recently undertook an investigation into costs for diagnostic imaging equipment and found that capital was not the largest component.<sup>4</sup> Workforce is the highest cost and this cost is continuing to grow. The labour to capital ratio is 8:1 and the industry exhibits a low level of revenue volatility as most services are covered under Medicare.<sup>5</sup>

If over time equipment prices change or new technology increases or decreases service delivery time and professional input time, there needs to be a mechanism to take into account the impact of advances in technology on relevant MBS fees.

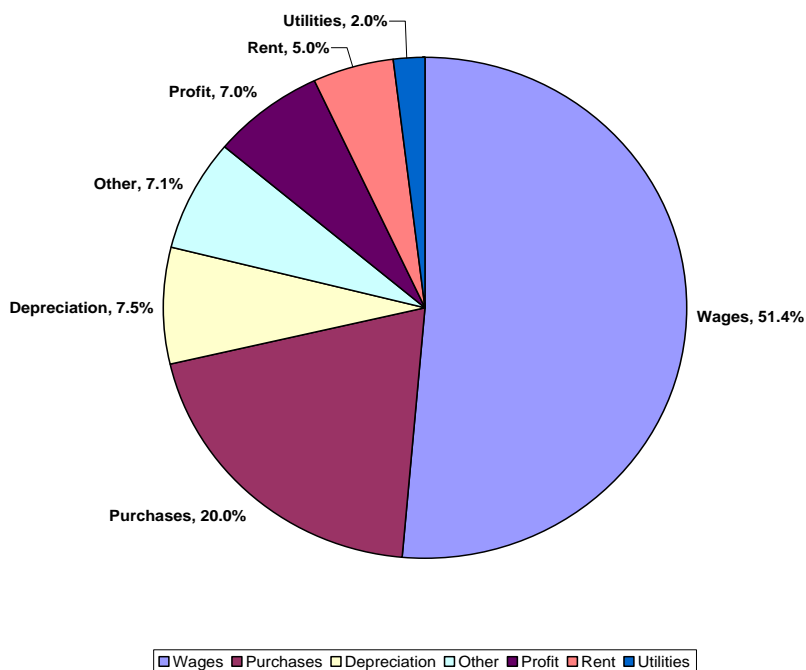
---

<sup>4</sup> Applied Economics, Costs for diagnostic imaging equipment, July 2010.

<sup>5</sup> IBISWorld Industry Report 08637, Diagnostic Imaging Services in Australia, August 2010.



Figure 2: Breakdown of Diagnostic Imaging Industry Costs for 2010<sup>6</sup>



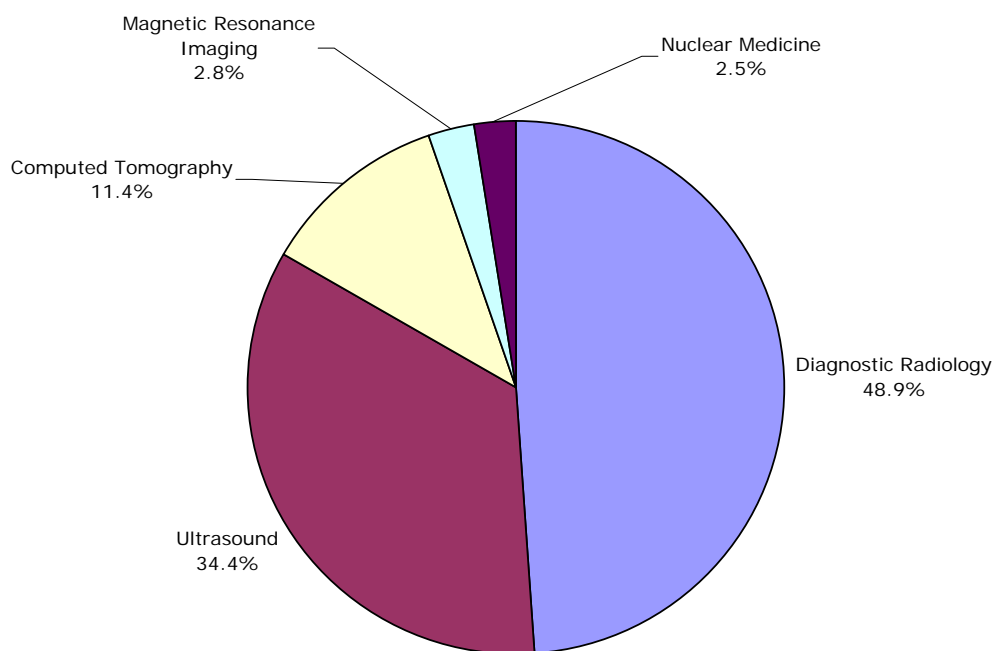
In the 2009-10 Budget, the Government announced that the capital sensitivity rules, which currently at that time apply applied to CT and angiography, would be extended to cover all diagnostic imaging modalities (except PET) from 1 July 2011.

As indicated by Figure 2 above and confirmed in the Applied Economics paper, wages are the largest cost. This includes payments to medical specialists in diagnostic imaging, as well as technical staff such as radiographers and sonographers, and other support staff.

<sup>6</sup> IBISWorld Industry Report 08637, Diagnostic Imaging Services in Australia, December 2010.

## The Imaging Modalities

Figure 3: Percentage distribution of diagnostic imaging services for 2009-10<sup>7</sup>



The key modalities of diagnostic imaging supported through the MBS are diagnostic radiology, ultrasound, CT, MRI and nuclear medicine imaging. The World Health Organisation estimates that diagnostic imaging is needed in around 20% to 30% of medical cases worldwide, as clinical considerations alone are not sufficient to make a correct diagnosis.<sup>8</sup> Of these cases that require diagnostic imaging, some 80% to 90% of diagnostic problems can generally be solved using x-ray or ultrasound examinations, although this may change over time with advances in technology.

The Australian experience is consistent with this. As depicted in Figure 3, x-ray (48.9%) and ultrasound (34.4%) examinations together accounted for 83.3% of all diagnostic imaging examinations billed to Medicare in 2009–10.

### Diagnostic Radiology

***Diagnostic Radiology comprises the largest proportion of diagnostic imaging services.***

In 2009-10 there were 8.9 million Diagnostic Radiology services billed to the MBS (48.9% of diagnostic imaging). The service growth over the last four financial years was 11.9%. Expenditure was \$464.4 million (21.6% of diagnostic imaging). Expenditure growth for the last four financial years was 15.7%.

<sup>7</sup> Date of processing Medicare data.

