Australian Government

Medical Services Advisory Committee

Public Summary Document

Report to the Medical Services Advisory Committee on utilisation of MBS items 57360 and 57361 following Application 1105 - Computed Tomography Coronary Angiogram - Multi-slice computed tomography coronary angiography in the visualisation of coronary arteries

Medicare Benefits Schedule (MBS) item considered: 57360 and 57361

Date of MSAC consideration: 28-29 March 2018

Context for decision: MSAC makes its advice in accordance with its Terms of Reference, see the MSAC Website.

1. Purpose

The purpose of the report presented to the Medical Services Advisory Committee (MSAC) was to inform MSAC of the real world impacts on the outcomes of Application 1105. The MSAC uses this information to ensure that the new item/s resulting from this application/s is being used as intended.

The report is not intended to be a review of the clinical information covered during the application process.

2. MSAC's advice

After consideration of the real world data for multi-slice computed tomography coronary angiography (CTCA) in the visualisation of coronary arteries (MBS items 57360 and 57361) - MSAC Application 1105, MSAC recommended continued monitoring and review by the Department whilst awaiting any relevant outcome from the MBS Review Cardiac Services Clinical Committee.

MSAC also recommended that the Department review whether the claimed cost-offset of coronary angiography (CA) replacement by CTCA has actually been realised, impact on the sequence of tests for cardiovascular diseases and any changes in practitioner referral patterns.

3. Summary of consideration and rationale for MSAC's advice

MSAC considered the real world impacts of the outcome of MSAC Application 1105 for multi-slice computed tomography coronary angiography (CTCA) in the visualisation of coronary arteries (MBS items 57360 and 57361) by examining real world data.

Patients who have a 10% to 90% risk of having coronary artery disease (CAD) and those who have a greater than 90% risk of having CAD are classified as low-intermediate risk and high

risk, respectively. MSAC noted that CTCA would most likely at least partially replace the use of elective CA for patients who were classified as low-intermediate risk of having CAD and that elective CA would most likely be used for patients with a high risk of having CAD.

MSAC recalled that the MSAC Application 1105 assessment report (dated April 2007) included an estimated 30,000 patients with a low-intermediate risk of having CAD receiving elective CA in 2007. It was also estimated that there would be a small amount of additional leakage from patients who would receive CTCA but would not have otherwise been referred to elective CA. Thus, MSAC recalled that it had been predicted that there would be 33,000 low-intermediate risk patients per year who would receive CTCA.

MSAC noted that there were 25,301 actual CTCA services for MBS item 57360 for the financial year 2011–12, rising to 43,796 actual services for the financial year 2016–17. MSAC noted that there were 237,516 services in total for MBS item 57360 for the review period (financial years 2011–17). MSAC noted that New South Wales had the highest utilisation at 116,400 services for the review period. The majority of claims for MBS item 57360 were for patients aged 55–74 years.

Since there were only 70 services for MBS item 57361 (the NK counterpart [classification of diagnostic imaging machines on the '*capital sensitivity*' measure] to MBS item 57360), MSAC noted that a detailed analysis for MBS item 57361 was not undertaken.
MSAC noted that CTCA services had increased by an average of 16% per year since implementation and that services for MBS item 57360 had doubled over the review period of July 2011 to June 2017.

MSAC queried the extent of replacement of other CAD diagnostic items (MBS items 38215, 38218, 59912 and 59925) with CTCA services, noting services for CAD diagnostic items had only slightly decreased or plateaued over the review period.

MSAC noted that during the review period of July 2011 to June 2017, 97% of patients had received the service only once. In the 2015–16 period, only 0.5% of patients had received at least two services. MSAC considered that this number was very small and of little concern.
MSAC noted that the average fee charged for MBS item 57360 in 2011–12 was $787.48. This gradually increased to $813.50 in 2016–17. MSAC also noted that there was an unusually high fee of $1176 for MBS item 57360 in the Northern Territory for 2014–15 when compared with other states.

