Medicare Benefits Schedule Review Taskforce

Report from the Oncology Clinical Committee

2017

Important note

The views and recommendations in this report have been released for the purpose of seeking the views of stakeholders.

This report does not constitute the final position on these items, which is subject to:

- Stakeholder feedback;

Then

- Consideration by the MBS Review Taskforce;

Then *if endorsed*

- Government.

Stakeholders should provide comment on the recommendations via the online consultation tool.

Confidentiality of comments

If you want your feedback to remain confidential, please mark it as such. It is important to be aware that confidential feedback may still be subject to access under freedom of information law.

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1. Executive summary

The Medicare Benefits Schedule (MBS) Review Taskforce (the Taskforce) is undertaking a program of work that considers how more than 5,700 items on the MBS can be aligned with contemporary clinical evidence and practice in order to improve health outcomes for patients. The Taskforce also seeks to identify any services that may be unnecessary, outdated or potentially unsafe.

The Taskforce is committed to providing recommendations to the Minister for Health that will allow the MBS to deliver on the following key goals:

- Affordable and universal access.
- Best-practice health services.
- Value for the individual patient.
- Value for the health system.

The Taskforce has endorsed a methodology whereby the necessary clinical review of MBS items is undertaken by Clinical Committees and Working Groups. The Taskforce has asked the Clinical Committees to undertake the following tasks:

1. Consider whether there are MBS items that are obsolete and should be removed from the MBS.
2. Consider identified priority reviews of selected MBS services.
3. Develop a program of work to consider the balance of MBS services within its remit and items assigned to the Committee.
4. Advise the Taskforce on relevant general MBS issues identified by the Committee in the course of its deliberations.

The recommendations from the Clinical Committees are released for stakeholder consultation. The Clinical Committees will consider feedback from stakeholders and then provide recommendations to the Taskforce in a Review Report. The Taskforce will consider the Review Report from Clinical Committees and stakeholder feedback before making recommendations to the Minister for Health, for consideration by Government.

1.1 MBS Review process

The Taskforce asked all committees in the second tranche of the review process to review MBS items using a framework based on Professor Adam Elshaug's appropriate use criteria.[1] This framework includes the following steps: (i) review data and literature relevant to the items under consideration; (ii) identify MBS items that are potentially obsolete, are of questionable clinical value, are misused and/or pose a risk to patient safety; and (iii) develop and refine recommendations for these items, based on the literature and relevant data, in consultation with relevant stakeholders. In complex cases, full appropriate use criteria were developed for an item's descriptor and explanatory notes. All second-tranche committees involved in this review adopted this framework, which is outlined in more detail in Section 2.3.

The recommendations from the Clinical Committees are released for stakeholder consultation. The Clinical Committees will consider feedback from stakeholders and then provide recommendations to the Taskforce in review reports. The Taskforce consider the review reports from Clinical Committees, along with stakeholder feedback, before making recommendations to the Minister for Health for consideration by the Government.

Through the process of the review and consideration by Government, implications of any changes on the health system are considered.

1.2 The Oncology Clinical Committee

The Oncology Clinical Committee (the Committee) was established in April 2016 to make recommendations to the Taskforce regarding MBS items in its area of responsibility, based on clinical expertise and (where appropriate) rapid evidence review. The Taskforce asked the Committee to review oncology-related items.

The Committee was assigned 101 MBS items to review[1], covering investigatory and therapeutic procedures related to medical oncology, radiation oncology and sentinel lymph node biopsy. All recommendations relating to these items are included in this report for consultation.

An inclusive set of stakeholders is now engaged in consultation on the recommendations outlined in this report. Following this period of consultation, the recommendations will be finalised and presented to the Taskforce. The Taskforce will consider the report and stakeholder feedback before making recommendations to the Minister for Health for consideration by the Government.

1.3 Key recommendations

The Committee has highlighted its most important recommendations below. All 101 assigned items[1] were found to require change. The majority have been recommended for some level of revision or restructuring, but some were considered obsolete and have been recommended for removal from the schedule as they no longer support contemporary clinical practice.

The complete recommendations and accompanying rationales for all items can be found in Sections 4 to 6. A complete list of items, including the nature of the recommendations and the page number for each recommendation, can be found in the Index of items (Appendix A). These recommendations are provisional and may be revised based on feedback received during consultation.

The recommendations focus on the objectives of the MBS Review: improve access to medical services, encourage best practice, increase value for consumers and the health system, and simplify the MBS to improve both patient and provider experience (for example, through improved transparency around billed services), as well as the efficiency with which the MBS is administered.

Section 5 – Medical oncology recommendations

- Δ Replace chemotherapy administration items (13915–13942 and 13948) with a set of three items for the medical management of anticancer therapy that:
  - Cover elements of care beyond that which occurs in physical attendances.
  - Is applicable regardless of the chosen route of administration (i.e., including both parenteral and oral therapies).
  - Excludes hormonal therapy and bisphosphonate therapy.
  - Differs by the duration of medical management covered: two, three or four weeks.

  This recommendation addresses the unintended consequences of the current MBS items which do not provide funding to support patients accessing the care they need. It aligns MBS items to reflect the modern clinical practice of medical oncology. In particular, it more accurately reflects medical professional involvement in the supervision and management of anticancer therapy and its associated (side) effects—as opposed to the physical administration

[1] Four items relating to Intensity Modulated Radiation Therapy (15275, 15555, 15565, 15715) were not assigned to the Committee, due to their recent introduction to the MBS (1 January 2016). However, the Committee's recommendations on restructuring megavoltage radiation therapy items includes these four items.

of chemotherapy—and it improves access to modern therapies such as monoclonal antibodies. The separate items for two, three and four weeks allow administrative flexibility to bill in periods that relate as closely as possible to (or sum to) common cycle lengths of a regimen, recognising that the irreversible consequences of a decision to begin therapy (such as bone marrow suppression) last a minimum of two weeks. The items are also simple, clear and auditable.

- Δ Revise items for accessing long-term implanted drug delivery devices: remove item 13945 from the MBS, remove the reference to item 13945 from item 14221, and prevent use of item 14221 where the service is provided in conjunction with the administration of anticancer therapy. This recommendation recognises that use of long-term vascular access devices with anticancer therapy is part of the standard of care and does not represent a separate, distinct service. The recommendation also addresses highly irregular and variable patterns of use for item 13945 across providers, thereby improving value for the patient and the health system.

Section 5 – Radiation oncology recommendations

- Δ Restructure megavoltage items for radiation therapy treatment into a two-part payment model tiered by complexity level: a planning part, covering simulation, dosimetry, voluming and quality assurance activities; and a treatment part, covering treatment and verification activities (and payable on a per-fraction basis). This recommendation aligns MBS items with the modern delivery of radiation therapy, recognising the major determinants of the level of professional involvement required, and that simulation and dosimetry are performed in an integrated fashion and do not represent distinct services.
- Δ Consolidate superficial and orthovoltage radiotherapy items (15000–15115) into three items for kilovoltage therapy to the first anatomical site, subsequent anatomical site(s), or the orbit or orbital structures. This recommendation removes a clinically obsolete distinction and simplifies the MBS items.
- Δ Restructure brachytherapy items into four items tiered by complexity level, covering the previously separate items for radiation source localisation, planning, insertion/treatment, treatment verification and removal. This recommendation aligns MBS items with the modern delivery of radiation therapy, recognising the major determinants of the level of professional involvement required.
  - The Committee also made an interim-state recommendation (in case any delays are anticipated with regards to implementing this recommended restructuring): to revise brachytherapy items by deleting obsolete items referring to radioactive sealed sources with a half-life greater than 115 days, and consolidate items that unnecessarily distinguish between manual and automatic after-loading techniques.
- Δ Delete obsolete cobalt and caesium radiation therapy items 15211 and 15214.

Section 6 – Surgical and paediatric oncology recommendations

- Δ Consolidate items for sentinel lymph node biopsy for breast cancer (30299–30303) into a single item covering use of preoperative lymphoscintigraphy and/or lymphotropic dye injection, in any axilla level. This recommendation retains the MBS listing of sentinel lymph node biopsy for breast cancer—maintaining access to best-practice health services—while consolidation of the items removes an unnecessary distinction.
- Δ Consider an expedited Medical Services Advisory Committee (MSAC) assessment of the MBS listing of items for sentinel lymph node biopsy for patients with intermediate to high-risk melanoma. This recommendation focuses on providing affordable and universal access to a best-practice health service that provides a clear clinical benefit.

1.4 Consumer Engagement and Key Impacts

It is important that the Committee find out from consumers if they will be helped or disadvantaged by the recommendations – and how, and why. Following the public consultation the Committee will assess the advice from consumers and decide whether any changes are needed to the recommendations. The Committee will then send the recommendations to the Taskforce. The Taskforce will consider the recommendations as well as the information provided by consumers in order to make sure that all the important concerns are addressed. The Taskforce will then provide its recommendation to government.

This section summarises the report's key recommendations from a consumer perspective. It aims to make it easier for health consumers and members of the general public to understand and comment on the report's recommendations. Additional information —including a full list of all the items and their accompanying recommendations—can be found in Appendix B – Consumer Summary Table (page 83).

The Committee examined how well the descriptions of the 101 MBS items assigned to the Committee for review[2] matched current clinical practice and met the needs of Australians. The Committee brought together health professionals with experience in and commitment to the care of people with cancer, including specialists in pathology and radiology testing (imaging) for cancer, specialists in medical oncology, radiation oncology and cancer surgery, as well as a General Practitioner (GP) and consumer representatives. The recommendations in this report are not final, and may be revised based on feedback received during the consultation period.

The Committee made the following recommendations with the aim of improving consumer access to best-practice health services:

- Retain MBS items for sentinel lymph node biopsy for patients with breast cancer, and consider a rapid MSAC assessment to introduce MBS item numbers for sentinel lymph node biopsy for patients with intermediate to high-risk melanoma.

  Sentinel lymph node biopsy is a surgical procedure where a targeted sample of lymph nodes is tested to determine whether cancer the cancer has spread to the lymph nodes. This method allows earlier detection of cancer recurrence (coming back), rather than relying on the noticeable symptoms. It has fewer side effects than the older method, which was to remove many or all lymph nodes. There is good clinical evidence for the use of this procedure in breast cancer and in intermediate to high-risk melanoma. MBS items for breast cancer are currently listed on a temporary basis following the MSAC recommendation from application reference 1065 in May 2005. The Committee's recommendation is that it now be listed on a permanent basis.

  There are currently no specific MBS items for use of sentinel lymph node biopsy for melanoma. A substantial proportion of patients with melanoma who could benefit from this service do not receive it.

The Committee also recommended restructuring sets of MBS items and revising the descriptors of some MBS items (i.e., replacing outdated descriptions of treatment delivery) to better reflect the care that people with cancer actually receive:

- Replace the current chemotherapy administration items with a set of three items for the medical management of anticancer therapy for a period of two, three or four weeks. This acknowledges that modern treatment of cancer may involve drugs that are not traditional chemotherapies, but may belong to new classes of drugs, such as monoclonal antibodies. It

[2] Four items relating to Intensity Modulated Radiation Therapy (15275, 15555, 15565, 15715) were not assigned to the Committee, due to their recent introduction to the MBS (1 January 2016). However, the Committee's recommendations on restructuring megavoltage radiation therapy items includes these four items.

also acknowledges that good clinical practice requires the Medical Oncologist to be involved beyond the direct administration of a drug, such as monitoring side effects of treatment and checking blood tests for signs of unsafe levels of toxicity.

- Restructure items for megavoltage radiation therapy into planning and treatment items, with different items depending on the level of complexity involved. Megavoltage radiation therapy is the most common type of radiation therapy, involving higher powered radiation (rather than kilovoltage radiation therapy) that is delivered externally to the body (unlike brachytherapy, where radiation is delivered from within or very close to the body). There are currently 45 megavoltage radiation therapy items that are divided based on many factors, some of which no longer reflect the way services are delivered along the patient journey. For example, simulation, field-setting and dosimetry are now completed in an integrated fashion. Others refer to differences which are no longer relevant to modern treatment methods, such as the use of single versus dual-photon energy.
- Restructure items for brachytherapy into four items differing by the level of complexity involved, covering the previously separate items for radiation source localisation, planning, insertion/treatment, treatment verification and removal. Brachytherapy is a type of radiation therapy where radiation is delivered from within, or very close to, the body (i.e., a radiation source is placed inside or next to the area requiring treatment). This recommendation aligns MBS items with the modern delivery of radiation therapy, recognising the main factors that determine the level of professional involvement required.

Other recommendations aim to improve the value of services funded by MBS benefits—for example, ensuring that MBS items for accessing a long-term implanted drug delivery device (for example, a portacath) are only eligible to be charged to Medicare when this is performed as an independent service. In modern clinical practice, the use of such devices is an integral part of the delivery of anticancer therapies such as chemotherapy, and it should not attract a separate bill when used for the delivery of chemotherapy. Current use of the item for accessing a long-term implanted drug delivery device (item 13945) is highly irregular: many providers never bill the item with chemotherapy, but some bill over $100,000 per year in MBS benefits in association with chemotherapy. This means patients are being billed differently and receiving different rebates depending on which Medical Oncologist they see.

The Committee recommended that some MBS items be removed from the MBS the associated services have been replaced by safer or more effective services, in line with clinical best practice—for example, brachytherapy items referring to sources of radiation with a half-life greater than 115 days, as well as cobalt/caesium radiation therapy items.

Many of the Committee's recommendations also seek to reduce unnecessary complexity in bills, which improves transparency for consumers, reduces the administrative burden for doctors and clinics, and reduces the chances of billing errors or misuse of items. For example, superficial and orthovoltage radiotherapy items (15000–15115) have been consolidated into items for kilovoltage therapy, which removes the unnecessary distinction between superficial and orthovoltage radiotherapy.

1.5 Next steps for these recommendations

The Committee's recommendations will be considered by the Taskforce, along with feedback received during public consultation. The Taskforce will decide if these should be endorsed and recommended to the Government. The Government will then decide which recommendations to implement, and the Department of Health and other relevant agencies will work to implement them. This process may take some time.

2. About the Medicare Benefits Schedule (MBS) Review

2.1 Medicare and the MBS

What is Medicare?

Medicare is Australia's universal health scheme, which enables all Australian residents (and some overseas visitors) to have access to a wide range of health services and medicines at little or no cost. Introduced in 1984, Medicare has three components: free public hospital services for public patients; subsidised drugs covered by the Pharmaceutical Benefits Scheme (PBS); and subsidised health professional services listed on the Medicare Benefits Schedule (MBS).

What is the MBS?

The MBS is a listing of the health professional services subsidised by the Australian Government. There are over 5,700 MBS items, which provide benefits to patients for a comprehensive range of services including consultations, diagnostic tests and operations.

2.2 The MBS Review Taskforce

What is the MBS Review Taskforce?

The Government established an MBS Review Taskforce (the Taskforce) to review all of the 5,700 MBS items to ensure that they align with contemporary clinical evidence and practice, and to improve health outcomes for patients. The review is clinician-led, and there are no targets for savings attached to the review. Following stakeholder review, the Taskforce will present its recommendations to the Minister for Health for consideration by the Government.

What are the goals of the Taskforce?

The Taskforce is committed to providing recommendations to the Minister for Health that will allow the MBS to deliver on each of these four goals:

- **Affordable and universal access.** The evidence demonstrates that the MBS supports very good access to primary care services for most Australians, particularly in urban Australia. However, despite increases in the specialist workforce over the last decade, access to many specialist services remains problematic, with some rural patients particularly under-serviced.
- **Best-practice health services.** One of the core objectives of the review is to modernise the MBS, ensuring that individual items and their descriptors are consistent with contemporary best practice and the evidence base, where possible. Although the Medical Services Advisory Committee (MSAC) plays a crucial role in thoroughly evaluating new services, the vast majority of existing MBS items pre-date this process and have never been reviewed.
- **Value for the individual patient.** Another core objective of the review is to maintain an MBS that supports the delivery of services that are appropriate to the patient's needs, provide real clinical value and do not expose the patient to unnecessary risk or expense.
- **Value for the health system.** Achieving the above elements will go a long way towards achieving improved value for the health system overall. Reducing the volume of services that provide little or no clinical benefit will enable resources to be redirected to new and existing services that have proven benefits but are underused, particularly for patients who cannot readily access these services.