<sup>8</sup> World Health Organization, Department of Essential Health Technologies, *Essential Diagnostic Imaging*, [online], accessed October 2010, from <<http://www.who.int/ehd/en/DiagnosticImaging.pdf>>

**Table 5: Medicare Services and Expenditure on Diagnostic Radiology by Financial Year**

Financial Year	Total Services	% Growth in Services from previous financial year	Total Expenditure (\$ million)	% Growth in Expenditure from previous financial year
2005-06	7,932,250	2.8%	\$401,347,672	4.1%
2006-07	8,119,523	2.4%	\$408,094,290	1.7%
2007-08	8,475,910	4.4%	\$424,683,685	4.1%
2008-09	8,612,909	1.6%	\$432,697,196	1.9%
2009-10	8,879,086	3.1%	\$464,376,718	7.3%

Source: date of processing Medicare data.

The rate of growth in volumes of diagnostic radiology, and therefore expenditure, has been relatively low, averaging around 3% growth in service volume per year over the past 4 years (see Table 5). Volume growth largely reflects growth in the number of GP and specialist consultations, as the number of x-ray services requested per 100 GP consultations has declined.

***The review has not identified any modality-specific issues for diagnostic radiology, apart from fee relativities.***

Diagnostic radiology volumes are growing steadily while schedule fees have been held stable. The bulk billing rate for GP requested diagnostic radiology services in 2009-10 was 81.2%. Patient co-payments for diagnostic radiology in 2009-10 were lower than for other modalities, averaging \$42.28 for patient-billed out-of-hospital services, although some individual items have higher average co-payments.

There are a number of different machines that perform specific types of diagnostic radiology services. Beyond the x-ray machine there are more specialised machines which include angiography, fluoroscopy and mammography. Overall the number of practices performing diagnostic radiology is growing at a rate higher than service volume growth. This, along with the relatively high rates of bulk billing, indicates a competitive market for diagnostic radiology services.

## Ultrasound

***Ultrasound services are growing at 8% per annum.***

In 2009-10 there were 6.3 million ultrasound services billed to the MBS (34.4% of diagnostic imaging). Growth for the last four financial years was 44.1%. Expenditure was \$687.3 million (32% of diagnostic imaging). Growth for the last four financial years was 40.3%.

**Table 6: Medicare Services and Expenditure on Ultrasound by Financial Year**

Financial Year	Total Services	% Growth in Services from previous financial year	Total Expenditure (\$ million)	% Growth in Expenditure from previous financial year
2005-06	4,716,304	8.7%	\$489,901,242	9.7%
2006-07	5,058,021	7.2%	\$522,369,960	6.6%
2007-08	5,388,837	6.5%	\$563,745,777	7.9%
2008-09	5,839,034	8.4%	\$613,119,045	8.8%
2009-10	6,251,413	7.1%	\$687,312,100	12.1%

Source: date of processing Medicare data.

Table 6 shows that the average annual growth in ultrasound services has been around 8% for the past four years. Trends across ultrasound are difficult to identify because of different factors affecting particular areas. For example, expenditure on obstetric ultrasound, which is often provided by obstetricians as part of a range of services in managing a pregnancy, has been affected by the introduction of the Extended Medicare

Safety Net and then its capping from January 2010. Similarly, the utilisation and billing patterns of ultrasound can be quite different between self-referred and arms-length referred ultrasound, due to the different specialty groups involved.

**Table 7: Radiologists verse Non-radiologist Performed Ultrasound Services by Financial Year**

Financial Year	Radiologist Ultrasound Services		Non-Radiologist Ultrasound Services	
	% of ultrasound services	Bulk Billing Rate	% of ultrasound services	Bulk Billing Rate
2005-06	70.0	55.9	30.0	38.4
2006-07	70.1	56.6	29.9	39.6
2007-08	70.2	60.4	29.8	40.2
2008-09	70.7	63.5	29.3	41.0
2009-10	71.0	67.7	29.0	42.9

Source: date of processing Medicare data.

***There are concerns about fee relativities for Ultrasound.***

Schedule fees for ultrasound items have been subject to a range of different changes (such as increases and decreases in particular areas). As a result, schedule fees for ultrasound are internally inconsistent, meaning that they are no longer aligned for services involving similar time and complexity.

The difference in ultrasound bulk billing rates for radiologists and non-radiologists is highlighted in Table 7. At the aggregate level, in 2009-10 the bulk billing rate for ultrasound was 60.5% and the average co-payment for patient-billed out-of-hospital services was \$77.47.

***There are concerns that some ultrasound is provided by practitioners that lack appropriate qualifications.***

Many ultrasound services are provided by non-diagnostic imaging specialists as an inherent part of their examination of a patient; for example, obstetricians monitoring a pregnancy. These ultrasound services might be more appropriately remunerated as part of consultation or other MBS items for relevant specialty groups, rather than through the Diagnostic Imaging Services Table. This could potentially reduce complexity for diagnostic imaging and allow those services to be remunerated more appropriately.

As there is no requirement for non-diagnostic imaging specialists to meet minimum training requirements in order to perform MBS-eligible ultrasound services, some services are presently being provided by practitioners without formal training. This gap could be addressed through the expansion of the diagnostic imaging accreditation scheme and/or the introduction of credentialing requirements.

## **Computed Tomography (CT)**

***Expenditure on CT has been growing at around 8% per annum.***

In 2009-10 there were 2.1 million CT services billed to the MBS (11.4% of diagnostic imaging) with service growth for the last four financial years at 29.4%. Expenditure was \$612.5 million (28.5% of diagnostic imaging) with expenditure growth for the last four financial years at 38.9%.

**Table 8: Medicare Services and Expenditure on Computed Tomography by Financial Year**

Financial Year	Total Services	% Growth in Services from previous financial year	Total Expenditure (\$ million)	% Growth in Expenditure from previous financial year
2005-06	1,592,973	9.1%	\$440,859,725	11.8%
2006-07	1,732,790	8.8%	\$479,259,326	8.7%
2007-08	1,861,706	7.4%	\$517,185,424	7.9%
2008-09	2,008,071	7.9%	\$562,255,243	8.7%
2009-10	2,061,214	2.6%	\$612,495,779	8.9%

Source: date of processing Medicare data.

The average annual growth in the number of CT services has been around 8%, although there was a reduction in growth in 2009-10, with growth of just 2.6% (see Table 8). The change in the growth profile corresponded with a recent Professional Services Review (PSR) report expressing concern about appropriate requesting of CT services. The report led to a period of intense media focus on the risks of radiation and seems to have changed some clinical behaviour. The reduction was significant enough for the private sector to suggest that it would impact on the sector's profitability. Medicare Australia is continuing to audit providers that appear to be over-initiating diagnostic imaging, including CT.