The number of practitioners providing services for MBS item 57360 increased from 285 practitioners in 2011–12 to 453 practitioners in 2015–16. MSAC noted that 84% of services for MBS item 57360 were provided by 25% of the practitioners registered to provide this service.

MSAC noted that 80% of services for MBS item 57360 were provided by specialist diagnostic radiologists. MSAC also noted that MBS item 57360 is restricted to requesting by cardiologists and specialist physicians and performed by specialists recognised by the Conjoint Committee for the Recognition of Training in CT Coronary Angiography.

MSAC noted that 84% of services for MBS item 57360 were claimed alone and that incidences of co-claiming were typically for items related to consultant attendance (MBS items 105, 116 and 119). MSAC considered that the data showed co-claiming rates are small and were of no particular concern as they are likely to be clinically appropriate. MSAC noted that, as of 1st November 2017, MBS items 105, 116 and 119 can no longer be claimed on the same day as a group T8 item with a schedule fee of $300 or more.

MSAC noted that the items for CTCA (MBS items 57360 and 57361) are part of a larger ongoing MBS review by the Cardiac Services Clinical Committee. MSAC advised continued monitoring and review of MBS items 57360 and 57361 whilst awaiting any relevant outcome from the MBS Review Cardiac Services Clinical Committee.

MSAC recommended to continue monitoring MBS items 57360 and 57361 due to the ongoing average growth of 11–12% in utilisation. MSAC recommended further investigation into whether the cost offset of CTCA replacement of CA has been realised. MSAC recommended also investigating if the introduction of CTCA has had any impact on the sequence of tests for cardiovascular diseases or changes in referral patterns.

4. Methodology

An application is selected for consideration if the resulting new item(s) and/or item amendment(s) have been on the MBS for approximately 24 months or longer or if there were particular concerns about utilisation such that MSAC requested to consider it earlier. The specific applications for each MSAC meeting are selected by the MSAC Executive which is composed of the chairs of MSAC and its sub-committees.

A report on the utilisation is developed by the department with information on a number of metrics including; state variation, patient demographics, services per patient, practitioner's providing the service, data on fees and co-claiming of services. The number of metrics included in a report is dependent on the annual service volume for the MBS item(s) under consideration i.e. an item with very low utilisation will have less data to analyse. Where service volumes are too low, information is suppressed to protect patient privacy.

Where possible the report compares data on real world utilisation to the assumptions made during the MSAC assessment. Most of these assumptions are drawn from the assessment report.

Relevant stakeholders are provided an opportunity to comment on the findings in the report before it is presented to the MSAC. It is intended that stakeholders are given at least three weeks to consider the reports.

The stakeholder version of the report does not contain information on assumptions from the MSAC consideration if this information is not already publicly available. This is to protect the commercial in confidence of the original applicants. The same principle is applied to this document.

Once MSAC has considered the report, its advice is made available online at the MSAC Website.

5. Results

Utilisation

Based on MBS items processed from July 2011 to June 2017, the service volume for CA items overall (MBS items 38215, 38218, 38220, 38222, 38225, 38228, 38231, 38234, 38237, 38240, 38243, 38246, 59903, 59912, 59925, 59970, 59971, 59972, 59973) (see Appendix A for data and item descriptors), appear to not have decreased since the implementation of item 57360. However in relation to the most relevant 'diagnostic' CA items that are utilised by patients presenting with stable angina (38218, 38215, 59925 and 59912), the utilisation has either slightly decreased (38218) or plateaued (59925). This suggests that some replacement of CA with CTCA may have occurred. However given these CA items are generic in

wording and used for a number of clinical indications (one of which is investigation of stable angina), it is difficult to reliably infer whether replacement has actually occurred. Trends in CA utilisation will continue to be monitored.

Over the review period of 2011–2017 the utilisation of item 57360 has doubled (see **Table 1**). Item 57361 is equivalent to Item 57360, but is only applicable when the service is rendered on older equipment. There were less than 70 of these services claimed in the review period. Therefore, detailed analysis of Item 57361 has not been undertaken.