2.3 The Taskforce's approach

The Taskforce is reviewing existing MBS items, with a primary focus on ensuring that individual items and usage meet the definition of best practice. Within the Taskforce's brief, there is considerable scope to review and provide advice on all aspects that would contribute to a modern, transparent and responsive system. This includes not only making recommendations about adding new items or services to the MBS, but also about an MBS structure that could better accommodate changing health service models. The Taskforce has made a conscious decision to be ambitious in its approach, and to seize this unique opportunity to recommend changes to modernise the MBS at all levels, from the clinical detail of individual items, to administrative rules and mechanisms, to structural, whole-of-MBS issues. The Taskforce will also develop a mechanism for an ongoing review of the MBS once the current review has concluded.

As the MBS Review is to be clinician-led, the Taskforce decided that Clinical Committees should conduct the detailed review of MBS items. The committees are broad-based in their membership, and members have been appointed in an individual capacity, rather than as representatives of any organisation.

The Taskforce asked all committees in the second tranche of the review process to review MBS items using a framework based on Professor Adam Elshaug's appropriate use criteria.[(1)] The framework consists of seven steps:

1. Develop an initial fact base for all items under consideration, drawing on the relevant data and literature.
2. Identify items that are obsolete, are of questionable clinical value,[3] are misused[4] and/or pose a risk to patient safety. This step includes prioritising items as "priority 1," "priority 2" or "priority 3," using a prioritisation methodology (described in more detail below).
3. Identify any issues, develop hypotheses for recommendations and create a work plan (including establishing Working Groups, when required) to arrive at recommendations for each item.
4. Gather further data, clinical guidelines and relevant literature in order to make provisional recommendations and draft accompanying rationales, as per the work plan. This process begins with priority 1 items, continues with priority 2 items and concludes with priority 3 items. This step also involves consultation with relevant stakeholders within the Committee, Working Groups, and relevant colleagues or colleges. For complex cases, full appropriate use criteria were developed for the item's explanatory notes.
5. Review the provisional recommendations and the accompanying rationales, and gather further evidence as required.
6. Finalise the recommendations in preparation for broader stakeholder consultation.
7. Incorporate feedback gathered during stakeholder consultation and finalise the review report, which provides recommendations for the Taskforce.

All MBS items will be reviewed during the course of the MBS Review. However, given the breadth of and timeframe for the review, each Clinical Committee had to develop a work plan and assign priorities, keeping in mind the objectives of the review. Committees used a robust prioritisation methodology to focus their attention and resources on the most important items requiring review.

[3] The use of an intervention that evidence suggests confers no or very little benefit on patients; or where the risk of harm exceeds the likely benefit; or, more broadly, where the added costs of the intervention do not provide proportional added benefits.

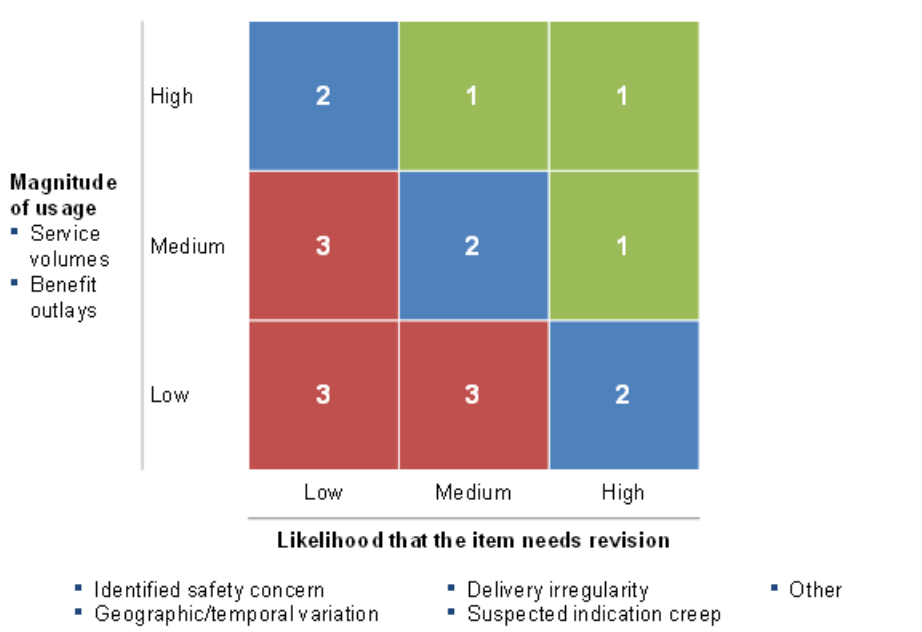
[4] The use of MBS services for purposes other than those intended. This includes a range of behaviours, from failing to adhere to particular item descriptors or rules through to deliberate fraud.

This was determined based on a combination of two standard metrics, derived from the appropriate use criteria:[1]

- Service volume.
- The likelihood that the item needed to be revised, determined by indicators such as identified safety concerns, geographic or temporal variation, delivery irregularity, the potential misuse of indications or other concerns raised by the Clinical Committee (such as inappropriate co-claiming).

For each item, these two metrics were ranked high, medium or low. These rankings were then combined to generate a priority ranking ranging from one to three (where priority 1 items are the highest priority and priority 3 items are the lowest priority for review), using a prioritisation matrix (Figure 1). Clinical Committees used this priority ranking to organise their review of item numbers and apportion the amount of time spent on each item.

Figure 1: Prioritisation matrix



3. About the Oncology Clinical Committee

The Oncology Clinical Committee (the Committee) was established in April 2016 to make recommendations to the Taskforce on MBS items within its remit, based on clinical expertise and (where appropriate) rapid evidence review. The Taskforce asked the Committee to review oncology-related MBS items.

The Committee consists of 23 members and an ex-officio representative from the Taskforce. Members' names, positions/organisations and declared conflicts of interest are listed in Section 3.1. All members of the Taskforce, Clinical Committees and Working Groups were asked to declare any conflicts of interest at the start of their involvement and are reminded to update their declarations periodically.

3.1 Oncology Clinical Committee members

Table 1: Oncology Clinical Committee members

Name	Position/Organisation	Interests declared
Prof Bruce Barraclough (Chair)	Board Chair, Australian E-Health Research Centre Board, Macquarie University Hospital Emeritus Professor, University of Western Sydney	Prof Barraclough declared that he is a member of a hospital with a Gamma Knife.
Associate Professor Bruce Latham	Anatomical Pathologist, PathWest – Fiona Stanley Hospital Vice President, Royal College of Pathologists of Australia (RCPA) Adjunct Associate Professor, Notre Dame University	Dr Latham declared that his wife is a practising Radiation Oncologist.
Professor Bruce Mann	Director, Breast Cancer Services, The Royal Melbourne & Royal Women's Hospitals Professor of Surgery, The University of Melbourne	None
Dr Catherine Mandel	Consultant Clinical Radiologist MRI Radiologist, Swinburne University of Technology Councillor, Council of the Faculty of Clinical Radiology, Royal Australian and New Zealand College of Radiologists (RANZCR) Member, Medical Expert Committee, Avant Director, Australian Medical Association Victoria	None
Associate Professor Chris Milross	Associate Professor of Medicine, University of Sydney Director of Radiation Oncology & Medical Services, Chris O'Brien Lifehouse Member, Board of Directors, RANZCR	A/Prof Milross declared that he is a member of the MBS Review Working Group of the RANZCR Faculty of Radiation Oncology (FRO).
Professor Christobel Saunders	Consultant Surgeon, Royal Perth Hospital & Fiona Stanley Hospital Head, General Surgery and Deputy Head, School of Surgery, University of Western Australia	None
Professor David Thomas	Director & Division Head, Genomic Cancer Medicine, Cancer Division, Garvan Institute of Medical Research & The Kinghorn Cancer Centre	None
Dr Elizabeth Marles	Director, Hornsby-Brooklyn GP Unit Past President, Royal Australian College of General Practitioners (RACGP)	None
Professor Guy Maddern	Professor of Surgery & Head of Discipline, The University of Adelaide Director, Division of Surgery, The Queen Elizabeth Hospital	None

Name	Position/Organisation	Interests declared
Mr John Stubbs	Chief Executive Officer, CanSpeak Member, Medical Services Advisory Committee	Mr Stubbs declared that he was previously on the Board of RANZCR and the Radiation Oncology Jurisdictional Implementation Group (ROJIG) Committee of Review (contributing to the establishment of Radiation Oncology Standards). He is also a board member of Cancer Institute NSW and has advised Genesis care on establishing a consumer advisory panel (but was not involved in its MBS Review submission).
Professor John Zalcberg	Head, Cancer Research Program School of Public Health and Preventative Medicine, Monash University	Prof Zalcberg declared he is Chair of the Cancer Drugs Alliance, and Chair of the Australian Clinical Trials Alliance (which made a submission to the MBS Review).
Associate Professor Justin Tse	Clinical Dean, St Vincent's Clinical School, University of Melbourne Research Fellow, Cancer Council of Victoria Chair, Specific Interest – Cancer, RACGP	None
Ms Kathy Wells	Head of Policy, Research and Advocacy, Breast Cancer Network Australia	None
Dr Liz Kenny	Royal Brisbane and Women's Hospital	Dr Kenny declared that she is the Chair of the MBS Review Working Group of the RANZCR FRO and a member of Cancer Australia's Staging Treatment and Recurrence (STaR) Committee.
Ms Maree Bransdon	Nursing Director, Central Integrated Regional Cancer Service, Queensland Department of Health	None
Professor Michael Barton	Research Director, Ingham Institute for Applied Medical Research	None
Associate Professor Michael Hofman	Peter MacCallum Cancer Centre	None
Dr Mustafa Khasraw	Medical Oncologist, Royal North Shore Hospital Clinical Lead, National Health and Medical Research Council (NHMRC) Clinical Trials Centre	None
Dr Phillip Carson	General Surgeon, The Royal Darwin Hospital & Darwin Private Hospital Associate Professor, Flinders Northern Territory Medical Program	None
Associate Professor Roslyn Francis	Associate Professor of Molecular Imaging, School of Medicine & Pharmacology, University of Western Australia Harry Perkins Institute of Medical Research, QEII Medical Centre	None
Dr Salvatore Berlangieri	President, Australasian Association of Nuclear Medicine Specialists	None
Professor Sanchia Aranda	Chief Executive Officer, Cancer Council Australia Research Fellow, Peter MacCallum Cancer Centre Director of Cancer Services and Information, NSW Cancer Institute	None

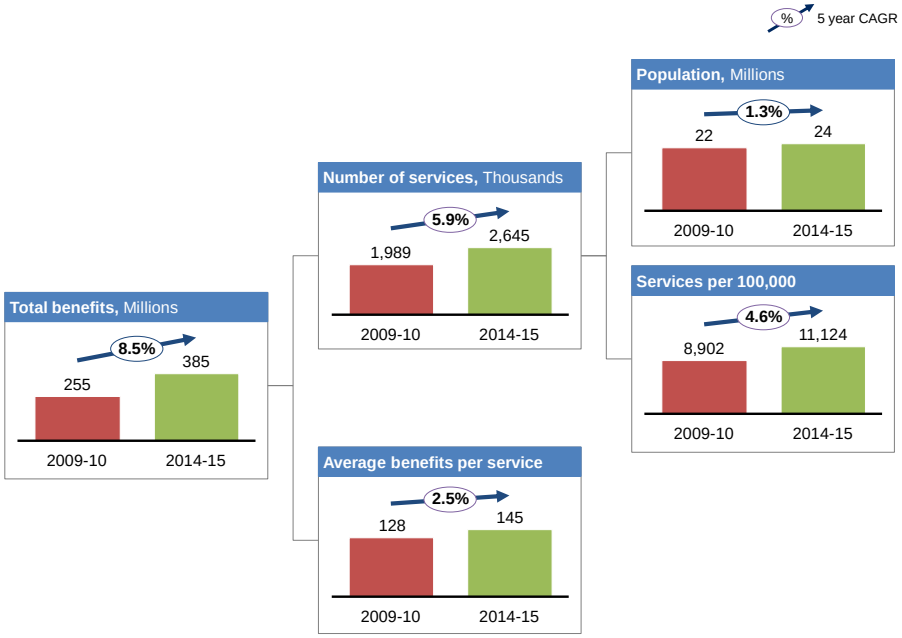
Name	Position/Organisation	Interests declared
Professor Sandra O'Toole	Head of Molecular Diagnostic Oncology & Senior Staff Specialist, Department of Tissue Pathology and Diagnostic Oncology, Royal Prince Alfred Hospital	Prof O'Toole declared that she is an advisor for pharmaceutical industry with respect to molecular diagnostics.
Dr Matthew McConnell (Ex-Officio)	MBS Review Taskforce Public Health Physician, Country Health SA Local Health Network	None

It is noted that the majority of Committee members share a common conflict of interest in reviewing items that are a source of revenue for them (i.e., Committee members claim the items under review). This conflict is inherent in a clinician-led process, and having been acknowledged by the Committee and the Taskforce, it was agreed that this should not prevent a clinician from participating in the review.

3.2 Areas of responsibility of the Committee

The Committee was assigned 101 MBS items to review,[5] covering investigatory and therapeutic procedures related to medical oncology, radiation oncology and sentinel lymph node biopsy. A complete list of these items can be found in Appendix A . In the 2014/15 financial year, these items accounted for approximately 2.6 million services and $385 million in benefits. Over the past five years, service volumes for these items have grown at 5.9 per cent per year, and the MBS benefits paid has increased by 8.5 per cent per year. This growth is largely explained by a 4.6 per cent increase per year in services per head of population (Figure 2).

Figure 2: Drivers of growth



Unpublished data, extract based on date of service (Department of Health)

[5] Four items relating to Intensity Modulated Radiation Therapy (15275, 15555, 15565, 15715) were not assigned to the Committee, due to their recent introduction to the MBS (1 January 2016). However, the Committee's recommendations on restructuring megavoltage radiation therapy items includes these four items.

3.3 Summary of the Committee's review approach

The Committee completed a review of its items across four full Committee meetings and seven Working Group meetings, during which it developed the recommendations and rationales outlined in Sections 4 to 6. The review drew on various types of MBS data, including data on utilisation of items (services, benefits, patients, providers and growth rates); service provision (type of provider, geography of service provision); patients (demographics and services per patient); co-claiming or episodes of services (same-day claiming and claiming with specific items over time); and additional provider and patient-level data, when required. The review also drew on data presented in the relevant published literature, all of which is referenced in the report.

3.3.1 Working Group structure

The Committee reviewed the 101 items[6] assigned to the Committee and made recommendations based on the best available evidence and clinical expertise, in consultation with relevant stakeholders. Due to the volume and complexity of the items in scope, the Committee formed two Working Groups with broader membership to provide greater content expertise:

- The Medical Oncology Working Group (MOWG).
- The Radiation Oncology Working Group (ROWG).

The Committee's two major recommendations involve revising chemotherapy administration items into items for the medical management of anticancer therapy, and restructuring megavoltage radiation therapy items into a two-part payment model, tiered by complexity level. Minor recommendations include the removal of obsolete items to simplify and modernise the MBS, and the consolidation of items relating to sentinel lymph node biopsy for breast cancer. The Committee has also recommended referring sentinel lymph node biopsy for melanoma to the MSAC for consideration for expedited review. All recommendations focus on the objectives of the MBS Review: improve access to medical services, encourage best practice, increase value for consumers and the health system, and simplify the MBS to improve both patient and provider experience (for example, through improved transparency around billed services), as well as the efficiency with which the MBS is administered.

An inclusive set of stakeholders is now engaged in consultation on the recommendations resulting from this process, which are outlined in this report. Following this period of consultation, the Committee will consider stakeholder feedback before finalising the recommendations and presenting them to the Taskforce. The Taskforce will consider the report and stakeholder feedback before making recommendations to the Minister for Health for consideration by the Government.

3.3.2 Structure of the report

The recommendations in this report are organised by the primary deliberating body that developed the recommendation.

- Section 4 – Medical oncology recommendations on issues relating to:
  - Management of anticancer therapy.
  - Accessing long-term implanted drug delivery devices.
- Section 5 – Radiation oncology recommendations on issues relating to:
  - Megavoltage radiation therapy.

[6] Four items relating to Intensity Modulated Radiation Therapy (15275, 15555, 15565, 15715) were not assigned to the Committee, due to their recent introduction to the MBS (1 January 2016). However, the Committee's recommendations on restructuring megavoltage radiation therapy items includes these four items.