***Australia has a comparatively high number of CT machines, some of which are potentially not being utilised efficiently.***

Since 2004, the number of active machines has been growing at a rate of 8.4% per annum. Of the CT machines currently operating in Australia 98.5% are less than 10 years of age due to capital sensitivity (whereby the schedule fee is reduced by 50% when the machine reaches the end of its effective life – currently 10 years).<sup>9</sup>

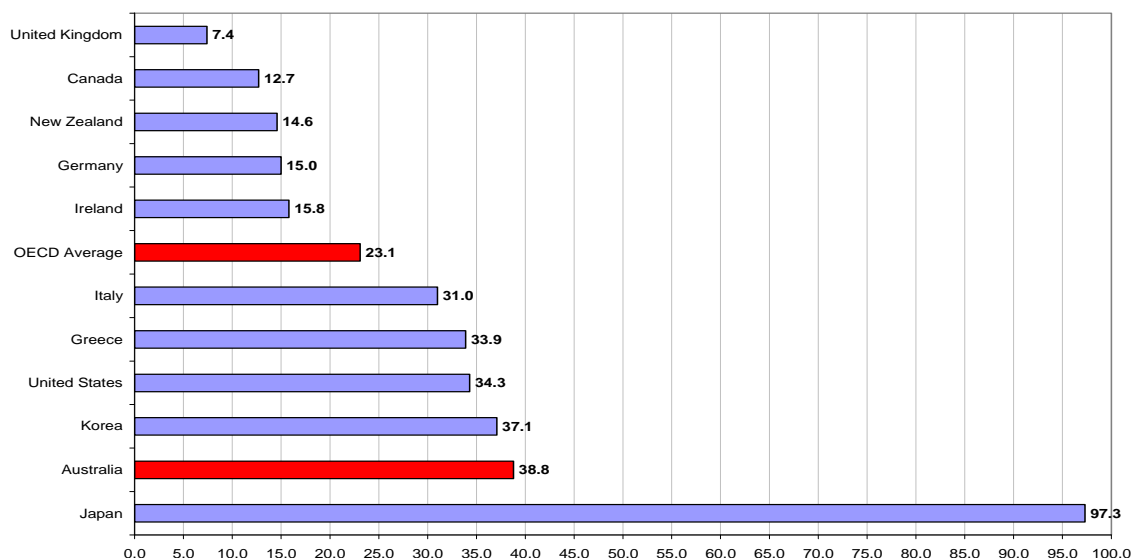
As per Figure 4, Australia has a comparatively high number of CT scanners compared to the OECD average. If all these CT scanners were being utilised at optimum levels, it would stand to reason that Australians would receive significantly higher numbers of CT procedures than the OECD average. Utilisation data clearly highlight that this is not the case. As highlighted by Figure 5, Australia has approximately 94 CT procedures per 1,000 population per year,<sup>10</sup> which is substantially lower than the OECD average of 138.9 CT procedures per 1,000 population. This points to potentially significant inefficiencies in the use of such equipment and scope to reduce the number of CT units.

Whilst the use of OECD averages provides a point of comparison, there are limitations in using these averages as international comparisons of health expenditure. This is due to a number of factors including differences in the model of healthcare delivery and funding and geographical and demographic constraints which all impact on the level of health care expenditure. The OECD figures are also limited in that the average does not necessarily represent appropriate clinical practice. Therefore they should not necessarily be used as a benchmark for high quality health services. Further work needs to be undertaken to better understand the links between the number of CT units and patient outcomes.

<sup>9</sup> Medicare data and Location Specific Practice Number database.

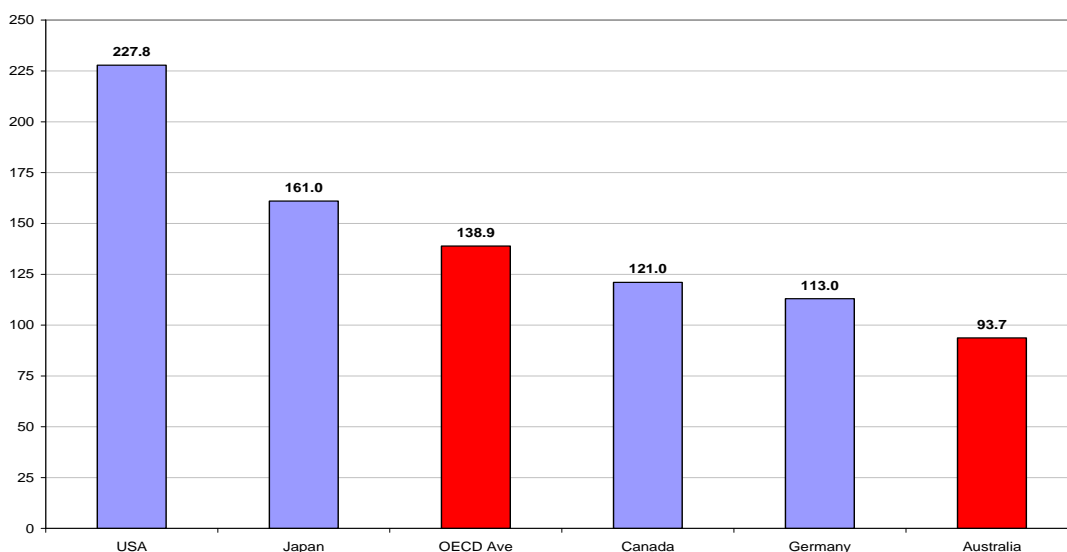
<sup>10</sup> The data for throughput performed on Australian CT scanners is derived from publicly available Medicare data and as such may not include throughput generated by work cover patients, public hospital inpatients and other patients not captured in Medicare data.

Figure 4: CT Scanners per million population, 2009 (or latest year available).



Source: OECD dataset.

Figure 5: CT procedures per 1,000 population, 2009 (or latest year available).



Source: OECD dataset.

***There are concerns for patient safety associated with unnecessary exposure to radiation.***

Unnecessary exposure to radiation is of concern, especially when attributed to inappropriate imaging. One study suggests that as many as 1.5–2% of cancers in the U.S. may be attributable to radiation from CT scans when adjusted by the current CT use, though no large-scale epidemiologic studies have been performed.<sup>11</sup> This is because CT relies on significantly larger radiation doses than most modalities. Compared to the US, Australia has a lower rate of CT scans per capita.

<sup>11</sup> Brenner D, Hall E. Computed tomography – an increasing source of radiation exposure. N Eng J Med. 2007; 357: 2277-2284.