CTCA has had an average service growth rate of 16% per year since implementation. The largest spike in growth was in 2011-12 to 2012-13 at 22%, whilst the lowest growth occurred in the FY period 2013-14 to 2014-15 at 11% (**Table 1**).

Table 1: Service volume of MBS item 57360 between 2011-12 and 2016-17 (date of service)

Year	State/Territory								AUS Total	Service growth rate from previous year (%)
	NSW	VIC	QLD	SA	WA	TAS	NT	ACT		
2011-2012	12,833	4,652	4,904	792	1,600	294	-	226	25,301	n/a
2012-2013	16,509	5,610	6,493	982	2,160	360	-	354	32,468	22%
2013-2014	19,702	6,596	8,550	1,167	2,740	493	360	379	39,987	19%
2014-2015	22,313	7,689	9,032	1,389	3,147	619	283	468	44,940	11%
2015-2016	24,356	9,038	10,527	1,689	3,760	681	271	702	51,024	12%
2016-2017*	20,687	7,884	8,650	1,620	3,284	512	232	530	43,796	n/a
All years	116,400	41,469	48,156	7,639	16,691	2,959	1,146	2,659	237,516	16%

Source: MBS Analytics Section – May 2017

*2016-17 financial year includes data to 31 March 2017

Data on fee charged

The information provided on fees below (Table 2) is a snapshot of how item 57360 is being claimed in practice.

The average fee charged for item 57360 has increased from $787.48 in 2011-12 to $813.50 in 2016-17. The average fee for patient-billed services is steady across states (Table 2 and Figure 1). There is an anomaly for 2014-15 in the NT, where the average fee charged of $1176 is significantly higher than other states. This is because NT has a significantly high bulk billing rate of 98.9%, which means only a few services (of the 283 provided) attracted an out-of-pocket cost.

Significantly, the bulk billing rate almost doubled in Western Australia from 2015-16 to 2016-17 (43.9% to 76%). While in the ACT, bulk billing rates have substantially increased over the review period from 2011-12 rates of 16% to almost 87% in 2015-16 (Table 2).

Table 2: Statistics on fees charged for MBS item 57360 for 2011 to 2016-17 (date of service)

		Provider State/Territory								
		NSW	Vic	Qld	SA	WA	TAS	NT	ACT	AUS
2011-12	Average Fee Charged [1]	$777	$795	$762	$799	$832	$826	-	$751	$788
	Bulk Billed Rate	80.8%	84.0%	77.5%	55.4%	37.6%	45.2%	-	15.9%	76.2%
2012-13	Average Fee Charged	$781	$798	$769	$804	$871	$823	-	$755	$796
	Bulk Billed Rate	79.5%	84.0%	77.5%	55.4%	41.9%	55.0%	-	19.5%	75.6%
2013-14	Average Fee Charged	$793	$799	$770	$812	$878	$821	$700	$765	$806
	Bulk Billed Rate	83.1%	83.6%	78.8%	51.5%	40.2%	51.3%	99.4%	24.3%	77.6%
2014-15	Average Fee Charged	$794	$792	$766	$843	$879	$806	$1,176	$735	$806
	Bulk Billed Rate	83.3%	83.9%	77.4%	52.3%	42.5%	52.8%	98.9%	70.3%	78.0%
2015-16	Average Fee Charged	$792	$794	$777	$850	$886	$821	$700	$798	$811
	Bulk Billed Rate	83.6%	82.0%	76.5%	55.2%	43.9%	58.0%	98.9%	86.6%	77.8%
2016-17 (to 31 March 17)	Average Fee Charged	$791	$793	$785	$847	$888	$825	$732	$887	$814
	Bulk Billed Rate	84.6%	82.1%	76.0%	58.1%	76.0%	56.3%	98.3%	99.6%	78.4%

Source: Department of Health, File: Q20801a: Standard Post Implementation Review of Items 57360 57361

NP = not printed

Notes:

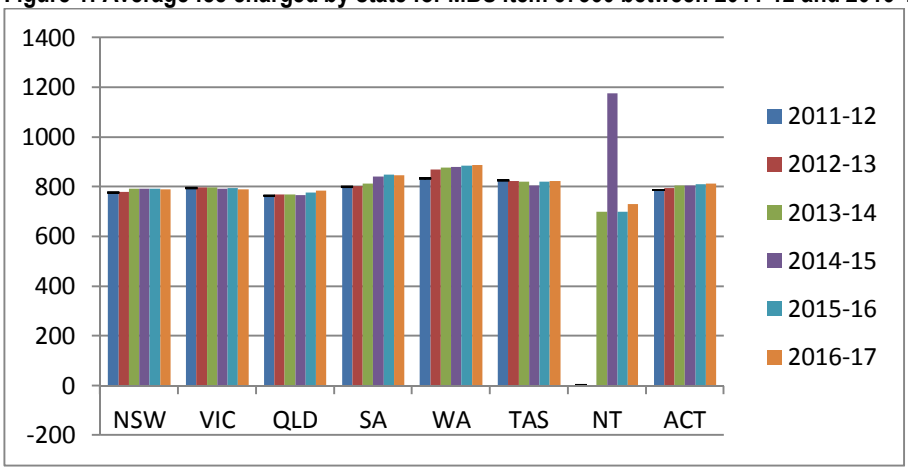
(1) Statistics for Fees Charged are calculated for Patient-billed services only.

(2) Providers are counted if they have provided at least one service in the time period/jurisdiction. They will be counted in each state/territory in which they provided at least one service. Therefore provider counts are not additive.

(3) Patients are counted if they have received at least one service in the time period/jurisdiction. They will be counted in each state/territory in which they received at least one service. Therefore patient counts are not additive.

(4) Descriptive statistics for Fees Charged are only calculated when there are sufficient services for a valid result.

Figure 1: Average fee charged by state for MBS item 57360 between 2011-12 and 2016-17



Source: Department of Health, File: Q20801a: Standard Post Implementation Review of Items 57360 57361

Patient breakdown

There were 50,785 patients who claimed MBS item 57360 in 2015-16, an increase from 25,194 in 2011-12. Of these, 48,678 were new patients and 2,107 were continuing patients from the previous financial year. Since 2013, a small number of patients continued to utilise CTCA every year (Table 3).

Table 3: Number of new and continuing patients who received MBS item 57360 by financial year

Financial	Total		New		Continuing	
Year	Patients	Services	Patients	Services	Patients	Services
Total	229,899	237,516	-	-	-	-
2011-12	25,194	25,301	25,194	25,301	-	-
2012-13	32,323	32,468	32,116	32,260	207	208
2013-14	39,789	39,987	39,114	39,305	675	682
2014-15	44,736	44,940	43,448	43,638	1,288	1,302
2015-16	50,785	51,024	48,678	48,897	2,107	2,127
2016-17*	43,640	43,796	41,349	41,493	2,291	2,303

*2016-17 data until 31 March 2017, and does not constitute a complete financial year

From 2015-16, 0.5% of patients received two or more services under item 57360 (**Table 4**).

Table 4: Number of services per patient who received MBS item 57360 in 2015-16 and 2016-17

Financial	Services	Count	Percentage
2015-16	1	50,550	99.5%
	2 or more	235	0.5%
2016-17*	1	43,486	99.6%
	2 or more	154	0.4%

*2016-17 data until 31 March 2017, and does not constitute a complete financial year

Of the 229,899 patients who accessed the service in the review period, 97% received the service only once (Table 5).