- Kilovoltage radiation therapy.
- Brachytherapy.
- Cobalt and caesium radiation therapy.

Δ Section 6 – Surgical and paediatric oncology recommendations on issues relating to:

- Sentinel lymph node biopsy for breast cancer.
- Sentinel lymph node biopsy for melanoma.
- Paediatric cancer.

3.3.3 Numbering of proposed items

Throughout the report, the Committee recommends new or substantially changed items, most of which involve restructuring current items. These proposed items are often referred to using letters to differentiate them for ease of reference. If the recommended items are ultimately added to the MBS, the Department of Human Services (DHS) will assign new numbers in the usual format. The Committee is not recommending changes to the MBS numbering system.

4. Medical oncology recommendations

4.1 Medical Oncology Working Group membership

The Committee formed a Working Group to consider medical oncology services. The Medical Oncology Working Group included the members listed in Table 2.

Table 2: Medical Oncology Working Group (MOWG) members

Name	Position/Organisation	Interests declared
Dr Phillip Carson (Co-Chair)	General Surgeon, The Royal Darwin Hospital & Darwin Private Hospital Associate Professor, Flinders Northern Territory Medical Program	None
Professor David Thomas (Co-Chair)	Director & Division Head, Genomic Cancer Medicine, Cancer Division, Garvan Institute of Medical Research & The Kinghorn Cancer Centre	None
Dr Elizabeth Marles	Director, Hornsby-Brooklyn GP Unit Past President, RACGP	None
Professor John Zalcberg	Head, Cancer Research Program School of Public Health and Preventative Medicine, Monash University	Prof Zalcberg declared that he is Chair of the Cancer Drugs Alliance and Chair of the Australian Clinical Trials Alliance (which made a submission to the MBS Review).
Ms Kathy Wells	Head of Policy, Research and Advocacy, Breast Cancer Network Australia	None
Ms Maree Bransdon	Nursing Director, Central Integrated Regional Cancer Service, Queensland Department of Health	None
Dr Mustafa Khasraw	Medical Oncologist, Royal North Shore Hospital Clinical Lead, NHMRC Clinical Trials Centre	None
Associate Professor Roslyn Francis	Associate Professor of Molecular Imaging, School of Medicine & Pharmacology, University of Western Australia Harry Perkins Institute of Medical Research, QEII Medical Centre	None
Professor Sandra O'Toole	Head of Molecular Diagnostic Oncology & Senior Staff Specialist, Department of Tissue Pathology and Diagnostic Oncology, Royal Prince Alfred Hospital	Prof O'Toole declared that she is an advisor for the pharmaceutical industry with respect to molecular diagnostics.
Professor Stephen Clarke	Professor of Medicine, Northern Clinical School Kolling Institute of Medical Research	
Dr Anthony Mills	Senior Staff Specialist, Clinical Haematology, Princess Alexandra Hospital Visiting Medical Officer, Clinical Haematology, Greenslopes Private Hospital	None
Prof Bruce Barraclough (Oncology Clinical Committee Chair)	Board Chair, Australian E-Health Research Centre Board, Macquarie University Hospital Emeritus Professor, University of Western Sydney	Prof Barraclough declared that he is a member of a hospital with a Gamma Knife.

It is noted that the majority of Committee members share a common conflict of interest in reviewing items that are a source of revenue for them (i.e. Committee members claim the items under review). This conflict is inherent in a clinician-led process, and having been acknowledged by the Committee and the Taskforce, it was agreed that this should not prevent a clinician from participating in the review.

The Medical Oncology Working Group developed the following recommendations, which were unanimously endorsed by the Committee.

4.2 Management of anticancer therapy

The MBS currently has 12 items related to chemotherapy, 11 of which concern the administration of cytotoxic/chemotherapeutic agents: four items for administration via the intravenous (IV) route; four items for administration via the intra-arterial (IA) route; and three items for administration via other routes (pump or reservoir, ambulatory drug delivery device, body cavity). There is an additional item for accessing long-term implanted drug delivery devices (item 13945, reviewed in Section 4.3).

The four IV and four IA items are tiered by duration of administration, with items for not more than one hour, not more than six hours, the first day of an administration lasting more than six hours, and each subsequent day of an administration lasting more than six hours. The MBS schedule fee is greater for longer durations, and it is greater for IA than for IV.

Table 3: Item introduction table for items 13915–13942 and item 13948

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
13915	Cytotoxic chemotherapy, administration of, either by intravenous push technique (directly into a vein, or a butterfly needle, or the side-arm of an infusion) or by intravenous infusion of not more than 1 hours duration – payable once only on the same day, not being a service associated with photodynamic therapy with verteporfin or for the administration of drugs used immediately prior to, or with microwave (uhf radiowave) cancer therapy alone.	$65.05	116,228	$6,088,500	5.2%
13918	Cytotoxic chemotherapy, administration of, by intravenous infusion of more than 1 hours duration but not more than 6 hours duration – payable once only on the same day.	$97.95	302,198	$23,509,262	5.9%
13921	Cytotoxic chemotherapy, administration of, by intravenous infusion of more than 6 hours duration – for the first day of treatment.	$110.80	34,459	$2,971,918	1.9%
13924	Cytotoxic chemotherapy, administration of, by intravenous infusion of more than 6 hours duration – on each day subsequent to the first in the same continuous treatment episode.	$65.25	70,220	$3,743,428	2.6%
13927	Cytotoxic chemotherapy, administration of, either by intra-arterial push technique (directly into an artery, a butterfly needle or the side-arm of an infusion) or by intra-arterial infusion of not more than 1 hours duration – payable once only on the same day.	$84.40	215	$14,041	-7.5%
13930	Cytotoxic chemotherapy, administration of, by intra-arterial infusion of more than 1 hours duration but not more than 6 hours duration – payable once only on the same day.	$117.80	68	$6,662	-22.7%
13933	Cytotoxic chemotherapy, administration of, by intra-arterial infusion of more than 6 hours duration – for the first day of treatment.	$130.70	9	$882	-49.8%
13936	Cytotoxic chemotherapy, administration of, by intra-arterial infusion of more than 6 hours	$85.15	41	$2,756	-20.9%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
	duration – on each day subsequent to the first in the same continuous treatment episode.				
13939	Implanted pump or reservoir, loading of, with a cytotoxic agent or agents, not being a service associated with a service to which item 13915, 13918, 13921, 13924, 13927, 13930, 13933, 13936 or 13945 applies.	$97.95	347	$28,102	-7.9%
13942	Ambulatory drug delivery device, loading of, with a cytotoxic agent or agents for the infusion of the agent or agents via the intravenous, intra-arterial or spinal routes, not being a service associated with a service to which item 13915, 13918, 13921, 13924, 13927, 13930, 13933, 13936 or 13945 applies.	$65.25	8,201	$443,601	1.8%
13948	Cytotoxic agent, instillation of, into a body cavity.	$65.25	8,109	$452,906	5.0%

Public data (Department of Human Services).

Recommendation 1

- Replace chemotherapy administration items (13915–13942 and 13948) with a set of three items for the medical management of anticancer therapy that:
  - Covers professional involvement in elements of care beyond that which occurs in physical attendances.
  - Is applicable regardless of the chosen route of administration (i.e., including both parenteral and oral therapies).
  - Excludes hormonal therapy and bisphosphonate therapy.

  The proposed item descriptors and explanatory notes are below. The three proposed items differ by the duration of medical management covered, to facilitate the administration of the billing process: two, three or four weeks (where the applicable MBS benefit per week is the same for all items).

Item 139XX:

Management of anticancer therapy, excluding hormone therapy and bisphosphonate therapy, claimable once in each 2 week period of therapy.

Item 139YY:

Management of anticancer therapy, excluding hormone therapy and bisphosphonate therapy, claimable once in each 3 week period of therapy.

Item 139ZZ:

Management of anticancer therapy, excluding hormone therapy and bisphosphonate therapy, claimable once in each 4 week period of therapy.

[The schedule fee for the two-week item 139XX is two thirds of the three-week item 139YY, and the schedule fee for the three-week item 139YY is three fourths of the four-week item 139ZZ.]

Explanatory notes for items 139XX–ZZ:

Items 139XX–ZZ cover elements of managing anticancer therapy that may occur outside physical attendances, including

(a) Determination of the doses of each of the agents in the treatment regimen; and

(b) Supervision of the administration of anticancer therapy; and

(c) Prevention of, and monitoring for, and management of toxicity; and

(d) Assessment of the response to therapy; and

(e) Liaison and discussion with patients and other providers (where appropriate) on the above.

Only one of items 139XX, 139YY or 139ZZ may be claimed once for any given period of therapy (regardless of the number of therapeutic agents used during the given period). Providers should choose the MBS item for a period that most closely aligns with the anticipated timing of attendances at which the Medical Practitioner and patient will review clinical progress and make a decision as to the cessation or continuation of anticancer therapy (i.e., a full cycle; where the period of a full cycle is greater than 4 weeks, a combination of items 139XX–ZZ may be used in sequence to cover the full period of therapy).

Where a physical attendance has occurred, professional attendance items may be claimed in conjunction with items 139XX–ZZ.

Rationale

This recommendation focuses on aligning MBS items to reflect evolution in the modern clinical practice of medical oncology. It improves access to modern therapeutics, and it ensures that patients' bills reflect the care they received. It is based on the following observations.

- Δ The 12 MBS items relating to chemotherapy intend to provide MBS benefits for medical professional services. However, medical professional involvement has shifted from activities relating to the physical administration of chemotherapy to activities relating to the supervision and management of anticancer therapy and its associated effects, such as bone marrow suppression. This should be recognised in the item descriptors.
  - Historically, Medical Practitioners administered chemotherapy directly into a vein or artery. The existing items assume that the characteristics of the administration determine the levels of medical professional involvement required, with higher schedule fees for longer durations of administration, and for more difficult routes of administration (for example, IA versus IV).
  - In modern practice, however, the therapeutic agent is typically administered into a long-term implanted vascular access device (rather than directly into a vein), which carries less risk of immediate adverse events (for example, extravasation of the cytotoxic agent from the vein into surrounding tissue). A Nurse typically performs the administration under the supervision of a Medical Practitioner, who might not be in attendance at the bedside but is able to attend to the patient should an adverse event occur.
  - In modern practice, the Medical Practitioner is also responsible for the overall care of the patient receiving anticancer therapy. Once a cycle of anticancer therapy has begun, the patient and Medical Practitioner have committed to a set of irreversible consequences. In particular, many anticancer therapies (such as cytotoxic chemotherapy) result in clinically significant side effects, such as an ensuing two- to three-week period of bone marrow suppression/dose-limiting neutropenia (with the resultant risk of life-threatening infection through immunosuppression). A substantial proportion of Medical Practitioner involvement in good clinical care therefore lies outside physical attendances. This includes:

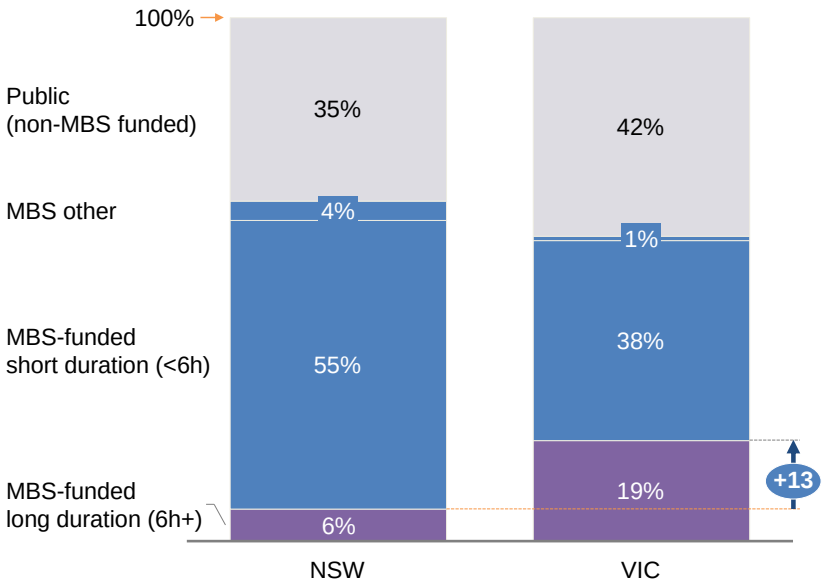
- Determining the doses for each of the agents in the treatment regimen.
- Supervising Nurse administration of anticancer therapy.
- Preventing, monitoring and managing toxicity (for example, through the monitoring of blood test results).
- Assessing the response to therapy.
- Liaising and discussing with patients and other providers (where appropriate) regarding the above.

– For this reason, MBS items for the administration of chemotherapy should be revised to cover all aspects of medical management of anticancer therapy outside of attendances. Specifically, revisions should:
  - Remove the separation of items by administration route, recognising that medical professional involvement in supervising the consequences of a decision to administer chemotherapy is substantively similar, and removing incentives favouring one administration route over another.
  - Remove tiering based on the number of hours over which a single treatment is administered, as the duration of treatment administration is no longer an appropriate surrogate for the level of medical professional input required. The Committee also observed irregular and unexplained variation in distribution of durations between states/territories. For example, the proportion of chemotherapy billings accounted for by MBS items for a duration of more than six hours of continuous administration was three times higher in Victoria than in New South Wales (Figure 3). This is unlikely to be accounted for by clinical need alone.
  - Cover a period of time that relates as closely as possible to the cycle length of a regimen, recognising that:
    - A cycle of therapy represents the period of time between a commitment to begin therapy and the next major review of the management plan (including deciding whether to continue for another cycle).
    - A minimum time period of two weeks is appropriate, as the Medical Practitioner and patient have committed to a set of irreversible consequences once a single treatment of anticancer therapy has been administered. In particular, bone marrow suppression of two to three weeks ensues, resulting in effects such as immunosuppression.
    - A periodic payment is simple to administer, clear and auditable.
    - Multiple items for differing periods (two, three and four weeks) allow administrative flexibility and recognise that cycle duration varies between regimens.
  - Retain the ability to co-claim with attendance items (for example, item 116), whether due to a complication of anticancer therapy requiring personal professional attendance or the need to attend for an unrelated medical issue.
  - Retain the ability for Medical Practitioners to claim relevant MBS items if they are directly administering the anticancer therapy (for example, MBS items for lumbar puncture in the rare instances of delivering intra-spinal anticancer therapy).

– Where it is administratively easier for patients and providers to bill on the first occasion of anticancer therapy, the MBS benefit should be payable prospectively (i.e., the items should be payable on the first day of treatment). Although MBS benefits are typically payable retrospectively (i.e., at the completion of the full service), anticancer therapy is more akin to the performance of surgical procedures than the administration of other medications, in

that once a single treatment is administered, the Medical Practitioner and patient have committed to a set of irreversible consequences. MBS benefits for surgical procedures are payable prospectively at the time of surgery, prior to completion of the aftercare component of the service.

Figure 3: Breakdown of all chemotherapy services (public and privately funded) for New South Wales and Victoria by duration of administration



Unpublished data, 2013-14 extract based on date of service (Department of Health). Includes all chemotherapy administration MBS items (where "other" items are non-duration-specific), Medicare data on all inpatient separations for chemotherapy AR-DRG v7.0 R63Z, and AIHW data on outpatient separations for medical oncology treatment (10.11).

- Therapeutic agents other than cytotoxic chemotherapy are increasingly used and should be covered by the items (for example, biologic agents such as monoclonal antibody therapies, or tyrosine kinase inhibitors).
  - The term 'anticancer therapy' represents the optimal balance between capturing all appropriate modern therapeutics and excluding all other therapeutics.
    - The term 'chemotherapy' implies cytotoxic chemotherapy and therefore excludes some classes of modern therapeutics.
    - Mentioning specific therapeutic agents (for example, monoclonal antibodies) would limit the item descriptor's capacity to include future types of therapy.
- Bisphosphonate and hormone therapies, such as those for prostate and breast cancer (for example, tamoxifen), typically require less medical professional involvement and should be excluded.
  - Bisphosphonate and hormone therapies are typically less toxic and can be managed or prescribed on an ongoing basis by Medical Practitioners other than the Medical Oncologist, such as the patient's General Practitioner (GP).
  - The Committee considered alternative ways of distinguishing between circumstances that require higher and lower degrees of medical professional involvement. However, it was

challenging to ensure consistent and accurate interpretation without unintentionally excluding or including inappropriate clinical circumstances.