Children and pregnant women are two vulnerable populations at risk from radiation exposure due to over-utilisation of services. Children are particularly at risk because they are more sensitive to radiation and have more years of life remaining in which to develop radiation-induced cancer.<sup>12</sup>

CT remains an appropriate test for many clinical indications and modern equipment has resulted in the production of a lower radiation dose per examination. Many countries are using decision guidelines as a means to ensure the appropriateness of the scan. For example, the U.S. has commenced a \$10 million project to evaluate the efficacy of decision-support systems for requesting diagnostic imaging studies.<sup>13</sup>

There are no current Australian studies that identify inappropriate use of CT resulting in unnecessary exposure to radiation. However, as noted earlier, the recent reduction in the CT growth rate indicates that some doctors may have changed their clinical behaviour in response to the PSR report.

***There are concerns about the current schedule fee relativities for CT.***

There are concerns that CT is over-remunerated relative to other modalities. The Review also heard that CT cross-subsidises less profitable and loss making services. This cannot be substantiated with Medicare data.

There are a range of factors affecting demand for CT services. Among these, the Australian Medical Association has argued that some patients are receiving unnecessary CT scans because GPs do not currently have the option of requesting Medicare-eligible MRI services.<sup>14</sup>

## **Magnetic Resonance Imaging**

As shown in Table 9, in 2009-10 there were 0.5 million Medicare funded MRI services (2.8% of diagnostic imaging) and the service growth for the last four financial years was 47.4%. Expenditure totalled \$185.0 million (8.6% of diagnostic imaging) and the expenditure growth for the last four financial years was 54%. The annual average growth in MRI services has been around 10% in recent years, reflecting increased access to services and acceptance of MRI as a standard clinical tool for many diagnoses. Despite some MRI units being subject to conditions of Medicare-eligibility that require them to bulk bill certain patients, the overall bulk billing rate for MRI was 62.3% in 2009-10, and co-payments were high, averaging \$135.64.

---

<sup>12</sup> Brenner and Hall *ibid*.

<sup>13</sup> CMS unveils imaging decision-support initiative, 24 July 2010, [online] accessed October 2010 at [www.auntminnie.com](http://www.auntminnie.com)

<sup>14</sup> General Practice Week 20-26 July, *Let GPs order MRI under Medicare*, 22 July 2009.

**Table 9: Medicare Services and Expenditure on MRI by Financial Year**

Financial Year	Total Services	% Growth in Services from previous financial year	Total Expenditure (\$ million)	% Growth in Expenditure from previous financial year
2005-06	346,308	16.8%	\$120,087,378	13.0%
2006-07	393,519	13.6%	\$135,953,901	13.2%
2007-08	423,749	7.7%	\$146,589,193	7.8%
2008-09	459,259	8.4%	\$159,159,841	8.6%
2009-10	510,510	11.2%	\$184,987,037	16.2%

Source: date of processing Medicare data.

Medicare expenditure on MRI relates to Medicare-eligible MRI units as distinct from Medicare-ineligible units. Table 10 shows the current distribution of Medicare-eligible MRI units across metropolitan and non-metropolitan areas as well as public and private settings.

**Table 10: Distribution of Medicare-eligible MRI**

Public / Private	Units in Metropolitan Area	Units in Non-Metropolitan Area	Total Number of Units
Public	41	8	49
Private	55	21	76
<b>Total</b>	<b>96</b>	<b>29</b>	<b>125</b>

Source: Location Specific Practice Number Register.

**Note:** Metro and Non-Metro areas are defined by statistical subdivision.

***The current MRI arrangements are unnecessarily complex and not optimised for patient access.***

There are three key criteria that must be met for a patient to receive a Medicare rebate for an MRI scan:

- the type of MRI scan must be listed on the MBS;
- the patient must be referred for the scan by a specialist medical practitioner or consultant physician; and
- the scan must be performed on a Medicare-eligible MRI unit.

Medicare-eligible MRI units must also meet the following core requirements:

- the MRI unit must be located in Australia, in a medical practice or the radiology department of a hospital that offers a comprehensive range of diagnostic imaging (i.e. that includes x-ray, ultrasound and computed tomography); and
- Medicare-eligible scans must be performed under the professional supervision of an eligible provider who is available to monitor and influence the conduct and diagnostic quality of the examination, including, if necessary, by personal attendance on the patient.

In addition to these core requirements, individual units are in some instances bound by additional individual conditions outlined in the Regulations and/or agreements. These include hours of operation, billing procedures and transferability of Medicare-eligibility arrangements.



The complexity of the current MRI arrangements is different from all other modalities, despite MRI being accepted as a mainstream imaging modality that does not expose patients to ionising radiation. The arrangements are difficult for patients and providers to understand and impose a significant administrative burden on both the government and practices.

***The current requesting arrangements for MRI potentially disadvantage some patients.***

The current restriction that allows only specialists and consultant physicians, and not GPs, to request Medicare-eligible MRI services is coming under increasing pressure, due to:

- waiting lists for specialists and specialist fee increases, leading to pressure from patients;
- pressure from MRI operators in areas with few specialists;
- increasing concern about excess radiation exposure from CT scans; and
- increasing acceptance of MRI as a routine investigation.

In view of the higher risk to children of cancer occurring later in life from exposure to CT, practitioners have argued that MRI should be the imaging modality of choice for children under 16 years of age, unless a CT is clinically indicated.

The case for GP requesting needs to be considered alongside a considered expansion of eligible units as the existing Medicare-eligible units do not have the capacity to meet the additional demand that this would create. It also needs to be considered in conjunction with the current arrangements for CT referral as there is no evidence, based on international utilisation patterns, that where MRI is unrestricted alongside CT provision that it results in a reduction in the total number of CT services.

***The provision of MRI including the location of Medicare-eligible units is not optimised for patient access and affordability.***

In 1998 Medicare eligibility was initially expanded to all MRI units operating at the time or those that were on order by a particular date. This meant that the initial roll out of services was dictated by where the market had already perceived a 'need' for MRI services. Since then further expansions were primarily linked to locations where two key viability criteria were met:

- the population base to be serviced by the MRI unit must be greater than 150,000; and
- the MRI unit must be located within a base of appropriate specialist referral services (at least 50 full-time equivalent specialists).