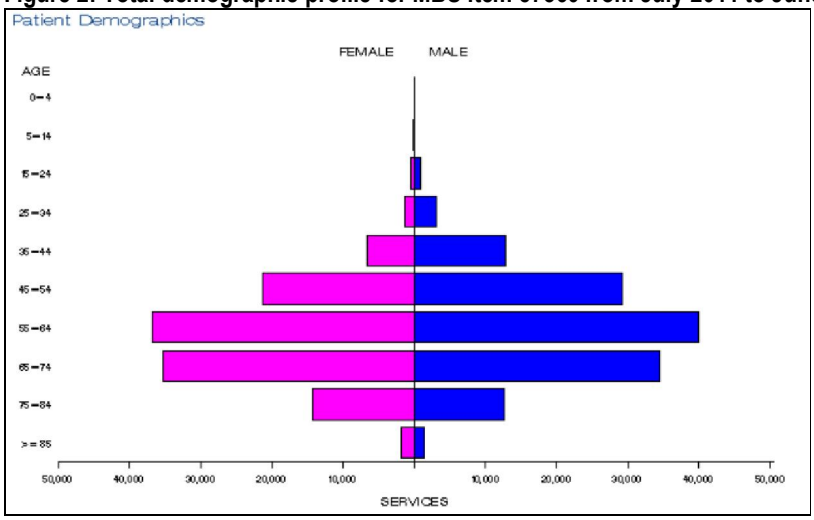
Table 5: Number of services per patient who received MBS item 57360 since service listed 1 July 2011 to 31 March 2017

Services per Patient	Count	Percentage
Total	229,899	100%
1	222,699	97%
2	6,821	3%
3-6	379	-

Source for tables 3-5: Department of Health, File: Q20801a Item 57360 and 57361 utilisation.xlsx

The service is predominantly claimed by patients aged 55-74 (see Appendix B).
A small number of services have been provided to adults aged 34 or below, or those aged over 85 (Figure 2).

Figure 2: Total demographic profile for MBS item 57360 from July 2011 to June 2017



Source: DHS Medicare Statistics Online; http://medicarestatistics.humanservices.gov.au/statistics/mbs_item.jsp

Provider breakdown

There has been a gradual increase in the number of practitioners providing services under item 57360. There were 285 practitioners in 2011-12, increasing to 453 practitioners in 2015-16 (Table 6).

Table 6: Number of practitioners providing services under items 57360 in 2012-13 to 2016-17

Financial year	Practitioners	Services	Average
2011-12	285	25,301	88.8
2012-13	344	32,468	94.4
2013-14	388	39,987	103.1
2014-15	438	44,940	102.6
2015-16	453	51,024	112.6
2016-17*	437	43,796	100.2
All Years	638	237,516	372.3

*2016-17 data until 31 March 2017, and does not constitute a complete financial year

For item 57360, about 25% of practitioners have provided approximately 84% of all services (Table 7).

Table 7: Cumulative percentage of medical practitioners providing item 57360 and how many services each percentile accounts for in 2011-12 to 2016-17

Provider Cumulative %	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17 (to 31 Mar 17)	All Years
5%	34.7	34.2	35.4	34.3	33.9	33.0	41.4
10%	51.7	51.2	51.0	49.7	50.1	48.5	58.3
25%	77.6	77.1	76.9	76.6	76.3	74.5	83.6
50%	94.6	94.1	94.6	94.2	94.3	94.0	97.1
75%	99.3	99.2	99.3	99.3	99.3	99.3	99.7
95%	99.9	99.9	100.0	100.0	100.0	100.0	100.0

Source for tables 6-7: Department of Health, File: Q20801a Item 57360 and 57361 provider concentration.xlsx

The item is restricted to requesting by cardiologists and specialist physicians, and performance by appropriately credentialed specialists. Data indicates that services are mostly being performed by diagnostic radiologists, cardiologists and nuclear specialists. Eighty per cent of services were provided by specialist diagnostic radiologists (Table 8).

Table 8: Number of services by provider specialty under items 57360 between 2011-12 and 2016-17 (to 31 Mar 17)

Derived Major Specialty	Number of services	Percentage
Specialist - Diagnostic Radiology	190,660	80.3%
Specialist - Cardiology	34,083	14.3%
Specialist - Nuclear Medicine	12,260	5.2%
Specialist - Internal Medicine	513	0.22%
Total	237,516	100%

Source: Department of Health, File: Q20801a: Standard Post Implementation Review of Items 57360 57361.xlsx

Co-claiming

Over the review period, item 57360 was generally claimed on its own in 84% of episodes. The specialist consultation items which have been predominantly claimed against item 57360 are 54, 104, 110, 116 and 11700 (Tables 9 - 14).