- For example, the Committee considered distinguishing between acute and maintenance therapy (where acute therapy might be considered to require greater professional involvement) but noted that 'maintenance' does not have a standardised definition.
- The Committee also considered specifying certain monoclonal antibody therapies that are less toxic, but it noted that it is impractical to specifically exclude each instance, and that it is conceptually difficult where therapies lie on a continuum of toxicity.

- The Committee observed that the intent of current funding arrangements is often misconstrued. MBS items for chemotherapy administration were originally introduced to cover medical professional involvement (either directly administering the chemotherapy or supervising administration by non-Medical Practitioners).
  - Confusion around the intent of the MBS items stems from the commercial arrangements between facilities and providers. Although MBS items for chemotherapy administration are not intended to cover the nursing costs of administration, some facilities choose to recoup nursing costs by charging facility fees. These facility fees are often calculated as a percentage of a Medical Oncologist's MBS billings. This has led to the misconception that MBS items for chemotherapy administration are intended to cover nursing costs.
  - As with other therapeutic services, nursing costs may also be covered via accommodation fees (a bundle that includes bed, board and other expenses involved in a hospital stay). However, private health insurance coverage of chemotherapy typically includes inpatient but not outpatient chemotherapy. The barrier to private health insurance coverage of outpatient chemotherapy is not legislative, as chemotherapy is listed as a hospital substitute treatment under the broader health cover reforms of 2007.
- Some Nurse Practitioner services are now reimbursable through MBS items, reflecting the changing health workforce landscape and Nurse Practitioners' increasing role in the provision of health services. Nursing services provided by Nurses other than Nurse Practitioners remain outside the scope of MBS items. In the absence of a policy shift to include nursing services more broadly in the MBS (beyond those currently included for Nurse Practitioners), anticancer therapy items should continue covering medical professional involvement (i.e., medical supervision).
- The arrangements through which facilities choose to charge for nursing costs remain a private matter for the facility to determine and are not within the scope of the MBS Review. Facilities across Australia have different business models and a complex ecosystem of funding arrangements for anticancer therapy. The Committee's recommendation is not intended (nor expected) to reduce the overall level of public funding for cancer services in any way. The MBS cannot, and should not, decree how facility fees are agreed between individual providers and facilities, and the recommended change is anticipated to be compatible with most existing funding arrangements. Appendix E provides further information on this matter.

The Committee also specifically noted two limitations to their recommendation on items for the management of anticancer therapy.

- **Non-cancer uses:** The recommendation and rationale on items for the management of anticancer therapy do not consider the use of cytotoxic chemotherapeutic agents for purposes other than the management of cancer, for which the treatment regimens and major determinants of the required level of medical professional involvement may differ.
- **Unexplained variation:** As noted above, the Committee observed irregular and unexplained variation in item use between states/territories. For example, the proportion of chemotherapy

billings accounted for by MBS items for a duration of more than six hours of continuous administration was three times higher in Victoria than in New South Wales (Figure 3). Although the Committee believes that the recommended items will make the MBS easier to use and better align item descriptors with their clinical intent, there may be residual unexplained variation in item use. This residual variation may not be readily explained by factors relating to clinical need and may reflect item use that differs from the intended use of MBS items. Any further revisions to improve item descriptors should be informed by an understanding of the causes of such variation. The Committee therefore supports monitoring of item usage, particularly when evaluating the success or otherwise of recommendations made by the MBS Review.

4.3 Accessing long-term implanted drug delivery devices

Item 13945 provides for the accessing of long-term drug delivery devices implanted for the purposes of delivering cytotoxic chemotherapy, while item 14221 provides for the accessing of long-term drug delivery devices implanted for the purposes of delivering therapeutic agents other than cytotoxic chemotherapy.

Table 4: Item introduction table for items 13945 and 14221

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
13945	Long-term implanted drug delivery device for cytotoxic chemotherapy, accessing of.	$52.50	198,658	$8,221,781	6.8%
14221	Long-term implanted drug delivery device for cytotoxic chemotherapy, accessing of, not being a service associated with a service to which item 13945 applies.	$52.50	128,351	$5,326,299	12.2%

Public data (Department of Human Services).

Recommendation 2

- Remove item 13945 from the MBS.
- Remove the reference to item 13945 from the descriptor for item 14221, and prevent use of item 14221 if the long-term implanted drug delivery device is accessed in conjunction with the administration of anticancer therapy (rather than as a distinct service).

Rationale

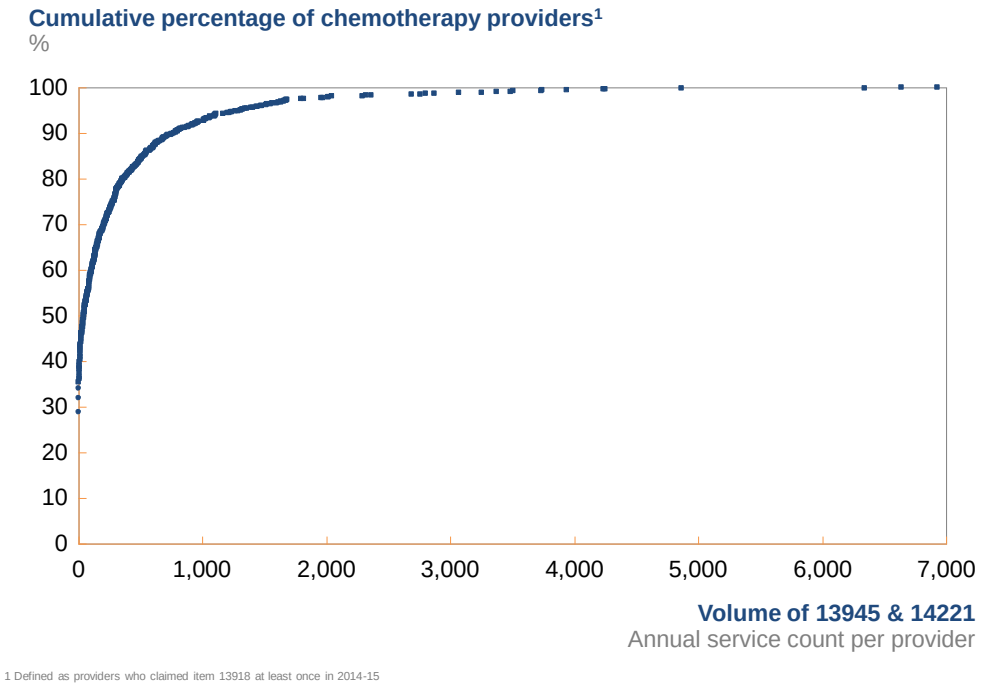
These recommendations focus on aligning MBS items with the modern mode of delivery for anticancer therapy and improving value for the patient and the health system. They are based on the following observations.

- Item 13945 is increasingly used in conjunction with items for the administration of chemotherapy. In FY2014/15, for example, this accounted for more than 70 per cent of service volumes for item 13945. However, preparation for the administration of a therapeutic agent (such as accessing a long-term implanted drug delivery device) is an integral component of the service of administering the therapeutic agent and should not receive a separate MBS benefit. For this reason, the current chemotherapy administration items are considered to already include an accessing component in the context of modern practice (although co-claiming is not currently restricted).
- As a result, there are highly irregular and variable patterns of use for item 13945 across providers: nearly 30 per cent of chemotherapy providers never use items 13945 or 14221, but

a number of providers billed the item nearly 7,000 times in conjunction with chemotherapy administration in FY2014/15 (Figure 4). Of those who used item 13945 in conjunction with chemotherapy administration at least once (around 70 per cent of providers), approximately half attracted less than $1,000 in MBS benefits, but 11 providers received from $100,000 to over $180,000 (Figure 5).

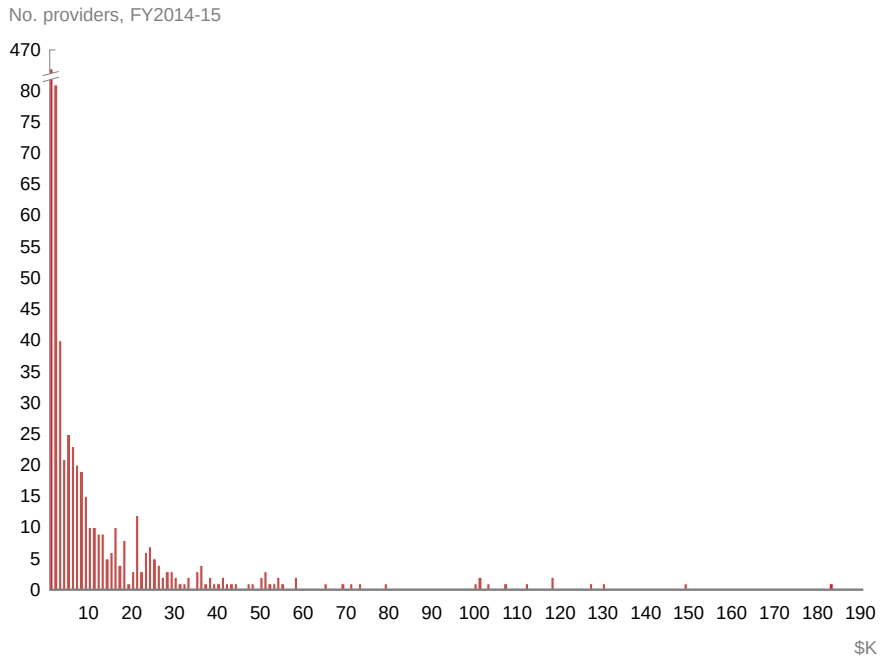
- Separate billing for accessing a long-term vascular access device in the context of administering anticancer therapy represents a low-value service. However, clinical needs for such access exist beyond the administration of anticancer therapy, particularly for flushing a long-term intravascular access device in order to maintain patency during prolonged periods of disuse. Item 14221 could be retained for use in such circumstances.
- Although item 13945 was within the scope of the Committee, corresponding item 14221 has been allocated to another Clinical Committee within the MBS Review. In recommending that item 13945 be removed from the MBS, the Committee notes that item 14221 is primarily a Nurse-performed service, which is unusual amongst MBS items. The Committee therefore suggests that the Clinical Committee reviewing item 14221 consider the item's intent and the implications for the role of Nurse services more broadly within the MBS.

Figure 4: Use of items 13945 and 14221 across chemotherapy providers



Unpublished data, extract based on date of service (Department of Health)

Figure 5: Number of providers by MBS benefits for item 13945 when claimed in conjunction with chemotherapy administration items



Unpublished data, extract based on date of service (Department of Health)

5. Radiation oncology recommendations

5.1 Radiation Oncology Working Group membership

The Committee formed a Working Group to consider radiation oncology services. The Radiation Oncology Working Group included the members listed in Table 5.

Table 5. Radiation Oncology Working Group (ROWG) members

Name	Position/Organisation	Interests declared
Professor Bruce Mann (Co-Chair)	Director, Breast Cancer Services, The Royal Melbourne & Royal Women's Hospitals Professor of Surgery, The University of Melbourne	None
Dr Liz Kenny (Co-Chair)	Royal Brisbane and Women's Hospital	Dr Kenny declared that she is the Chair of the MBS Review Working Group of the RANZCR FRO and a member of Cancer Australia's STaR Committee.
Associate Professor Bruce Latham	Anatomical Pathologist, PathWest – Fiona Stanley Hospital Vice President, RCPA Adjunct Associate Professor, Notre Dame University	Dr Latham declared that his wife is a practising Radiation Oncologist.
Dr Catherine Mandel	Consultant Clinical Radiologist MRI Radiologist, Swinburne University of Technology Councillor, Council of the Faculty of Clinical Radiology, RANZCR Member, Medical Expert Committee, Avant Director, Australian Medical Association Victoria	None
Associate Professor Chris Milross	Associate Professor of Medicine, University of Sydney Director of Radiation Oncology & Medical Services, Chris O'Brien Lifehouse Member, Board of Directors, RANZCR	A/Prof Milross declared that he is a member of the MBS Review Working Group of the RANZCR FRO.
Professor Christobel Saunders	Consultant Surgeon, Royal Perth Hospital & Fiona Stanley Hospital Head, General Surgery and Deputy Head, School of Surgery, University of Western Australia	None
Professor Guy Maddern	Professor of Surgery & Head of Discipline, The University of Adelaide Director, Division of Surgery, The Queen Elizabeth Hospital	None
Mr John Stubbs	Chief Executive Officer, CanSpeak Member, Medical Services Advisory Committee	Mr Stubbs declared that he was previously on the Board of RANZCR and the ROJIG Committee of Review (contributing to the establishment of Radiation Oncology Standards). He is also a board member of Cancer Institute NSW and has advised Genesis care on establishing a consumer advisory panel (but was not involved in its MBS Review submission).
Associate Professor Justin Tse	Clinical Dean, St Vincent's Clinical School, University of Melbourne Research Fellow, Cancer Council of Victoria Chair, Specific Interest – Cancer, RACGP	None

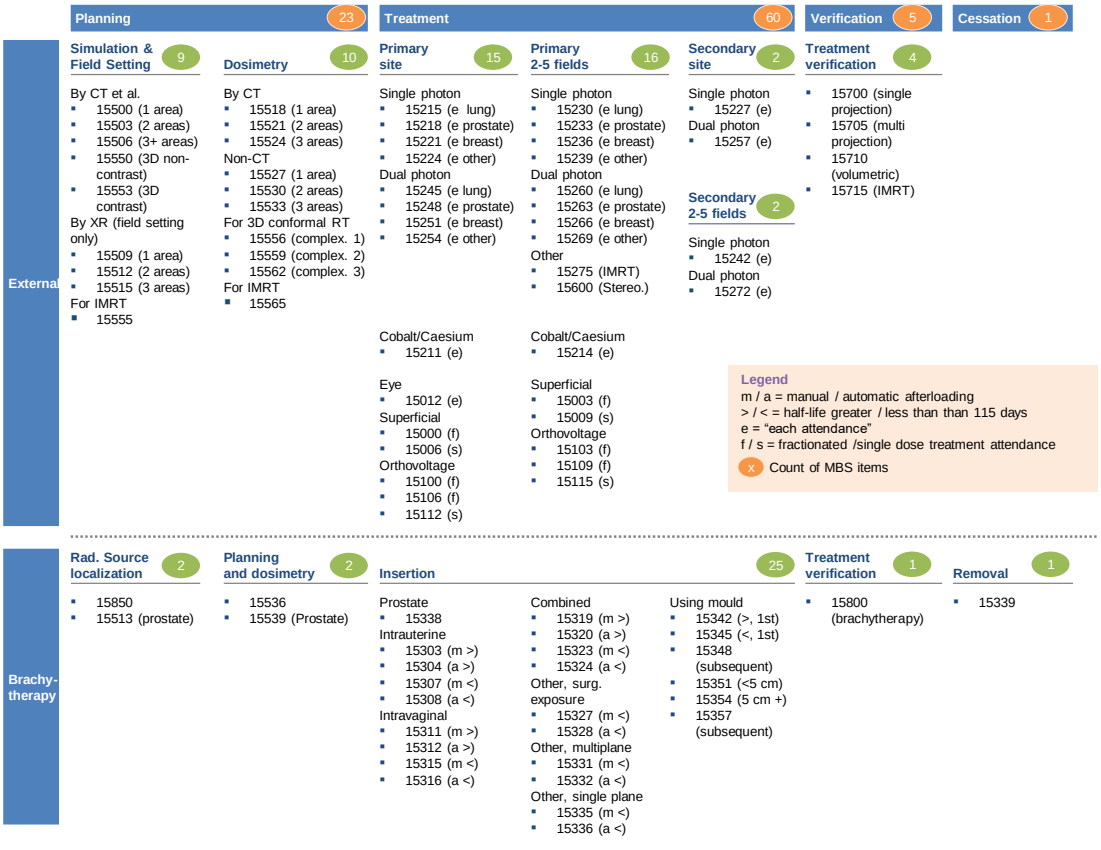
Name	Position/Organisation	Interests declared
Professor Michael Barton	Research Director, Ingham Institute for Applied Medical Research	None
Dr Salvatore Berlangieri	President, Australasian Association of Nuclear Medicine Specialists	None
Professor Sanchia Aranda	Chief Executive Officer, Cancer Council Australia Research Fellow, Peter MacCallum Cancer Centre Director of Cancer Services and Information, NSW Cancer Institute	None
Prof Bruce Barraclough (Oncology Clinical Committee Chair)	Board Chair, Australian E-Health Research Centre Board, Macquarie University Hospital Emeritus Professor, University of Western Sydney	Prof Barraclough declared that he is a member of a hospital with a Gamma Knife

It is noted that the majority of Committee members share a common conflict of interest in reviewing items that are a source of revenue for them (i.e. Committee members claim the items under review). This conflict is inherent in a clinician-led process, and having been acknowledged by the Committee and the Taskforce, it was agreed that this should not prevent a clinician from participating in the review.