Reliance on these criteria has diminished over time. The allocation of Medicare-eligible MRI units has resulted in a number of units being in locations where there is an insufficient base of population and specialists. As a result, a number of MRI units are currently operating on inefficient volumes, which has implications for future sustainability. The existing approach of containing growth in expenditure on MRI services by limiting the number of Medicare-eligible machines is not sustainable in the longer term, particularly if the referral base is significantly increased through the introduction of some GP referral. Given the degree of distortion in the existing placement and treatment of MRI units, it is difficult to identify a policy solution that

would treat all existing units equally as well as provide an appropriate long-term approach for future growth in the number of Medicare-eligible units.

***There are inequitable operating arrangements for MRI providers.***

Conditions of Medicare eligibility, such as billing practices and hours of operation are outlined and maintained for individual units under a series of different mechanisms, depending on which expansion year the unit was granted eligibility. Examples of these mechanisms include various contractual agreements (such as Deeds of Undertaking) and Regulations. However, those units which were granted eligibility in the original 1998 expansion do not face any restrictions on their billing arrangements or operating hours.

Those units that became Medicare-eligible in 1998 had already been established or planned in areas where the provision of MRI services had been perceived to be 'financially viable' by the market. These units have not been forced to bulk bill and have therefore been able to make decisions about their billing practices based on their individual business circumstances. Medicare eligible units that followed were not necessarily placed within established viable areas. Despite this, their viability has been further compromised by the requirement that they bulk bill.

The billing arrangements are not currently prescribed for any imaging modality other than MRI. Having consistency across all Medicare eligible MRI providers would help to create a more even playing field which may impact positively on overall sustainability.

## Nuclear Medicine Imaging

In 2009-10 there were approximately 0.5 million nuclear medicine imaging services billed to the MBS (2.5% of diagnostic imaging) with service growth for the last four financial years at 35% (see Table 11). Expenditure was \$201.3 million (9.4% of diagnostic imaging) and expenditure growth for the last four financial years at 28.2%. In 2009-10, the bulk billing rate for nuclear medicine imaging was 75.2% and the average co-payment for patient-billed out-of-hospital services was \$95.51.

**Table 11: Medicare Services and Expenditure on Nuclear Medicine by Financial Year**

Financial Year	Total Services	% Growth in Services from previous financial year	Total Expenditure (\$ million)	% Growth in Expenditure from previous financial year
2005-06	333,827	2.1%	\$157,037,500	4.7%
2006-07	350,732	5.1%	\$168,098,253	7.0%
2007-08	374,539	6.8%	\$173,163,882	3.0%
2008-09	412,093	10.0%	\$185,115,885	6.9%
2009-10	450,923	9.4%	\$201,346,668	8.8%

Source: date of processing Medicare data.

***There is significant variation in the cost of consumables for nuclear medicine.***

The Review established that schedule fees for nuclear medicine services do not necessarily recognise the large variation in the cost of radiopharmaceuticals needed to perform them. This relates to the fact that radiopharmaceutical costs vary significantly depending on market supply. In some instances, radiopharmaceutical costs can be higher than the schedule fee.

There is no mechanism in the current MBS fee to compensate for these types of fluctuations. The Australian Nuclear Science and Technology Organisation (ANSTO) is a Government agency that plays a key role in the supply of radiopharmaceuticals. There may be scope for the Department of Health and Ageing to work with ANSTO and the

sector to develop alternate funding arrangements that recognise the Government’s role as both a purchaser and provider, and thereby help to improve the affordability of these components. Improving the affordability of these consumables may also improve patient access.

***There is a need for further consideration of alternative radiopharmaceuticals.***

Currently the MBS only allows the use of specific radiopharmaceuticals in nuclear medicine. However, there are instances where a substitute radiopharmaceutical is also clinically appropriate and may be less subject to disruption in supply.

Work needs to be undertaken in consultation with ANSTO and the Australian and New Zealand Association of Physicians in Nuclear Medicine (ANZAPNM) to address the issue of substitution of radiopharmaceuticals.

***Positron Emission Tomography (PET)***

PET is a subspecialty of nuclear medicine that has been gradually introduced to the MBS over the last decade. As per Table 12, in 2009-10 there were 28,211 PET services billed to the MBS (0.2% of diagnostic imaging and 6.3% of nuclear medicine imaging). Service growth for the last four financial years was 114.5%. Expenditure was \$25.4 million (1.2% of diagnostic imaging and 12.6% of nuclear medicine). Expenditure growth for the last four financial years was 115.8%. The high growth rate in PET services reflects these expansions in MBS funding and in the number of PET facilities and it is unlikely to continue at such high rates. The growth in PET services is inflated by the low starting base.

**Table 12: Medicare Services and Expenditure on PET by Financial Year**

Financial Year	Total Services	% Growth in Services from previous financial year	Total Expenditure (\$ million)	% Growth in Expenditure from previous financial year
2005-06	13,154	14.7%	\$11,757,900	14.5%
2006-07	17,018	29.4%	\$15,171,435	29.0%
2007-08	17,736	4.2%	\$15,799,641	4.1%
2008-09	22,689	27.9%	\$20,150,842	27.5%
2009-10	28,211	24.3%	\$25,371,618	25.9%

Source: date of processing Medicare data.

There are currently 20 PET Medicare eligible items relating to solitary pulmonary nodule, epilepsy, non small cell lung cancer, melanoma, colorectal and ovarian cancers, gastro-oesophageal junction, lymphoma, glioma, sarcoma, cervical cancer and head and neck cancers listed on the MBS. All indications were assessed and recommended by the Medical Services Advisory Committee (MSAC). Like other forms of nuclear medicine imaging, PET also requires radiopharmaceuticals.

***The PET items and schedule fees need to be reviewed in consultation with the sector.***

When PET schedule fees were established over 10 years ago they did not include a capital component. Over the past 10 years capital has been funded via a number of different arrangements including a significant number of facilities being funded directly by the Australian Government. The current bulk billing rate for PET is high (93%) and there continues to be new providers willing to enter the market, indicating some stability in the provision of these services. However, further analysis on PET schedule fees, including capital costs, needs to be undertaken in consultation with the sector to determine their ongoing appropriateness.

The sector argues that it would be cost-effective to expand the indications for which PET is currently funded, particularly to expand support for cancer patients. This would require further consideration by MSAC.

## ***Diagnostic Imaging Accreditation Scheme***

### ***Quality standards for diagnostic imaging need to be ensured.***

The Review identified that the DIAS, in its current embryonic form, cannot provide robust quality assurance. Its development through the maintenance and strengthening of quality standards is vital to ensuring diagnostic imaging scans reflect best clinical practice, are performed by an appropriately qualified practitioner and are provided within a facility which meets all necessary quality standards.