As of 1 November 2017, medical practitioners are no longer able to claim MBS benefits for subsequent attendance items 105, 116, and 119 if they are claiming any Group T8 items with a schedule fee of equal to or greater than $300 on the same day. Medical practitioners who are not claiming subsequent attendance items with Group T8 items will not be affected. Three new items were introduced for subsequent attendances that are urgent and not able to be predicted. These new items can be claimed on the same day as Group T8 items with schedule fees of equal to or greater than $300.

Departmental medical advice noted there was no concern from a clinical perspective as to the other MBS items that were co-claimed in this dataset. The numbers were small and there are likely to be legitimate reasons for the MBS items when only utilised occasionally.

Table 9: Majority instances of co-claiming with MBS item 57360 in 2011-12

#	Items	Episodes	Services	Schedule Fee for combination	Number of providers	Number of patients	% of episodes
1	57360	22,968	22,974	$16,081,770	283	22,883	90.8%
2	57360, 104	716	1,432	$523,791	13	712	2.9%
3	57360, 110	525	1,050	$426,534	9	524	2.2%
4	57360, 11700	259	519	$188,605	8	258	1.4%
5	Other co-claiming	448	1315	$521,777	99	447	2.7%

Table 10: Majority instances of co-claiming with MBS item 57360 in 2012-13

#	Items	Episodes	Services	Schedule Fee for combination	Number of providers	Number of patients	% of episodes
1	57360	27,836	27,843	$19,490,065	337	27,719	85.8%
2	57360, 104	1,815	3,630	$1,363,421	20	1,811	5.6%
3	57360, 116	740	1,480	$547,554	13	737	2.3%
4	57360, 110	570	1,140	$464,600	14	570	1.8%
5	Other co-claiming	889	1,984	$677,002	137	889	1.8 %

Table 11: Majority instances of co-claiming with MBS item 57360 in 2013-14

#	Items	Episodes	Services	Schedule Fee for combination	Number of providers	Number of patients	% of episodes
1	57360	32,938	32,951	$23,065,555	374	32,803	82.4%
2	57360, 104	2,821	5,643	$2,117,640	28	2,812	7.1%
3	57360, 116	713	1,427	$528,087	16	712	1.8%
4	57360, 110	553	1,106	$451,219	18	553	1.4%
5	Other co-claiming	1,939	1,011	$1,453,309	113	1,432	4.9%

Table 12: Majority instances of co-claiming with MBS item 57360 in 2014-15

#	Items	Episodes	Services	Schedule Fee for combination	Number of providers	Number of patients	% of episodes
1	57360	36,789	36,797	$25,757,735	427	36,631	81.9%
2	57360, 104	2,880	5,762	$2,161,891	29	2,877	6.4%
3	57360, 11700	1,086	2,176	$790,181	27	1,084	2.4%
4	57360, 54	857	1,714	$619,611	np	856	1.9%
5	Other co-claiming	2,200	1,666	$1,698,119	126	2,200	4.9%

Table 13: Majority instances of co-claiming with MBS item 57360 in 2015-16

#	Items	Episodes	Services	Schedule Fee for combination	Number of providers	Number of patients	% of episodes
1	57360	41,692	41,704	$29,192,660	435	41,524	81.7%
2	57360, 104	2,717	5,435	$2,039,471	39	2,713	5.3%
3	57360, 11700	1,567	3,135	$1,138,107	34	1,565	3.1%
4	57360, 54	1,197	2,394	$865,431	np	1,197	2.4%
5	Other co-claiming	566	1,132	$1,885,347	135	561	4.8%