The Radiation Oncology Working Group developed the following recommendations, taking into consideration technical advice from RANZCR. The Committee unanimously endorsed these recommendations.

5.2 Item overview

Figure 6: Overview of current MBS radiation oncology items (excluding item 15900)



- The MBS currently includes 89 radiation oncology items (Figure 6); excluding the recently listed intraoperative radiotherapy item 15900). The majority of these relate to external radiation therapy, and the remainder relate to brachytherapy (where the radioactive source is placed internally or in close proximity to the body).
- External radiation therapy items are divided into planning items (relating to simulation and field-setting, as well as dosimetry); treatment items (relating to primary or secondary sites, single or multiple fields); and treatment verification items. These items are also divided by factors such as the target organ (lung, prostate, breast, other) or the energy involved (single-photon versus dual-photon energy). The external radiation therapy items include items for megavoltage therapy and kilovoltage therapy (i.e., superficial and deep orthovoltage).
- Brachytherapy items are divided into planning items (relating to radiation source localisation, planning and dosimetry); treatment items (relating to insertion); an item for treatment verification; and an item for removal. These items are also divided by factors such as the target organ (prostate, uterus, vagina, combined, other).

5.3 Megavoltage radiation therapy

Table 6: Item introduction table for items 15215–15275, 15500–15512, 15515–15533, 15550–15710

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
15215	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to primary site (lung).	$59.65	4	$203	-58.2%
15218	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to primary site (prostate).	$59.65	42	$2,132	-16.1%
15221	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to primary site (breast).	$59.65	474	$24,909	-20.1%
15224	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to primary site for diseases and conditions not covered by items 15215, 15218 and 15221.	$59.65	1,330	$68,153	-10.9%
15227	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to secondary site.	$59.65	993	$57,448	-18.1%
15230	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to primary site (lung).	The fee for item 15215 plus for each field in excess of 1, an	5,110	$954,936	-0.9%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
		amount of $37.95			
15233	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to primary site (prostate).	The fee for item 15218 plus for each field in excess of 1, an amount of $37.95	5,723	$1,570,325	6.7%
15236	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to primary site (breast).	The fee for item 15221 plus for each field in excess of 1, an amount of $37.95	21,376	$4,749,796	-9.2%
15239	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to primary site for diseases and conditions not covered by items 15230, 15233 or 15236.	The fee for item 15224 plus for each field in excess of 1, an amount of $37.95	27,028	$4,210,920	0.8%
15242	Radiation oncology treatment, using a single photon energy linear accelerator with or without electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to secondary site.	The fee for item 15227 plus for each field in excess of 1, an amount of $37.95	7,639	$1,108,406	-9.2%
15245	Radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to primary site (lung).	$59.65	855	$45,194	22.2%
15248	Radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to primary site (prostate).	$59.65	1,429	$75,514	10.5%
15251	Radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to primary site (breast).	$59.65	23,839	$1,562,218	-1.0%
15254	Radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to primary site for	$59.65	41,699	$2,642,374	6.3%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
	diseases and conditions not covered by items 15245, 15248 or 15251.				
15257	Radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 1 field – treatment delivered to secondary site treatment.	$59.65	11,098	$607,298	-1.7%
15260	Radiation or radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to primary site (lung).	The fee for item 15245 plus for each field in excess of 1, an amount of $37.95	53,450	$9,130,993	5.9%
15263	Radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to primary site (prostate).	The fee for item 15248 plus for each field in excess of 1, an amount of $37.95	186,633	$42,005,177	-2.0%
15266	Radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to primary site (breast).	The fee for item 15251 plus for each field in excess of 1, an amount of $37.95	267,820	$54,396,404	6.5%
15269	Radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to primary site for diseases and conditions not covered by items 15260, 15263 or 15266.	The fee for item 15254 plus for each field in excess of 1, an amount of $37.95	334,101	$60,689,413	5.2%
15272	Radiation oncology treatment, using a dual photon energy linear accelerator with a minimum higher energy of at least 10mv photons, with electron facilities – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields) – treatment delivered to secondary site.	The fee for item 15257 plus for each field in excess of 1, an amount of $37.95	93,594	$13,357,707	8.5%
15275	Radiation oncology treatment with IGRT imaging facilities undertaken: (a) to implement an IMRT dosimetry plan prepared in accordance with item 15565; and (b) utilising an intensity modulated treatment delivery mode (delivered by a fixed or dynamic gantry linear accelerator or by a helical non C-	$182.90	N/A (IMRT items introduced in FY 2016)	N/A (IMRT items introduced in FY 2016)	N/A (IMRT items introduced in FY 2016)

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
	arm based linear accelerator), once only at each attendance at which treatment is given.				
15500	Radiation field setting using a simulator or isocentric x-ray or megavoltage machine or CT of a single area for treatment by a single field or parallel opposed fields (not being a service associated with a service to which item 15509 applies).	$242.65	4,144	$927,310	-9.4%
15503	Radiation field setting using a simulator or isocentric x-ray or megavoltage machine or CT of a single area, where views in more than 1 plane are required for treatment by multiple fields, or of 2 areas (not being a service associated with a service to which item 15512 applies).	$311.55	1,033	$301,855	-11.6%
15506	Radiation field setting using a simulator or isocentric x-ray or megavoltage machine or CT of 3 or more areas, or of total body or half body irradiation, or of mantle therapy or inverted Y fields, or of irregularly shaped fields using multiple blocks, or of offaxis fields or several joined fields (not being a service associated with a service to which item 15515 applies).	$465.30	7,474	$3,158,310	-6.2%
15509	Radiation field setting using a diagnostic x-ray unit of a single area for treatment by a single field or parallel opposed fields (not being a service associated with a service to which item 15500 applies).	$210.30	1,856	$331,853	20.9%
15512	Radiation field setting using a diagnostic x-ray unit of a single area, where views in more than 1 plane are required for treatment by multiple fields, or of 2 areas (not being a service associated with a service to which item 15503 applies).	$271.10	187	$43,094	-10.6%
15515	Radiation field setting using a diagnostic x-ray unit of 3 or more areas, or of total body or half body irradiation, or of mantle therapy or inverted Y fields, or of irregularly shaped fields using multiple blocks, or of offaxis fields or several joined fields (not being a service associated with a service to which item 15506 applies).	$392.50	1	$334	-
15518	Radiation Dosimetry by a CT interfacing planning computer for megavoltage or teletherapy radiotherapy by a single field or parallel opposed fields to 1 area with up to 2 shielding blocks.	$77.00	3,341	$244,388	-8.4%
15521	Radiation Dosimetry by a CT interfacing planning computer for megavoltage or teletherapy radiotherapy to a single area by 3 or more fields, or by a single field or parallel opposed fields to 2 areas, or where wedges are used.	$339.90	1,117	$358,487	-5.2%
15524	Radiation Dosimetry by a CT interfacing planning computer for megavoltage or teletherapy radiotherapy to 3 or more areas, or by mantle fields or inverted Y fields or tangential fields or irregularly shaped fields using multiple blocks, or offaxis fields, or several joined fields.	$637.35	8,069	$4,799,234	-5.6%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
15527	Radiation Dosimetry by a non-CT interfacing planning computer for megavoltage or teletherapy radiotherapy by a single field or parallel opposed fields to 1 area with up to 2 shielding blocks.	$78.95	2,153	$153,609	-3.1%
15530	Radiation Dosimetry by a non-CT interfacing planning computer for megavoltage or teletherapy radiotherapy to a single area by 3 or more fields, or by a single field or parallel opposed fields to 2 areas, or where wedges are used.	$352.15	106	$33,707	-13.2%
15533	Radiation Dosimetry by a non-CT interfacing planning computer for megavoltage or teletherapy radiotherapy to 3 or more areas, or by mantle fields or inverted Y fields, or tangential fields or irregularly shaped fields using multiple blocks, or offaxis fields, or several joined fields.	$667.70	309	$183,288	0.9%
15550	Simulation for three dimensional conformal radiotherapy without intravenous contrast medium, where: (a) treatment set up and technique specifications are in preparations for three dimensional conformal radiotherapy dose planning; and (b) patient set up and immobilisation techniques are suitable for reliable CT image volume data acquisition and three dimensional conformal radiotherapy treatment; and (c) a high-quality CT image volume dataset must be acquired for the relevant region of interest to be planned and treated; and (d) the image set must be suitable for the generation of quality digitally reconstructed radiographic images.	$658.60	41,431	$29,004,897	11.4%
15553	Simulation for three dimensional conformal radiotherapy pre and post intravenous contrast medium, where: (a) treatment set up and technique specifications are in preparations for three dimensional conformal radiotherapy dose planning; and (b) patient set up and immobilisation techniques are suitable for reliable CT image volume data acquisition and three dimensional conformal radiotherapy treatment; and (c) a high-quality CT image volume dataset must be acquired for the relevant region of interest to be planned and treated; and (d) the image set must be suitable for the generation of quality digitally reconstructed radiographic images.	$710.55	2,647	$1,680,563	8.8%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
15555	Simulation for intensity-modulated radiation therapy (IMRT), with or without intravenous contrast medium, if: 1. Treatment set-up and technique specifications are in preparations for three-dimensional conformal radiotherapy dose planning; and 2. Patient set-up and immobilisation techniques are suitable for reliable CT-image volume data acquisition and three-dimensional conformal radiotherapy; and 3. A high-quality CT-image volume dataset is acquired for the relevant region of interest to be planned and treated; and 4. The image set is suitable for the generation of quality digitally-reconstructed radiographic images.	$710.55	N/A (IMRT items introduced in FY 2016)	N/A (IMRT items introduced in FY 2016)	N/A (IMRT items introduced in FY 2016)
15556	Dosimetry for three dimensional conformal radiotherapy of level 1 complexity where: (a) dosimetry for a single phase three dimensional conformal treatment plan using CT image volume dataset and having a single treatment target volume and organ at risk; and (b) one gross tumour volume or clinical target volume, plus one planning target volume plus at least one relevant organ at risk as defined in the prescription must be rendered as volumes; and (c) the organ at risk must be nominated as a planning dose goal or constraint and the prescription must specify the organ at risk dose goal or constraint; and (d) dose volume histograms must be generated, approved and recorded with the plan; and (e) a CT image volume dataset must be used for the relevant region to be planned and treated; and (f) the CT images must be suitable for the generation of quality digitally reconstructed radiographic images.	$664.40	5,482	$3,731,815	0.9%
15559	Dosimetry for three dimensional conformal radiotherapy of level 2 complexity where: (a) dosimetry for a two phase three dimensional conformal treatment plan using CT image volume dataset(s) with at least one gross tumour volume, two planning target volumes and one organ at risk defined in the prescription; or (b) dosimetry for a one phase three dimensional conformal treatment plan using CT image volume datasets with at least one gross tumour	$866.55	5,877	$5,373,359	-1.8%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
	volume, one planning target volume and two organ at risk dose goals or constraints defined in the prescription; or (c) image fusion with a secondary image (CT, MRI, or PET) volume dataset used to define target and organ at risk volumes in conjunction with and as specified in dosimetry for three dimensional conformal radiotherapy of level 1 complexity. All gross tumour targets, clinical targets, planning targets and organs at risk as defined in the prescription must be rendered as volumes. The organ at risk must be nominated as planning dose goals or constraints and the prescription must specify the organs at risk as dose goals or constraints. Dose volume histograms must be generated, approved and recorded with the plan. A CT image volume dataset must be used for the relevant region to be planned and treated. The CT images must be suitable for the generation of quality digitally reconstructed radiographic images.				
15562	Dosimetry for three dimensional conformal radiotherapy of level 3 complexity – where: (a) dosimetry for a three or more phase three dimensional conformal treatment plan using CT image volume dataset(s) with at least one gross tumour volume, three planning target volumes and one organ at risk defined in the prescription; or (b) dosimetry for a two phase three dimensional conformal treatment plan using CT image volume datasets with at least one gross tumour volume, and (i) two planning target volumes; or (ii) two organ at risk dose goals or constraints defined in the prescription, or (c) dosimetry for a one phase three dimensional conformal treatment plan using CT image volume datasets with at least one gross tumour volume, one planning target volume and three organ at risk dose goals or constraints defined in the prescription; or (d) image fusion with a secondary image (CT, MRI or PET) volume dataset used to define target and organ at risk volumes in conjunction with and as specified in dosimetry for three dimensional conformal radiotherapy of level 2 complexity. All gross tumour targets, clinical targets, planning targets and organs at risk as defined in the prescription must be rendered as volumes. The organ at risk must be nominated as planning dose goals or constraints and the prescription must specify the organs at risk as dose goals or constraints. Dose volume histograms must be generated, approved and recorded with the plan. A CT image volume dataset must be used for the relevant region to	$1,120.75	5,877	$5,373,359	-1.8%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
	be planned and treated. The CT images must be suitable for the generation of quality digitally reconstructed radiographic images.				
15565	Preparation of an IMRT DOSIMETRY PLAN, which uses one or more CT image volume datasets, if: (a) in preparing the IMRT dosimetry plan: (i) the differential between target dose and normal tissue dose is maximised, based on a review and assessment by a Radiation Oncologist; and (ii) all gross tumour targets, clinical targets, planning targets and organs at risk are rendered as volumes as defined in the prescription; and (iii) organs at risk are nominated as planning dose goals or constraints and the prescription specifies the organs at risk as dose goals or constraints; and (iv) dose calculations and dose volume histograms are generated in an inverse planned process, using a specialised calculation algorithm, with prescription and plan details approved and recorded in the plan; and (v) a CT image volume dataset is used for the relevant region to be planned and treated; and (vi) the CT images are suitable for the generation of quality digitally reconstructed radiographic images; and (b) the final IMRT dosimetry plan is validated by the radiation therapist and the medical physicist, using robust quality assurance processes that include: (i) determination of the accuracy of the dose fluence delivered by the multi-leaf collimator and gantry position (static or dynamic); and (ii) ensuring that the plan is deliverable, data transfer is acceptable and validation checks are completed on a linear accelerator; and (iii) validating the accuracy of the derived IMRT dosimetry plan in a known dosimetric phantom; and (iv) determining the accuracy of planned doses in comparison to delivered doses to designated points within the phantom or dosimetry device; and (c) the final IMRT dosimetry plan is approved by the Radiation Oncologist prior to delivery.	$3,313.85	N/A (IMRT items introduced in FY 2016)	N/A (IMRT items introduced in FY 2016)	N/A (IMRT items introduced in FY 2016)
15600	Stereotactic radiosurgery, including all radiation oncology consultations, planning, simulation, dosimetry and treatment.	$1,702.30	529	$1,596,750	18.3%
15700	Radiation oncology treatment verification – single projection (with single or double exposures) – when prescribed and reviewed by a radiation oncologist and not associated with item 15705 or 15710 – each attendance at which treatment is verified (i.e. maximum one per attendance).	$45.95	131,047	$5,827,752	3.5%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
15705	Radiation oncology treatment verification – multiple projection acquisition when prescribed and reviewed by a radiation oncologist and not associated with item 15700 or 15710 – each attendance at which treatment involving three or more fields is verified (i.e. maximum one per attendance).	$76.60	324,265	$24,777,152	4.1%
15710	Radiation oncology treatment verification – volumetric acquisition, when prescribed and reviewed by a radiation oncologist and not associated with item 15700 or 15705 – each attendance at which treatment involving three fields or more is verified (i.e. maximum one per attendance). (See paragraph t2.5 of explanatory notes for this category.)	$76.60	239,682	$18,458,795	126.5%
15715	Radiation oncology treatment verification of planar or volumetric IGRT for IMRT, involving the use of at least 2 planar image views or projections or 1 volumetric image set to facilitate a 3-dimensional adjustment to radiation treatment field positioning, if: (a) the treatment technique is classified as IMRT; and (b) the margins applied to volumes (clinical target volume or planning target volume) are tailored or reduced to minimise treatment related exposure of healthy or normal tissues; and (c) the decisions made using acquired images are based on action algorithms and are given effect immediately prior to or during treatment delivery by qualified and trained staff considering complex competing factors and using software driven modelling programs; and (d) the radiation treatment field positioning requires accuracy levels of less than 5mm (curative cases) or up to 10mm (palliative cases) to ensure accurate dose delivery to the target; and (e) the image decisions and actions are documented in the patient's record; and (f) the Radiation Oncologist is responsible for supervising the process, including specifying the type and frequency of imaging, tolerance and action levels to be incorporated in the process, reviewing the trend analysis and any reports and relevant images during the treatment course and specifying action protocols as required; and	$76.60	N/A (IMRT items introduced in FY 2016)	N/A (IMRT items introduced in FY 2016)	N/A (IMRT items introduced in FY 2016)

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
	(g) when treatment adjustments are inadequate to satisfy treatment protocol requirements, replanning is required; and (h) the imaging infrastructure (hardware and software) is linked to the treatment unit and networked to an image database, enabling both on line and off line reviews.				