Currently, most standards or rules around the provision of Medicare eligible diagnostic imaging services are outlined in regulation through the Diagnostic Imaging Services Table (DIST). As a result the responsibility for enforcement and compliance monitoring rests with Medicare Australia and has proven difficult because of the complexity and in some instances the ambiguity of the regulations.

The Review also identified some specific quality issues within diagnostic imaging where there are currently no rules or standards specified in regulations or through the DIAS to ensure the quality and safety of services.

As raised in the discussion on ultrasound, there are no minimum training requirements for non-radiologist specialists providing Medicare-eligible ultrasound services. Reaching a consensus on what these minimum standards might be and including these in requirements for Medicare-eligible services could improve the quality of services.

Presently, there are no rules or standards around radiation dose. The Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) recently undertook a national survey of radiation doses to the Australian population from the use of CT and other types of diagnostic medical radiation. The survey showed that there is a large variation in radiation dose across providers. ARPANSA is now working to develop Diagnostic Reference Levels (DRLs) that serve as benchmarks that practices adhere to. On completion of this work, quality standards should be updated to ensure consistent and high standards that minimise patient exposure to radiation.

Additionally, the regulations and DIAS do not currently prescribe any minimum requirements around digital imaging and information sharing. The continued development and implementation of digital imaging has the potential to further improve the quality of diagnostic imaging. However, this will be reliant on being able to access images on multiple networks and systems being able to effectively communicate with one another.

Whilst the development of the personally-controlled electronic health records and the National Broadband Network are both likely to facilitate improved electronic access to previous imaging, there will be a need to ensure take-up of uniform IT approaches. This will necessitate consideration of the cost implications. The take-up and evolution of e-health also needs to be underpinned by appropriate standards to ensure that quality is maintained.

Whilst the regulations currently define requirements around professional supervision for each modality, ADIA has expressed concern about differences in how this is being interpreted – such as comprehensive practices providing CT services in metropolitan areas without a radiologist on site. Professional supervision is a crucial component of quality diagnostic imaging services. Further work needs to be undertaken to better

understand the role of the radiologist in contemporary quality practice and to consider options for supporting diagnostic imaging specialists to ensure patients receive appropriate high quality imaging. In relation to professional supervision, ADIA and RANZCR have made a number of suggestions aimed at supporting higher levels of clinical input from onsite radiologists; these have included the introduction of a practice incentive program for practices providing a comprehensive range of imaging services and a recommendation for closer alignment with the RANZCR Standards of Practice in the DIAS

Strengthening the DIAS provides the best platform to develop standards relevant to particular modalities and how they are being used by different medical specialties. This would also ensure that all patients receive high quality imaging services.

## ***Requesting for Diagnostic Imaging Services***

### ***There are concerns about the appropriateness of some imaging.***

International studies have shown that from 20% - 50% of diagnostic imaging for a variety of conditions fails to provide information that improves patient diagnosis and treatment and may therefore be considered redundant or unnecessary.<sup>15,16,17</sup> These studies were all performed in the US where there is more than double the utilisation of CT per 100 head of population and therefore may not be indicative of the extent to which inappropriate requesting is a problem in Australia. MBS data cannot readily shed light on this problem because it does not capture information on why tests were ordered or the results.

In general, an intervention is deemed clinically appropriate when the benefits outweigh the risks. Performing interventions in situations of no, or very little, net benefit may waste health service resources, may not improve health at the population level and may be harmful for patients. Some diagnostic imaging modalities carry risk of radiation exposure and interpretation of imaging can be unclear, creating risks of incorrect disease diagnosis, patient anxiety and further imaging or invasive procedures (e.g. biopsy). These risks will exceed any potential benefits if the scans are performed in patients with a very low likelihood of disease. At a societal level, appropriateness takes on the added dimension of cost-effectiveness. For an intervention to be appropriate, the overall use of the intervention should be affordable.

Lack of high level (level 1 or 2) evidence that sets out the true indications for various types of imaging hampers the cost-effective use of diagnostic imaging. Some uses are self evident as are the advantages of technological advancement. However, there are some areas where diagnostic pathways and the appropriate use of imaging could be better defined. Such diagnostic pathways could also include guidelines on frequency of follow up investigations when managing chronic complex disease.

The Government is already investing \$9.4 million over four years to fund the National Prescribing Service (NPS) to promote high quality and appropriate requests for diagnostic imaging services and pathology tests.

### ***GPs request the most imaging services.***

---

<sup>15</sup> Dehn T, et al. Appropriateness of imaging examinations: current state and future approaches. Imaging Economics. March 2000.

<sup>16</sup> Brenner D, Hall E. Computed tomography – an increasing source of radiation exposure. N Eng J Med. 2007; 357: 2277-2284.

<sup>17</sup> Meko J. A tool box for medical management. Healthcare Savings Chronicle. August 2007.

As shown in Table 13, over 65% of requests for diagnostic imaging are made by GPs. The provision of the service is then usually undertaken by a dedicated diagnostic imaging provider. The cost of the decision to request diagnostic imaging is largely met by the Government and, where the service is not bulk billed, shared by the patient.

**Table 13 Percentage of DI services by requestor type by modality for 2009-10**

Requestor	Ultrasound	CT	Diagnostic Radiology	Nuclear Medicine (inc PET)	Total *
<b>% of services requested by a GP/OMP **</b>	74.2%	62.9%	71.5%	35.5%	<b>70.3%</b>
<b>% of services requested by a Specialist</b>	25.8%	37.1%	28.5%	64.5%	<b>29.7%</b>

Source: date of processing Medicare data.

\* Note: Total includes all DI services excluding MRI

\*\* Note: OMP includes other medical practitioners and Allied Health professionals.

***Requesting practitioners should be supported to ensure that they are requesting the most appropriate imaging services.***

Expenditure on diagnostic imaging has risen over time as a result of increasing volumes of requests, despite schedule fees not being increased through indexation. The rate of imaging requests increased from 7.7 per 100 encounters in 2000-01 to 9.8 in 2008-09. Ultrasound imaging increased from 2.1 tests per 100 encounters in 2000-01 to 3.6 per 100 in 2008-09. CT increased from 0.7 per 100 encounters in 2000-01 to 1.3 in 2008-09. MRI increased from less than 0.05 per 100 encounters in 2000-01 to 0.1 in 2008-09.<sup>18</sup> Diagnostic radiology and nuclear medicine imaging requesting rates did not change during that period. Of concern with increasing volumes is evidence suggesting that some requesting doctors lack knowledge and awareness about the levels of radiation exposure associated with different diagnostic imaging modalities.<sup>19</sup>

Current MBS funding arrangements have supported the increasing use of diagnostic imaging in the performance of medical cases. Currently Australian utilisation of ultrasound and x-ray services is consistent with OECD averages, while utilisation of CT and MRI services is below OECD averages. As access to these higher end modalities increases it is important that referrers are provided with appropriate guidance to support efficient and effective access by patients to essential quality diagnostic imaging services.