Table 14: Top 10 instances of co-claiming with MBS item 57360 in 2016-17

#	Items	Episodes	Services	Schedule Fee for combination	Number of providers	Number of patients	% of episodes
1	57360	36,212	36,214	$25,349,785	424	36,105	82.69%
2	57360, 104	2,514	5,033	$1,887,861	50	2,511	5.74%
3	57360, 54	1,049	2,098	$758,437	np	1,048	2.40%
4	57360, 11700	1,049	2,101	$761,936	25	1,046	2.40%
5	Other co-claiming	404	4,117	$1,536,273	62	1,682	3.48%

Source for Tables 9-14: Department of Health, File: Q20801a (review items 573060) Item Combination Top 10.xlsx, NP = not published

6. Background

In May 2007, the Department of Health received an application from the Royal Australian and New Zealand College of Radiologists (RANZCR) requesting Medicare Benefit Schedule (MBS) listing of computed tomography of the coronary arteries (CTCA).

CTCA is a non-invasive procedure used in the visualisation of coronary arteries. It involves the administration of contrast material and subsequent acquisition of multiple images of the coronary tree by means of a spiral CT scanner. The technique combines the use of x-rays with computerized analysis of the images.

In November 2007, MSAC assessed the use of CTCA for four clinical indications, recommending public funding for three of the four indications as follows:

- For use in the evaluation of patients with symptoms consistent with coronary ischaemia;
- For diagnosis of patients with coronary anomaly or fistula; and
- For use in the evaluation of coronary arteries in patients with cardiomyopathy.

On 23 November 2007, MSAC supported the listing of the new MBS items for CTCA (items 57360 and 57361). Items 57360 and 57361 apply only to a CT service that is:

(a) performed under the professional supervision of a specialist or consultant physician recognised by the Conjoint Committee for the Recognition of Training in CT Coronary Angiography who is available:
    (i) to monitor and influence the conduct and diagnostic quality of the examination; and
    (ii) if necessary, to attend on the patient personally; and

(b) reported by a specialist or consultant physician recognised by the Conjoint Committee for the Recognition of Training in CT Coronary Angiography; or

(c) if paragraph (a) and (b) cannot be complied with
    (i) in an emergency, or
    (ii) because of medical necessity in a remote area - refer to DID.4.4 for definition of remote area.

7. Item descriptor

MBS Item 57360
COMPUTED TOMOGRAPHY OF THE CORONARY ARTERIES performed on a minimum of a 64 slice (or equivalent) scanner, where the request is made by a specialist or consultant physician, and:

a) the patient has stable symptoms consistent with coronary ischaemia, is at low to intermediate risk of coronary artery disease and would have been considered for coronary angiography; or
b) the patient requires exclusion of coronary artery anomaly or fistula; or
c) the patient will be undergoing non-coronary cardiac surgery (R) (K)

Bulk bill incentive
(Anaes.)

Fee: $700.00 **Benefit:** 75% = $525.00 85% = $618.30
(See para IN.0.12, IN.0.19 of explanatory notes to this Category)

MBS item 57361
COMPUTED TOMOGRAPHY OF THE CORONARY ARTERIES performed on a minimum of a 64 slice (or equivalent) scanner, where the request is made by a specialist or consultant physician, and:

a) the patient has stable symptoms consistent with coronary ischaemia, is at low to intermediate risk of coronary artery disease and would have been considered for coronary angiography; or
b) the patient requires exclusion of coronary artery anomaly or fistula; or
c) the patient will be undergoing non-coronary cardiac surgery (R) (NK)

Bulk bill incentive
(Anaes.)

Fee: $350.00 **Benefit:** 75% = $262.50 85% = $297.50
(See para IN.0.12, IN.0.19 of explanatory notes to this Category)

MBS item comment: The difference between these two items is that the latter is the NK item, with a fee of 50% of the K item.

8. Applicant's comments on MSAC's public summary document

No applicant comment was received.

9. Further information on MSAC

MSAC Terms of Reference and other information are available on the MSAC Website at: www.msac.gov.au.