Public data (Department of Human Services).

Note: N/A means not applicable. In 2013-14 a total of 1,764,824 radiation oncology services were rendered, totalling $296,927,532.38 in benefits, of which 13.9 per cent was paid through the Medicare safety nets. In 2014-15 a total of 1,931,537 radiation oncology services were rendered, totalling $339,784,784.74 in benefits of which 16.6 per cent was paid through the Medicare safety nets.

5.3.1 Recommendation on restructuring into a two-part payment model, tiered by complexity

Recommendation 3

Δ Restructure megavoltage items into a two-part payment model, tiered by complexity level: a planning part, covering simulation, dosimetry, voluming and quality assurance activities; and a treatment part, covering treatment and verification activities. These items are payable on a per-fraction basis.

The proposed item descriptors and explanatory notes are outlined below.

Item 15X11:

Megavoltage Level 1.1 – Simple Complexity Single Field Simulation & Planning

(a) Simulation for SIMPLE SINGLE FIELD radiation therapy to one or two sites if:

i. Localisation is based on clinical mark-up and image-based simulation is not required; and

ii. Patient set-up and immobilisation techniques are suitable for two dimensional radiation therapy treatment, with wide margins and allowance for movement; and

(b) Dosimetry for simple single field radiation therapy to one or two sites if:

i. The planning process is required to deliver a prescribed dose to a point, either at depth or on the surface of the patient; and

ii. The planning process does not require the differential of dose between target, organs at risk and normal tissue dose, based on review and assessment by the radiation oncologist; and

iii. Delineation of structures is not possible or required, and field borders will delineate the treatment volume; and

iv. Dose calculations are performed in reference to surface or a point at depth from tables, charts or data from a treatment planning system (with the calculation referencing the prescription and demonstrating the relationship between the daily monitor units and prescription, and all calculations being approved and recorded with the plan); and

v. The final dosimetry plan is validated by radiation therapists, using robust quality assurance processes, with the plan approved by the radiation oncologist prior to delivery, which must include ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a linear accelerator; and

vi. Treatment verification images can be taken, but are not payable through the MBS.

Item 15Y11:

Megavoltage Level 1.1 – Simple Complexity Single Field Treatment

Radiation therapy for simple, SINGLE FIELD treatment, using a device approved by the Therapeutic Goods Administration if:

(a) Treatment is delivered with a one dimensional plan, prepared in accordance with item 15X11; and

(b) A two dimensional single-field treatment delivery mode is utilised; and

(c) Payable once only for each attendance at which treatment is given, with two attendances payable only if another site is located in a different organ/part of the body and requires treatment on the same day, with no treatment verification or dosimetry re-planning/adaptive strategy payable through the MBS.

Item 15X12:

Megavoltage Level 1.2 – Simple Complexity Multiple Field Simulation & Planning

(a) Simulation for SIMPLE MULTIPLE FIELD radiation therapy to two or more sites if:

i. Treatment set-up and technique specifications are in preparation for two dimensional radiation therapy dose planning; and

ii. Patient set-up and immobilisation techniques are suitable for two dimensional radiation therapy treatment where interfraction reproducibility is required; and

iii. Orthogonal or computed tomography-based image datasets must be acquired for the relevant region of interest to be planned, treated and verified (through weekly planar or volumetric image guidance strategies); and

(b) Dosimetry for simple multiple field radiation therapy to two or more sites if:

i. The two dimensional planning process is required to calculate dose to a simple volume and will not require a dose-volume histogram to complete the planning process; and

ii. The two dimensional planning process is not required to maximise the differential between target dose and normal tissue dose, based on review and assessment by the radiation oncologist; and

iii. The target (which may include gross, clinical and planning targets as a composite structure or field border outline), as defined in the prescription, is rendered as a two dimensional structure as field borders or a simple volume; and

iv. Organs at risk are delineated if required, and assessment of dose to these structures is derived from dose point calculations, rather than full calculation and inclusion in a dose-volume histogram; and

v. Dose calculations are calculated using a specialised calculation algorithm, with prescription and plan details approved and recorded with the plan; and

vi. The final dosimetry plan is validated by radiation therapists, using robust quality assurance processes, with the plan approved by the radiation oncologist prior to delivery, which must include ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a linear accelerator.

Item 15Y12:

Megavoltage Level 1.2 – Simple Complexity Multiple Field Treatment & Verification

Radiation therapy and verification for simple, MULTIPLE FIELD treatment, using a device approved by the Therapeutic Goods Administration if:

(a) Image-guided radiation therapy imaging is used to implement a two dimensional plan, prepared in accordance with item 15X12; and

(b) A two dimensional multiple-field treatment delivery mode is utilised, where radiation field positioning requires accuracy levels up to 10mm to ensure accurate dose delivery to the target, and image decisions and actions are documented in the patient's record;

(c) Payable once only for each attendance at which treatment is given, with two attendances only paid if another site is located in a different organ/part of the body and requires treatment on the same day, with an allowance for weekly treatment verification (over the course of treatment) included in the MBS fee, but no dosimetry re-planning/adaptive strategy is payable through the MBS; and

(d) Imaging infrastructure (hardware and software) is linked to the treatment unit and networked to an image database, enabling both online and offline reviews.

Item 15X21:

Megavoltage Level 2.1 – Standard Complexity 3D Simulation & Planning

(a) Simulation for STANDARD THREE DIMENSIONAL radiation therapy if:

i. Treatment set-up and technique specifications are in preparation for three dimensional standard planning; and

ii. Patient set-up and immobilisation techniques are suitable for reliable orthogonal two dimensional plain images or three dimensional computed tomography (CT) image volume data acquisition and reproducible three dimensional treatment; and

iii. Orthogonal two dimensional and three dimensional CT image volume dataset is acquired in treatment position for the relevant region of interest to be planned, treated and verified (through daily imaging in week one, then weekly planar or volumetric image guidance strategies); and

iv. If utilised, the three dimensional CT image set is suitable for generation of quality digitally reconstructed radiographic images; and

(b) Dosimetry for standard three dimensional radiation therapy if:

i. The standard two dimensional planning process is required to calculate dose to a single dose level volume structure and may require a dose-volume histogram to complete the planning process; and

ii. The standard three dimensional planning process is not required to maximise the differential between target dose and normal tissue dose, based on review and assessment by a radiation oncologist; and

iii. The target (which may include gross, clinical and planning targets as a composite structure or field border outline), as defined in the prescription, is rendered as a three dimensional structure on planning outputs (three dimensional plan review/cross sections/dose-volume histogram); and

iv. Organs at risk are delineated if required, and assessment of dose to these structures is derived from dose point calculations, rather than full calculation and inclusion in a dose-volume histogram; and

v. Dose calculations are calculated using a specialised calculation algorithm, with prescription and plan details approved and recorded with the plan; and

vi. The final dosimetry plan is validated by radiation therapists, using robust quality assurance processes, with the plan approved by the radiation oncologist prior to delivery, which must include ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a linear accelerator.

Item 15Y21:

Megavoltage Level 2.1 – Standard Complexity 3D Treatment & Verification

Radiation therapy for STANDARD three dimensional treatment, using a device approved by the Therapeutic Goods Administration if:

(a) Image-guided radiation therapy imaging is used to implement a standard three dimensional plan, prepared in accordance with item 15X21; and

(b) Standard three dimensional treatment delivery mode is utilised, where radiation field positioning requires accuracy levels up to 10mm to ensure accurate dose delivery to the target, and image decisions and actions are documented in the patient's record;

(c) Payable once only for each attendance at which treatment is given, two attendances only paid if another site is located in a different organ/part of the body and requires treatment on the same day, with an allowance for daily treatment verification in week one of treatment, and weekly treatment verification for the remainder of the treatment course, included in the MBS fee, but no dosimetry re-planning/adaptive strategy is payable through the MBS; and

(d) Imaging infrastructure (hardware and software) is linked to the treatment unit and networked to an image database, enabling both online and offline reviews.

Item 15X22:

Megavoltage Level 2.2 – Complex 3D Simulation & Planning

(a) Simulation for COMPLEX THREE DIMENSIONAL radiation therapy if:

i. Treatment set-up and technique specifications are in preparation for complex three dimensional planning, with or without consideration of motion management; and

ii. Patient set-up and immobilisation techniques are suitable for reliable computed tomography (CT) image volume data acquisition and reproducible complex three dimensional treatment (with or without motion management); and

iii. A high-quality three dimensional or four dimensional CT image volume dataset is acquired in treatment position for the relevant region of interest to be planned, treated and verified (through daily planar or volumetric image guidance strategies); and

iv. The image-set is suitable for generation of quality digitally reconstructed radiographic images and/or respiratory phased/binned images or projection images such as maximum intensity projections; and

(b) Dosimetry for complex three dimensional radiation therapy if:

i. The complex three dimensional planning process is required to calculate dose to three dimensional volume structures (which must include structures moving with physiologic processes or requiring precise positioning with respect to beam edges) and which require a dose-volume histogram to complete the planning process; and

ii. The complex three dimensional planning process is required to maximise the differential between target dose and normal tissue dose, based on review and assessment by a radiation oncologist (which must include multi-leaf collimator based shaping, as well as simple multi-leaf collimator or field in field modulation to achieve target dose conformity and organs at risk avoidance or dose management/reduction); or

iii. The target (which must include gross, clinical and planning targets and/or internal target volumes), as defined in the prescription, is rendered as a three dimensional structure on planning outputs (three dimensional plan review/cross sections/dose-volume histogram); and

iv. Organs at risk are delineated, and assessment of dose to these structures is derived from full calculation and inclusion in a dose-volume histogram; and

v. The CT images are suitable for generation of quality digitally reconstructed radiographic images and projection images, such as maximum intensity projections; and

vi. Dose calculations are calculated using a specialised calculation algorithm, with prescription and plan details approved and recorded with the plan; and

vii. The final dosimetry plan is validated by radiation therapists, using robust quality assurance processes, with the plan approved by the radiation oncologist prior to delivery, which must include ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a linear accelerator.

Item 15Y22:

Megavoltage Level 2.2 – Complex 3D Treatment & Verification

Radiation therapy for COMPLEX three dimensional treatment, using a device approved by the Therapeutic Goods Administration if:

(a) Image-guided radiation therapy imaging is used to implement a complex three dimensional plan, prepared in accordance with item 15X22; and

(b) Complex three dimensional treatment delivery mode is utilised (with management of motion if required), where radiation field positioning requires accuracy levels up to 5mm to ensure accurate dose delivery to the target, and image decisions and actions are documented in the patient's record;

(c) Payable once only for each attendance at which treatment is given, with two attendances only paid if another site is located in a different organ/part of the body and requires treatment on the same day, with an allowance for daily treatment verification over the treatment course included in the MBS fee, but no dosimetry re-planning/adaptive strategy is payable through the MBS; and

(d) Imaging infrastructure (hardware and software) is linked to the treatment unit and networked to an image database, enabling both online and offline reviews.

Item 15X31:

Megavoltage Level 3.1 – Standard Complexity IMRT Simulation & Planning

(a) Simulation for STANDARD INTENSITY MODULATED RADIATION THERAPY (IMRT) if:

i. Treatment set-up and technique specifications are in preparation for single dose level IMRT planning; and

ii. Patient set-up and immobilisation techniques are suitable for reliable computed tomography (CT) image volume data acquisition and reproducible IMRT treatment; and

iii. A high-quality three dimensional CT image volume dataset is acquired in treatment position for the relevant region of interest to be planned, treated and verified (through daily planar or volumetric image guidance strategies); and

iv. The image-set is suitable for generation of quality digitally reconstructed radiographic images; and

(b) Dosimetry for standard intensity modulated radiation therapy (IMRT) if:

i. The IMRT planning process is required to calculate dose to a single-dose level volume structure and requires a dose-volume histogram to complete the planning process; and

ii. The IMRT planning process maximises the differential between target dose, organs at risk and normal tissue dose, based on review and assessment by a radiation oncologist; and

iii. All gross tumour targets, clinical targets, planning targets and organs at risk are rendered as volumes; and

iv. Organs at risk are nominated as planning dose goals or constraints; and

v. Dose calculations and dose volume histograms are generated in an inverse planned process, using a specialised calculation algorithm, with prescription and plan details approved and recorded with the plan; and

vi. A three dimensional CT image volume dataset is used for the relevant region to be planned, treated and verified; and

vii. Relevant multi-modality imaging, including Contrast-enhanced CT, magnetic resonance imaging or positron emission tomography, is used to delineate all targets and organs at risk; and

viii. The CT images are suitable for generation of quality digitally reconstructed radiographic images; and

ix. The final dosimetry plan is validated by both the radiation therapist and medical physicist, using robust quality assurance processes (where audit-based processes do not

apply), with the plan approved by the radiation oncologist prior to delivery, which must include:

A. Determination of accuracy of dose fluence delivered using the multi-leaf collimator and gantry position (static or dynamic); or

B. Ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a linear accelerator; or

C. Validating accuracy of the derived IMRT treatment plan in a known dosimetric phantom; or

D. Determining the accuracy of planned doses in comparison to delivered dose to designated points within the phantom and/or dosimetry device.

Item 15Y31:

Megavoltage Level 3.1 – Standard Complexity IMRT Treatment & Verification

STANDARD intensity modulated radiation therapy (IMRT) and verification, using a device approved by the Therapeutic Goods Administration if:

(a) Image-guided radiation therapy imaging is used to implement a standard IMRT plan, prepared in accordance with item 15X31; and

(b) Standard IMRT delivery mode is utilised (delivered by a fixed or dynamic gantry linear accelerator, or by a helical non C-arm based linear accelerator), where radiation field positioning requires accuracy levels up to 5mm to ensure accurate dose delivery to the target, and image decisions and actions are documented in the patient's record; and

(c) Payable once only for each attendance at which treatment is given (with two attendances only paid if another site is located in a different organ/part of the body and requires treatment on the same day), with daily treatment verification included in the MBS fee (using at least two planar image views/projections or one volumetric image-set to facilitate a three dimensional adjustment to radiation treatment field positioning), but no dosimetry re-planning/adaptive strategy payable through the MBS, and (if required), patient-specific IMRT quality assurance applied to designated cases where an approved dosimetry audit program is not used.