***Role of the radiologist***

Under current legislation there are significant barriers to a radiologist being able to substitute a more appropriate modality than that requested. In addition, radiologists generally have access to very little clinical information about the reasons why an imaging request was made and may therefore not readily be enabled to recommend an alternative, except in cases where there is a clinical reason why the original scan should not be provided to that patient.

The role of radiologists and other imaging specialists needs to be reviewed with respect to substitution and improved communication with the requesting practitioner. The role of the radiologist could be better utilised and defined to ensure patients are receiving only appropriate imaging and that the requesting practitioners receive sufficient information from the imaging service to appropriately treat the patient.

<sup>18</sup> Medicare data.

<sup>19</sup> See for example S Shiralkar, A Rennie, M Snow, R B Galland, M H Lewis, K Gower-Thomas "Doctors' knowledge of radiation exposure: questionnaire study" *BMJ* 2003;327:371-2.

## Outcomes of the Review of Funding for Diagnostic Imaging Services

The Government requested the Review of Funding for Diagnostic Imaging Services to ensure that it is paying the right amount in the right way to support access for patients to quality diagnostic imaging services. During the course of the Review the Government consulted extensively with key diagnostic imaging stakeholders including requestors, providers, consumers, regulatory authorities and training providers of diagnostic imaging services.

The terms of reference focused on the current funding arrangements for diagnostic imaging. However, the review established that there are complex, interrelated issues beyond the funding arrangements that need to be addressed in order to maintain ongoing access to appropriate, quality services for patients and to support the long term sustainability of the diagnostic imaging sector.

The Diagnostic Imaging Review Reform Package was developed to address the issues identified during the review, which extend to quality assurance, efficiency of practice, the role of the radiologist and demand management. Significantly, the package also provides a platform to address the ongoing appropriateness of the current schedule of fees for diagnostic imaging services and the regulatory framework in which diagnostic imaging operates in Australia.

The Government endorsed the reform package outlined below as part of the 2011-12 Budget. It will be implemented in a phased manner in close cooperation with the diagnostic imaging sector over the next five years.

### **The Government's key objectives for diagnostic imaging funded through the Medicare Benefits Schedule are that:**

- Patients' access to affordable and convenient diagnostic imaging services be maintained;
- Patients in rural and remote areas have continued access to quality diagnostic imaging services;
- Requesting practitioners and imaging services communicate effectively to ensure that patients receive appropriate imaging;
- Each diagnostic imaging service reflects best clinical practice, is performed by an appropriately qualified practitioner and is provided within a facility which meets all necessary accreditation standards, minimising exposure to unnecessary radiation;
- Ongoing Government expenditure for diagnostic imaging services is sustainable; and
- The diagnostic imaging sector is sustainable.

### ***The Diagnostic Imaging Reform Package***

The Government will implement the Diagnostic Imaging Review Reform Package (the Package) over a five-year timeframe commencing from 1 July 2011 until 30 June 2016, to improve the quality and value of diagnostic imaging services.

The Package has the following key elements:

- Ensuring appropriate requesting of diagnostic imaging;
- Enhancing the role of radiologists in appropriate imaging;
- Enhancing the Diagnostic Imaging Accreditation Scheme;
- Expanding patient access to Magnetic Resonance Imaging (MRI);

- Increasing access to MRI services for primary care patients; and
- Addressing fee relativities and incentives.

### ***Appropriate requesting of diagnostic imaging***

The Department will work with the Royal Australian and New Zealand College of Radiologists, the Royal Australian College of General Practitioners and other stakeholder bodies to develop clinical guidelines and educational resources, such as professional development modules to increase GPs' knowledge of diagnostic imaging, including the risks associated with radiation.

The development of guidelines and educational resources will support the extension of requesting rights to GPs for a limited range of clinically appropriate MRI indications. These guidelines will also assist GPs when determining the most appropriate imaging modality across Computed Tomography (CT) and MRI.

Where interventions are effective in reducing the rate of volume growth for imaging, funding may be redirected to allow schedule fee increases for appropriate imaging items.

### ***The role of radiologists in appropriate imaging***

The role of radiologists and other imaging specialists in appropriate imaging selection could be increased. The Department will work with stakeholders, including diagnostic imaging experts and requesting doctors, to review the current regulations limiting imaging substitution and where appropriate make changes to ensure that they are not a barrier to clinically appropriate imaging.

This process will also involve working with requesters and imaging providers to improve communication flows. These are essential to ensuring that requesters provide more and better quality information as part of the referral process and that imaging providers report appropriate information back to requesters to facilitate optimal patient care.

The Department will also work with diagnostic imaging stakeholders when reviewing the DIST arrangements and current fee relativities to ensure that they encourage practices to direct patients to the most appropriate imaging modality.

### ***Enhancing the Diagnostic Imaging Accreditation Scheme***

The Diagnostic Imaging Accreditation Scheme (DIAS) will be strengthened by introducing more stringent quality and safety standards for practitioner credentialing, practice and patient safety, professional supervision requirements, management of patient radiation dose, and other areas that impact on the delivery of a safe and quality service. Introducing more stringent quality standards will ensure that each diagnostic imaging service reflects good clinical practice, is performed by an appropriately qualified practitioner and is provided within a facility which meets all necessary accreditation standards.

Whilst the DIAS is in its infancy it is an appropriate medium by which to stipulate standards as it allows involvement from the diagnostic imaging sector and can accommodate changes in clinical practice.

As well as working on enhancing the DIAS, the Department will also review current diagnostic imaging legislation and the merits of moving quality and safety requirements into the DIAS to ensure consistency across modalities and providers. This will include reaching consensus with the industry on appropriate definitions on issues such as professional and personal supervision.



The Department will work with professional bodies to develop appropriate credentialing schemes or essential educational requirements for each diagnostic imaging modality. Ultrasound will be the first modality reviewed. The Department has already commenced work on enhancing the DIAS and will continue this work as part of the reform package.

### ***Positron Emission Tomography***

Whilst the review has found no immediate systemic changes are required for PET, there are a number of ongoing issues in relation to PET and nuclear medicine more broadly (such as the cost and availability of radiopharmaceuticals), which will be investigated further with the assistance of the sector.

### ***Better Access to Magnetic Resonance Imaging (MRI)***

The Package includes \$104.4 million over four years to expand patient access and service provision of Medicare funded MRI services, supporting faster diagnosis and earlier detection of disease. This package will:

- standardise Medicare-eligible operating arrangements for all current 125 Medicare eligible MRI units on 1 May 2012;
- increase the current bulk billing incentive for MRI from approximately 10 percent to approximately 15 percent of the Schedule Fee from 1 May 2012;
- extend Medicare requesting rights to GPs for all patients under 16 for a small set of clinically appropriate indications from 1 November 2012;
- extend Medicare requesting rights to GPs for all patients 16 years and over for a small set of clinically appropriate indications from 1 November 2013;
- extend access to all MBS-eligible MRI services to MBS-ineligible MRI units, operating in non-major cities (as defined by the Australian Standard Geographical Classification – Remoteness Areas) from 1 November 2012;
- extend access to Medicare eligibility for MRI items listed in the MBS for the staging of rectal and cervical cancer and the screening of breast cancer in women under 50 years of age as well as any new GP requested services (as they become Medicare-eligible) for all MBS-ineligible MRI units, operating in major cities from 1 November 2012;
- extend MBS eligibility to 12 additional MRI units between 2012-2015, on the basis of applications to provide services in defined areas of need.

The Government's intention with these reforms is to expand patient access to MRI services that meet minimum specified standards. Accordingly, changes in Medicare-eligible operating arrangements from 1 May 2012 will be closely monitored to ensure patient access is not threatened by sudden changes in service delivery in regional locations.

### ***Addressing fee relativities and incentives***

The Diagnostic Imaging Services Table (DIST) will be restructured to align with current clinical practice. This will provide a more robust platform from which to better structure quality initiatives and incentives as well as to address the fee relativities.

The Medicare Benefits Schedule Fees paid by the Government for diagnostic imaging services will be reviewed to examine the appropriateness of fee relativities across and within modalities. This will ensure that all Schedule Fees are appropriate and that there is no perverse incentive to invest in higher end technologies.

*Restructuring of the DIST*

The review of the DIST would involve working closely with the sector to develop the most appropriate structure and to assess each item for its clinical appropriateness.

*Restructuring of Fees*

In conjunction with the item restructure, fee relativities across and within modalities will be assessed to examine the appropriateness under the new structure. This will be undertaken within the current funding envelope for imaging.

*Access and Affordability*

The Department will continue to monitor bulk billing and patient gaps to ensure that patient rebates continue to support patient access and affordability as well as a sustainable diagnostic imaging sector.

## Attachment A

### Terms of Reference

As part of the 2009-10 Budget the Government announced a detailed review of funding arrangements for diagnostic imaging services, to ensure that it is paying the right amount of support for patients to access quality pathology and diagnostic imaging services, and consider whether there is any need for structural changes to the way these services are provided through Medicare.

The review will focus on diagnostic imaging services currently funded through the Medicare Benefits Schedule (MBS), including x-ray, ultrasound, computed tomography, magnetic resonance imaging (MRI), nuclear medicine imaging and positron emission tomography (PET). The review will not focus on issues around the requesting of and demand for diagnostic imaging services, except where this is relevant to considering how services are funded.

The review has four key tasks:

1. To establish appropriate fee relativities for MBS items across and within different diagnostic imaging modalities;
2. To provide alternatives to fee-for-service and establish whether there are areas of diagnostic imaging that would be more appropriately funded through a different mechanism;
3. Review current funding arrangements for MRI, particularly restrictions around Medicare eligible/ineligible units; and
4. To review current funding arrangements for PET, particularly around what capital arrangements should apply.

In addition, within these four key tasks the review will consider the long-term viability of diagnostic imaging services in rural, regional and outer-metropolitan areas.

The Diagnostic Imaging Review Consultation Committee (the Committee) will be the principal and most visible forum for conducting consultations with external stakeholders, both about the diagnostic imaging review and also about related activity in the development of the MBS Quality Framework. It may also be a useful forum for other work that requires engagement with the diagnostic imaging sector.

The role of the Committee will be to:

- Promote awareness of the review throughout the diagnostic imaging industry and profession;
- Canvas views of their organisations to ensure the Department is fully informed of issues relevant to their organisation;
- Assist, where possible to help the Department to compile evidence to support, or not support, a series of options on the future funding of diagnostic imaging, in line with the Terms of Reference of the review;
- Assist, where possible, in data collection to provide appropriate costing for option models that are developed; and
- Work with the Department to achieve the objectives of the review in the timelines provided.

It is anticipated that the activities of the Committee will continue for a period of one year with a term of appointment for members of the Committee from 1 February 2010 to 30 June 2011.

During this period it is expected that the Committee will hold up to six face to face meetings in Canberra.

## **Attachment B**

### **Diagnostic Imaging Review Consultation Committee**

The Diagnostic Imaging Review Consultation Committee (the Committee) has been established as a consultation forum to enable a number of diagnostic imaging stakeholders to contribute effectively to the Detailed Review of Funding for Diagnostic Imaging Services (the review) process. Input from diagnostic imaging stakeholders is vital to ensure that the review process is fully informed of relevant issues by providers, referrers, requesters and consumers of diagnostic imaging.

### **The Role of the Committee**

The role of the Committee will be to:

- Promote awareness of the review throughout the diagnostic imaging industry and profession;
- Canvass views of their organisations to ensure the Department with fully informed of issues relevant to their organisation;
- Assist, where possible to help the Department to compile evidence to support, or not support, a series of options on the future funding of diagnostic imaging, in line with the Terms of Reference of the review;
- Assist, where possible, in data collection to provide appropriate costing for option models that are developed; and
- Work with the Department to achieve the objectives of the review in the timelines provided.

### **Members of the Committee**

The Committee is chaired by the Department and includes representatives from the following groups:

- Australian Diagnostic Imaging Association (ADIA);
- Royal Australian and New Zealand College of Radiologists (RANZCR);
- Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG);
- Cardiac Society of Australia and New Zealand (CSANZ);
- Australian and New Zealand Association of Physicians in Nuclear Medicine (ANZAPNM);
- Consumer Health Forum of Australia (CHF);
- Australian Medical Association (AMA);
- Australian Institute of Radiography (AIR);

- Australian Sonographers Association (ASA);
- Australasian Society for Ultrasound in Medicine (ASUM);
- Department of Health and Ageing (both the Diagnostic Imaging Review team and Diagnostic Services Branch);
- Royal Australian College of General Practitioners;
- Royal Australasian College of Surgeons;
- Allied Health Professions Australia; and
- Diagnostic Imaging Association of Australasia.