Item 15X32:

Megavoltage Level 3.2 – Complex IMRT Simulation & Planning, including Small Field Hypofractionated Treatment Strategies

(a) Simulation for COMPLEX INTENSITY MODULATED RADIATION THERAPY (IMRT), which may include small field hypofractionated treatment strategies, if:

i. Treatment set-up and technique specifications are in preparation for multiple-dose level IMRT planning or single dose level IMRT planning requiring motion management; and

ii. Patient set-up and immobilisation techniques are suitable for reliable computed tomography (CT) image volume data acquisition and reproducible IMRT treatment; and

iii. A high-quality three dimensional or four dimensional CT image volume dataset must be acquired in treatment position for the relevant region of interest to be planned, treated and verified (through daily planar or volumetric image guidance strategies); and

iv. The image-set must be suitable for generation of quality digitally reconstructed radiographic images and/or respiratory phased/binned images or projection images, such as maximum intensity projection; and

(b) Dosimetry for complex intensity modulated radiation therapy (IMRT), which may include small field hypofractionated treatment strategies, if:

i. The IMRT planning process is required to calculate dose to multiple-dose level volume structures or single-dose level volume structures (including structures moving with physiologic processes or requiring precise positioning with respect to beam edges) and requires a dose-volume histogram to complete the planning process; and

ii. The IMRT planning process maximises the differential between target dose, organs at risk and normal tissue dose, based on review and assessment by a radiation oncologist; and

iii. All gross tumour targets, clinical targets, planning targets, internal target volumes and organs at risk are rendered as volumes; and

iv. Organs at risk are nominated as planning dose goals or constraints; and

v. Dose calculations and dose volume histograms are generated in an inverse planned process using a specialised calculation algorithm, with prescription and plan details approved and recorded with the plan; and

vi. In the case of a multiple-dose level structure/target, a three dimensional CT image volume dataset is used for the relevant region to be planned, treated and verified; and

vii. In the case of single dose or multiple dose level structures/targets where motion management is required (including structures moving with physiologic processes or requiring precise positioning with respect to beam edges), a four dimensional CT image volume dataset must be used for relevant regions to be planned, treated and verified; and

viii. Relevant multi-modality imaging, including four dimensional CT, Contrast-enhanced CT, magnetic resonance imaging and positron emission tomography is used to delineate all targets and organs at risk; and

ix. CT images must be suitable for generation of quality digitally reconstructed radiographic images and projection images, such as maximum intensity projection; and

x. The final dosimetry plan must be validated by both the radiation therapist and medical physicist, using robust quality assurance processes, with the plan approved by the radiation oncologist prior to delivery, which must include:

A. Assessment of motion management strategies and accuracy of delivery; or

B. Determination of accuracy of the dose fluence delivered by the multi-leaf collimator and gantry position (static or dynamic); or

C. Ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a linear accelerator; or

D. Validating accuracy of the derived IMRT treatment plan in a known dosimetric phantom; or

E. Determining accuracy of planned doses in comparison to delivered dose to designated points within the phantom and/or dosimetry device; and

xi. Only one ADDITIONAL dosimetry plan (for re-planning/adaptive strategy) is payable through the MBS during the treatment course (at 50% of the fee for this item), when treatment adjustments are inadequate to satisfy treatment protocol requirements.

Item 15Y32:

Megavoltage Level 3.2 – Complex IMRT Treatment & Verification, including Small Field Hypofractionated Treatment Strategies

COMPLEX intensity modulated radiation therapy (IMRT) and verification, using a device approved by the Therapeutic Goods Administration if:

(a) Image-guided radiation therapy imaging is used (with motion management functionality if required) to implement a complex IMRT plan (which may include small field hypofractionated treatment strategies), prepared in accordance with item 15X32; and

(b) Complex IMRT delivery mode is utilised (delivered by a fixed or dynamic gantry linear accelerator, or by a helical non C-arm based linear accelerator), which includes motion management for single-dose level IMRT and small field hypofractionated IMRT cases, and radiation field positioning requires accuracy levels up to 5mm to ensure accurate dose delivery to the target, and image decisions and actions are documented in the patient's record; and

(c) Payable once only for each attendance at which treatment is given (with two attendances only paid if another site is located in a different organ/part of the body and requires treatment on the same day), with daily attendance by the radiation oncologist if required (particularly for small field hypofractionated treatment strategies); and

(d) Daily treatment verification is included in the MBS fee, and patient-specific IMRT quality assurance applied to all cases, with one ADDITIONAL IMRT plan/adaptive strategy payable per treatment course (at 50% of the fee for item 15X32) when treatment adjustments are inadequate to satisfy treatment protocol requirements.

Item 15X40:

Megavoltage Level 4 – Intracranial Stereotactic Radiation Therapy Simulation & Planning

(a) Simulation for INTRACRANIAL STEREOTACTIC RADIATION THERAPY (SRT) if:

i. Treatment set-up and technique specifications are in preparation for inverse planned or dynamic conformal arc therapy stereotactic delivery; and

ii. Precise personalised patient set-up and immobilisation techniques are suitable for reliable computed tomography (CT) image volume data acquisition and reproducible SRT small field and ablative treatments; and

iii. A high-quality three dimensional image volume dataset must be acquired in treatment position for the relevant region of interest to be planned, treated and verified (through daily planar or volumetric image guidance strategies); and

iv. The image-set must be suitable for fusion or co-registration with diagnostic quality datasets (such as from magnetic resonance imaging or positron emission tomography scans) and generation of quality digitally reconstructed radiographic images to support ablative planning and treatment delivery strategies; and

(b) Dosimetry for intracranial stereotactic radiation therapy (SRT) if:

i. The intensity modulated radiation therapy (IMRT) or dynamic conformal arc therapy (DCAT) planning process is required to calculate dose to single or multiple target structures and requires a dose-volume histogram to complete the planning process; and

ii. The IMRT or DCAT planning process maximises the differential between target dose, organs at risk and normal tissue dose, based on review and assessment by a radiation oncologist; and

iii. All gross tumour targets, clinical targets, planning targets and organs at risk are rendered as volumes; and

iv. Organs at risk must be nominated as planning dose goals or constraints; and

v. Dose calculations and dose-volume histograms are generated in an inverse planned or DCAT process, using a validated stereotactic-type calculation algorithm, with prescription and plan details approved and recorded with the plan; and

vi. The three dimensional computed tomography image volume dataset is used for the relevant region to be planned, treated and verified; and

vii. Relevant multi-modality imaging (such as computed tomography contrast, magnetic resonance imaging and positron emission tomography) is used to delineate targets and organs at risk; and

viii. The computed tomography images are suitable for generation of quality digitally reconstructed radiographic images; and

ix. The final dosimetry plan is validated by both the radiation therapist and medical physicist, using robust quality-assurance processes, with the plan approved by the radiation oncologist prior to delivery, which must include:

A. Determination of accuracy of dose fluence delivered by the multi-leaf collimator and gantry position (static or dynamic) for intensity modulated radiation therapy (IMRT) delivery; or

B. Ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a linear accelerator; or

C. Validation of accuracy of the derived IMRT or dynamic conformal arc therapy plan in a known dosimetric phantom; or

D. Determination of accuracy of planned doses in comparison to delivered dose to designated points within the phantom and/or dosimetry device; and

x. Only one ADDITIONAL dosimetry plan (for re-planning/adaptive strategy) is payable through the MBS during the treatment course (at 50% of the fee for this item), when treatment adjustments are inadequate to satisfy treatment protocol requirements.

Item 15Y40:

Megavoltage Level 4 – Intracranial Stereotactic Radiation Therapy & Verification

INTRACRANIAL STEREOTACTIC RADIATION THERAPY and verification, using a device approved by the Therapeutic Goods Administration if:

(a) Image-guided radiation therapy imaging is used (with motion management functionality if required) to implement an intensity modulated radiation therapy (IMRT) or dynamic conformal arc therapy (DCAT) plan, prepared in accordance with item 15X40; and

(b) IMRT delivery mode is utilised (delivered by a fixed or dynamic gantry linear accelerator, or by a helical non C-arm based linear accelerator), or DCAT mode is utilised, with management of motion as required, and radiation field positioning requires accuracy levels of less than 5mm to ensure accurate dose delivery to the target, and image decisions and actions are documented in the patient's record; and

(c) Payable once only for each attendance at which treatment is given, with two attendances only paid if another site is located in a different organ/part of the body and requires treatment on the same day, and daily treatment verification included in the MBS fee (using at least two planar image views/projections or one volumetric image-set to facilitate a three dimensional adjustment to radiation treatment field positioning), and patient-specific IMRT quality assurance applied to all cases, with one ADDITIONAL dosimetry plan/adaptive strategy payable per treatment course (at 50% of the fee for item 15X40) when treatment adjustments are inadequate to satisfy treatment protocol requirements.

Item 15X50:

Megavoltage Level 5 – Specialised Simulation & Planning

(a) Simulation for SPECIALISED RADIATION THERAPY, requiring the attendance of the radiation oncologist or trained delegate, if:

i. Treatment set-up and technique specifications are in preparation for specialised applications, such as paediatric cases with general anaesthetic or total body irradiation (photons or electrons), utilising a full range of complex treatment options (complex three dimensional radiation therapy, complex intensity modulated radiation therapy (IMRT), and IMRT or dynamic conformal arc therapy (DCAT) stereotactic delivery); and

ii. Precise personalised patient set-up and immobilisation techniques are suitable for reliable computed tomography image volume data acquisition and reproducible complex three dimensional, complex IMRT, and IMRT or DCAT stereotactic delivery which are challenging for the patient and require lengthy treatment delivery times; and

iii. A high-quality three dimensional or four dimensional image volume dataset is acquired in treatment position for the relevant region of interest to be planned, treated and verified (through daily planar or volumetric image guidance strategies); and

iv. The image-set must be suitable for fusion or co-registration with diagnostic quality datasets and generation of quality digitally reconstructed radiographic images to all complex three dimensional, complex IMRT, and IMRT/DCAT stereotactic delivery strategies; and

(b) Dosimetry for specialised radiation therapy if:

i. The complex three dimensional, complex IMRT, and IMRT/DCAT stereotactic delivery planning process is required to calculate dose to single or multiple target structures and requires a dose-volume histogram to complete the planning process; and

ii. The complex three dimensional, complex IMRT, and IMRT/DCAT stereotactic delivery planning process maximises the differential between target dose, organs at risk and normal tissue dose, based on review and assessment by a radiation oncologist; and

iii. All gross tumour targets, clinical targets, planning targets and organs at risk must be rendered as volumes; and

iv. Organs at risk must be nominated as planning dose goals or constraints; and

v. Dose calculations and dose-volume histograms must be generated in a complex three dimensional, inverse-planned or DCAT process, using a specialised calculation algorithm, with prescription and plan details approved and recorded with the plan; and

vi. Three dimensional computed tomography image volume dataset must be used for the relevant region to be planned, treated and verified; and

vii. Relevant multi-modality imaging (such as computed tomography contrast, magnetic resonance imaging and positron emission tomography) is used to delineate all relevant targets and organs at risk; and

viii. Computed tomography images are suitable for generation of quality digitally reconstructed radiographic images; and

ix. The final dosimetry plan is validated by both the radiation therapist and medical physicist, using robust quality-assurance processes, with the plan approved by the radiation oncologist prior to delivery, which must include:

A. For IMRT cases, determination of accuracy of dose fluence delivered by the multi-leaf collimator and gantry position (static or dynamic); or

B. For all cases, ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a linear accelerator; or

C. Validation of accuracy of the derived IMRT/DCAT treatment plan in a known dosimetric phantom; or

D. Determination of accuracy of planned doses, in comparison to delivered dose to designated points within the phantom and/or dosimetry device; and

x. Only one ADDITIONAL dosimetry plan (for re-planning/adaptive strategy) is payable through the MBS during the treatment course (at 50% of the fee for this item), when treatment adjustments are inadequate to satisfy treatment protocol requirements.

Item 15Y50:

Megavoltage Level 5 – Specialised Treatment & Verification

SPECIALISED RADIATION THERAPY, using a device approved by the Therapeutic Goods Administration if:

(a) Image-guided radiation therapy imaging is used (with motion management functionality if required) to implement a complex three dimensional, complex intensity modulated radiation therapy (IMRT), stereotactic radiation therapy or dynamic conformal arc therapy (DCAT) plan, prepared in accordance with item 15X50 (where attendance by the radiation oncologist or trained delegate at the treatment and verification session is required); and

(b) Complex three dimensional or complex IMRT delivery mode is utilised (delivered by a fixed or dynamic gantry linear accelerator, or by a helical non C-arm based linear accelerator), or DCAT mode is utilised, with management of motion as required, and radiation field positioning requiring accuracy levels of up to 10mm to ensure accurate dose delivery to the target, using margins applied to volumes (clinical target volume and planning target volume) tailored or reduced to minimise treatment-related exposure of normal tissues; and

(c) Payable once only for each attendance at which treatment is given (with daily multidisciplinary team support and direct involvement in treatment delivery because of clinical/medical and technical complexity), and daily treatment verification included in the MBS fee (using at least two planar image views/projections or one volumetric image-set to facilitate a three dimensional adjustment to radiation treatment field positioning), and patient-specific IMRT quality assurance for all cases, with one ADDITIONAL dosimetry plan/adaptive strategy payable per treatment course when treatment adjustments are inadequate to satisfy treatment protocol requirements.

Explanatory notes for items 15X11–15X50 and 15Y11–15Y50:

Meaning of Level 1.1 Items (Complexity = Simple/Single Field)

In items 15X11 and 15Y11: Simple/Single Field Complexity external beam radiotherapy is localised, planned and delivered through a clinical mark-up process without the requirements of simulation, computer/volumetric dosimetry and beam modulation. Patient stabilisation is simple using standard devices. Determination of the treatment volume is by clinical assessment/mark-up with the prescribed dose identified on the surface or at depth. Single field delivery via wide margins determined through the clinical assessment process will not require treatment verification.

> *Delivery Technologies: LINAC based fixed beam single field delivery, no simulation, computer dosimetry, verification, pre-treatment patient specific QA or re-planning/adaption consideration required.*
>
> *Grouped Elements: 1D Plan, Single Field Delivery.*

Meaning of Level 1.2 Items (Complexity = 2D Simple/Multiple Fields)

In items 15X12 and 15Y12: Simple/Multiple Field Complexity external beam radiotherapy is localised through a process of either 2D simulation (Single Plain Film views or CT/DRR delineation) or 3D simulation (Orthogonal Plain Film views or CT Volumetric Delineation) to identify the treatment region. Patient stabilisation is simple using standard devices (requiring no manufacturing). Planning is based on 2 Dimensional planning processes with simple beam shaping but no modulation or inverse planning requirements, optimisation is not required on organs at risk. Multiple field delivery via MLC shaped beams with wide margins requires only weekly verification.

> *Delivery Technologies: LINAC based fixed beam multiple field delivery, 2D simulation, 2D dosimetry and weekly verification. No pre-treatment patient specific QA required and no consideration for re-planning/adaption.*
>
> *Grouped Elements: 2D Simulation, 2D Planning, Multiple Field Delivery and Weekly Verification.*

Meaning of Level 2.1 Items (Complexity = 3D Standard/Multiple Fields)

In items 15X21 and 15Y21: 3D Standard/Multiple Field Complexity external beam radiotherapy is localised through a process of 3D simulation (Orthogonal Plain Film views or CT Volumetric Delineation) to identify the treatment region and OARs. Patient stabilisation requires standard devices (requiring no manufacturing) to support positional reproducibility. Planning is based on 3 Dimensional planning processes with simple beam shaping (MLCs) and simple modulation (Large

Segment Field in Field/Wedges/MLCs/Tissue Compensation) to deliver a conformal dose distribution and assessment of dose to OARs. Multiple field delivery via MLC shaped beams with intermediate/wide margins requires daily verification in week 1 of any course and weekly thereafter.

> *Delivery Technologies: LINAC based fixed beam multiple field delivery, 3D simulation, 3D Standard Level Dosimetry (Conformal Target Shaping and Assessment of OAR Dose) and daily verification leading to weekly verification. No pre-treatment patient specific QA required and no consideration for re-planning/adaption.*
>
> *Grouped Elements: 3D Simulation, Standard 3D Planning, Multiple Field Delivery and Daily/Weekly Verification.*

Meaning of Level 2.2 Items (Complexity = 3D Complex/Multiple Fields)

In items 15X22 and 15Y22: 3D Complex/Multiple Field Complexity external beam radiotherapy is localised through a process of 3D or 4D (3D CT Volumetric Delineation or 4D CT Volumetric Delineation with consideration of tumour/OAR excursion) simulation to identify the treatment region and OARs (including excursion of targets and OARs). Patient stabilisation requires the use of personalised devices (requiring some form of manufacture) to support positional reproducibility. Planning is based on 3 or 4 Dimensional planning processes with complex beam shaping (MLCs) and modulation (MLC/Small Segment Field in Field) to deliver a conformal dose distribution and assessment/management of dose to OARs. Multiple field delivery via MLC shaped beams with narrow margins requires daily verification prior to treatment delivery. Patient specific pre-treatment Quality Assurance and consideration for re-planning/adaption is not required.

> *Delivery Technologies: LINAC based fixed beam multiple field delivery (with or without motion management), 3D/4D simulation, 3D Complex Level Dosimetry (Conformal Target Shaping and Assessment /Management of OAR Dose) and daily verification. No pre-treatment patient specific QA required and no consideration for re-planning/adaption.*
>
> *Grouped Elements: 3D/4D Simulation, Complex 3D Planning, Multiple Field Delivery and Daily Verification.*

Meaning of Level 3.1 Items (Complexity = Standard IMRT Multiple Fields)

In items 15X31 and 15Y31: Standard Complexity Inverse Planned Intensity Modulated external beam radiotherapy to a single dose level prescription and without motion management is localised through a 3D (CT Volumetric Delineation) simulation to identify Clinical and Planning Targets, Organs at Risk and Normal Tissue. Patient stabilisation requires the use of personalised devices (requiring some form of manufacturing) to support positional reproducibility. Planning is based on delivery to a single dose level target and includes optimisation of the dose based on assessment of OAR doses. This technique involves very sharp dose gradients adjacent to both targets and organs at risk increasing the consequences of any geometric uncertainty, making daily treatment verification an essential component of quality IMRT. It is the tumour location, size, adjacent organs and dosimetry that define the appropriate role for IMRT, and support an approach where the clinical circumstances rather than specific diagnoses are the most important determinants for using IMRT. Patient specific pre-treatment Quality Assurance may or may not be required based on the relevant application of audit processes. No consideration for re-planning/adaption.

> *Delivery Technologies: LINAC based fixed beam IMRT, LINAC based rotational IMRT and helical non C-arm based IMRT.*
>
> *Grouped Elements: 3D Simulation, Single Dose Level IMRT Planning, Multiple Field Delivery, Daily Verification +/- Pre-Treatment QA. No consideration for re-planning/adaption.*

Meaning of Level 3.2 Items (Complexity = Complex IMRT Multiple Field, including Small Field Hypofractionated Treatment Strategies)

In items 15X32 and 15Y32: Complex Inverse Planned Intensity Modulated external beam radiotherapy to multiple dose level prescription or any IMRT with motion management is localised through a 3D or 4D (3D CT Volumetric Delineation or 4D CT Volumetric Delineation with consideration of tumour/OAR excursion) simulation to identify Clinical and Planning Targets, Organs at Risk and Normal Tissue (and tumour/OAR excursion in the case of 4D applications). Patient stabilisation requires the use of personalised devices (requiring some form of manufacture) to support positional reproducibility. Planning is based on delivery to multiple dose level targets or IMRT with motion management and includes optimisation of the dose based on assessment of OAR doses. This technique involves very sharp dose gradients adjacent to both targets and organs at risk increasing the consequences of any geometric uncertainty, making daily treatment verification an essential component of quality IMRT. In the case of 4D applications, treatment delivery utilises some form of motion management (gating, deep inspiration breath hold, etc.) and further complicates the planning, delivery and quality assurance processes. It is the tumour location, size, adjacent organs and dosimetry that define the appropriate role for IMRT, and support an approach where the clinical circumstances rather than specific diagnoses are the most important determinants for using IMRT. Patient specific pre-treatment Quality Assurance will be required and consideration for re-planning/adaption is included. Small field hypofractionated treatment strategies (using either IMRT or DCAT) utilising ablative doses are included in this complexity level.

> *Delivery Technologies: LINAC based fixed beam IMRT, LINAC based rotational IMRT, Helical non C-arm based IMRT or IMRT/DCAT small field hypofractionated ablative treatments.*
>
> *Grouped Elements: 3D Simulation/Multiple Dose Level IMRT Planning or 4D Simulation/ Single Dose Level IMRT Planning. Multiple Field Delivery, Daily Verification, Pre-Treatment QA and 1 x Re-planning/Adaption event per course.*

Meaning of Level 4 Items (Complexity = Intracranial Stereotactic Radiotherapy & Stereotactic Radiosurgery)

In items 15X40 and 15Y40: Inverse Planned or DCAT Stereotactic Delivery using a specifically calibrated small field beam model. Dedicated and customised patient positioning/immobilisation (requiring manufacture) and multi-modality image based targeted identification of the treatment volume, surrounding organs at risk and normal tissue. Formal structured assessment of motion and patient suitability for complex/lengthy delivery and margin/volume/normal tissue reduction strategies. Requirement for lengthy treatment sessions requires patient education to support positional and physiological control requirements (for example, breathing/respiration). Dosimetry delivers small field collimation/shaping of the dose (with consideration and management of motion) to complex targets requiring ablative doses of radiation proximal to sensitive normal tissue and organs at risk. Patient specific pre-treatment Quality Assurance will be required and consideration for re-planning/adaption is included. Very tight margins and steep dose gradients mandates the use of daily treatment verification.

> *Delivery Technologies: LINAC based fixed beam 3D/IMRT, LINAC based rotational DCAT/ IMRT and helical non C-arm based DCAT/IMRT collimated with MLC or Fixed Cones.*
>
> *Grouped Elements: 3D Simulation/Multiple Dose Level IMRT Planning or 4D Simulation/ Single Dose Level DCAT/ IMRT Planning. Multiple Field Delivery, Daily Verification, Pre-Treatment QA and 1 x Re-planning/Adaption event per course.*

Meaning of Level 5 Items (Complexity = Specialised)

In items 15X50 and 15Y50: Complex 3D/4D, Stereotactic or Inverse Planned Intensity Modulated external beam radiotherapy to multiple dose level prescription with or without motion management is localised through a 3D or 4D (3D CT Volumetric Delineation or 4D CT Volumetric Delineation with consideration of tumour/OAR excursion) simulation to identify Clinical and Planning Targets, Organs at Risk and Normal Tissue (and tumour/OAR excursion in the case of 4D applications). Dedicated and personalised patient positioning/immobilisation (requiring manufacture) and multi-modality image

based targeted identification of the treatment volume, surrounding organs at risk and normal tissue. Requirement for lengthy treatment sessions requires patient education to support positional and physiological control requirements (for example, breathing/respiration). Patient acuity requires multidisciplinary medical support during the simulation process (for example, general anaesthetic for Paediatric cases, monitoring for patients receiving Total Body Irradiation). Complex dosimetry requirements driven by large field/large volume requirements in TBI/TBE cases and highly personalised dosimetry requirements with younger paediatric patients. Clinical/Medical and Technical complexity requires daily multidisciplinary team support and direct involvement in the treatment delivery and verification process, which for stereotactic treatments would require a Radiation Oncologist to be present at the time of each treatment. Patient specific pre-treatment Quality Assurance may be required and consideration for re-planning/adaption is included. Very tight margins and steep dose gradients mandates the use of daily treatment verification.

> *Delivery Technologies: LINAC based fixed beam Complex 3D, DCAT/IMRT, LINAC based rotational IMRT and helical non C-arm based DCAT/IMRT.*
>
> *Grouped Elements: 3D Simulation/Multiple Dose Level IMRT Planning or 4D Simulation/ Single Dose Level IMRT Planning. Multiple Field Delivery, Daily Verification, Pre-Treatment QA and 1 x Re-planning/Adaption event per course.*

Rationale

This recommendation focuses on bringing item structure and descriptors in line with the modern delivery of megavoltage therapy. It is based on the following observations.

- The two-part payment model updates the MBS schedule to align with the modern delivery of megavoltage radiotherapy, where simulation and dosimetry (which are currently separate sets of items) are performed in an integrated fashion, and treatment and verification (which are also separate sets of items) are also performed together.
- The complexity levels described above reflect the major drivers of differing patient complexity, as field count and beam energy (single versus dual photon) are not accurate predictors of complexity in modern practice. They also simplify the MBS schedule—while remaining auditable and non-gameable—by creating highly discriminatory and unambiguous items that reflect real differences in the technique employed to deliver radiotherapy.
- The retention of the pay-per-fraction approach recognises that one size does not fit all: there are over 200 indications for radiation therapy, each with their own guidance on the appropriate number of fractions. Furthermore, the average case-mix may differ by facility for any given indication. A pay-per-course approach would require separate items by indication, adding significant complexity to the billing system. Retaining the pay-per-fraction approach also recognises the need to balance the risk of incentivising inappropriate hyperfractionation with the greater clinical risks of incentivising hypofractionation through a pay-per-course (or equivalent) approach.

5.3.2 Recommendation on conducting a 'dummy-billing' modelling exercise prior to implementation

Recommendation 4

- Conduct a 'dummy-billing' modelling exercise prior to implementation of the two-part payment model, mapping a sample of existing cases (where the actual use of MBS items is known) to the items proposed in the two-part payment model. This exercise should:

- Involve MBS billings over a retrospective period of six months, for a mix of treatment centres that includes facilities serving complex and less-complex case-mixes, across states and territories, private and public hospitals, metropolitan and regional hospitals.
- Be conducted with the support of RANZCR, which has offered assistance with both the design and execution of such an exercise.
- Involve input from Radiation Therapists who are familiar with the complexity of services and the current MBS items.
- Be supported via a new source of funds to cover components of the exercise that are unable to be provided by RANZCR and participating facilities.

Rationale

This recommendation focuses on minimising the risk of unintended disruption to radiation oncology services or the financial sustainability of those services (for both the MBS and providers). It is based on the following observations.

- Δ The two-part payment model represents a wholesale restructuring of reimbursement for radiation oncology services in Australia. This restructuring is intended to maintain current levels of funding and access to radiation oncology services in Australia.
- Δ A 'dummy-billing' modelling exercise will assist in identifying:
  - The expected volume of services at each complexity level, which will help to determine appropriate schedule fees that maintain access to radiation therapy services.
  - The potential for large deviation around the mean price point within each complexity level.
  - Whether any low-volume items could be consolidated.
- Δ A six-month retrospective period, and the inclusion of a range of treatment centres, will balance efficiency with the need to capture a sufficient range of treatments.

5.4 Kilovoltage radiation therapy

Table 7: Item introduction table for items 15000–15115

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
15000	Radiotherapy, superficial (including treatment with x-rays, radium rays or other radioactive substances), not being a service to which another item in this Group applies – each attendance at which fractionated treatment is given 1 field.	$42.55	22,767	$893,254	9.9%
15003	Radiotherapy, superficial (including treatment with x-rays, radium rays or other radioactive substances), not being a service to which another item in this Group applies – each attendance at which fractionated treatment is given – 2 or more fields up to a maximum of 5 additional fields.	The fee for item 15000 plus for each field in excess of 1, an amount of $17.10	6,466	$447,712	1.9%
15006	Radiotherapy, superficial attendance at which a single dose technique is applied – 1 field.	$94.35	195	$15,429	-8.7%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
15009	Radiotherapy, superficial attendance at which a single dose technique is applied – 2 or more fields up to a maximum of 5 additional fields.	The fee for item 15006 plus for each field in excess of 1, an amount of $18.55	51	$8,083	-1.1%
15012	Radiotherapy, superficial – each attendance at which treatment is given to an eye.	$53.45	386	$21,326	6.0%
15100	Radiotherapy, deep or orthovoltage – each attendance at which fractionated treatment is given at 3 or more treatments per week – 1 field.	$47.70	5,025	$203,664	-0.8%
15103	Radiotherapy, deep or orthovoltage – each attendance at which fractionated treatment is given at 3 or more treatments per week – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields).	The fee for item 15100 plus for each field in excess of 1, an amount of $18.80	420	$24,924	-1.5%
15106	Radiotherapy, deep or orthovoltage – each attendance at which fractionated treatment is given at 2 treatments per week or less frequently – 1 field.	$56.30	157	$7,520	14.2%
15109	Radiotherapy, deep or orthovoltage – each attendance at which fractionated treatment is given at 2 treatments per week or less frequently – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields).	The fee for item 15106 plus for each field in excess of 1, an amount of $22.70	33	$2,305	22.4%
15112	Radiotherapy, deep or orthovoltage – attendance at which a single dose technique is applied – 1 field.	$120.25	141	$14,369	2.9%
15115	Radiotherapy, deep or orthovoltage – attendance at which a single dose technique is applied – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields).	The fee for item 15112 plus for each field in excess of 1, an amount of $47.30	23	$3,496	-3.9%

Public data (Department of Human Services).

Note: In 2013-14 a total of 1,764,824 radiation oncology services were rendered, totalling $296,927,532.38 in benefits, of which 13.9 per cent was paid through the Medicare safety nets. In 2014-15 a total of 1,931,537 radiation oncology services were rendered, totalling $339,784,784.74 in benefits of which 16.6 per cent was paid through the Medicare safety nets.

Recommendation 5

- Consolidate superficial and orthovoltage radiotherapy items (15000–15115) into three items for kilovoltage therapy to the first anatomical site, subsequent anatomical site(s) or the orbit or orbital structures.

  The proposed item descriptors are below.

Item 1500X:

Delivery of kilovoltage radiation therapy (50 kV to 500 kV range) to the first anatomical site (excluding orbital structures where there is placement of an internal eyeshield), payable once only for a single attendance.

Item 1500Y:

Delivery of kilovoltage radiation therapy (50 kV to 500 kV range) to each anatomical site subsequent to the first (excluding orbital structures where there is placement of an internal eyeshield), up to and including five sites, payable once only for each additional site in a single attendance.

Item 1500Z:

Delivery of kilovoltage radiation therapy (50 kV to 500 kV range) to orbital structures, where there is placement of an internal eyeshield, payable once only for a single attendance.

Explanatory notes: [None]

Rationale

This recommendation focuses on ensuring that items reflect current best-practice health services. It is based on the following observations.

- The distinction between superficial and orthovoltage items is clinically obsolete due to the decline in use of deep x-ray therapy in definitive cancer management. The distinction is also potentially ambiguous, given that superficial radiation therapy may be considered a type of orthovoltage radiation therapy.
- The current distinction between the delivery of single-dose therapy versus fractionated therapy does not reflect significant differences in professional involvement and may inappropriately incentivise severe hypofractionation.
- RANZCR has recommended consolidation into three items, as outlined in the recommendation.
- Provider types other than Radiation Oncologists also use the existing superficial and orthovoltage MBS items. In FY2014/15, for example, Dermatologists accounted for 3 per cent of service volume for item 15000, 11 per cent of service volume for item 15003 and 1 per cent of service volume for item 15012 (totalling less than 1,500 services in the year); Ophthalmologists accounted for 32 per cent of service volume for item 15006 and 20 per cent of service volume for item 15012 (totalling less than 150 services in the year).
  - The Dermatology, Immunology and Allergy Clinical Committee of the MBS Review unanimously endorsed a recommendation to consolidate orthovoltage and superficial items (in principle), with a simplified descriptor that accounts for both practices, based on the assumption that the combined items' schedule fees will ensure that the consolidation does not adversely impact patient access.
  - The Ophthalmology Clinical Committee of the MBS Review has not yet been established.

5.5 Brachytherapy

Table 8: Item introduction table for items 15303–15357, 15513, 15536–15539, 15800–15850

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
15303	Intrauterine treatment alone using radioactive sealed sources having a half-life greater than 115 days using manual afterloading techniques. (Anaes.)	$357.00	0	$0	-
15304	Intrauterine treatment alone using radioactive sealed sources having a half-life greater than 115 days using automatic afterloading techniques. (Anaes.)	$357.00	0	$0	-
15307	Intrauterine treatment alone using radioactive sealed sources having a half-life of less than 115 days including iodine, gold, iridium or tantalum using manual afterloading techniques. (Anaes.)	$676.80	0	$0	-
15308	Intrauterine treatment alone using radioactive sealed sources having a half-life of less than 115 days including iodine, gold, iridium or tantalum using automatic afterloading techniques. (Anaes.)	$676.80	43	$25,126	-5.5%
15311	Intravaginal treatment alone using radioactive sealed sources having a half-life greater than 115 days using manual afterloading techniques. (Anaes.)	$333.20	0	$0	-
15312	Intravaginal treatment alone using radioactive sealed sources having a half-life greater than 115 days using automatic afterloading techniques. (Anaes.)	$330.80	45	$12,654	-
15315	Intravaginal treatment alone using radioactive sealed sources having a half-life of less than 115 days including iodine, gold, iridium or tantalum using manual afterloading techniques. (Anaes.)	$654.25	0	$0	-
15316	Intravaginal treatment alone using radioactive sealed sources having a half-life of less than 115 days including iodine, gold, iridium or tantalum using automatic afterloading techniques. (Anaes.)	$654.25	1,303	$827,081	1.2%
15319	Combined intrauterine and intravaginal treatment using radioactive sealed sources having a half-life greater than 115 days using manual afterloading techniques. (Anaes.)	$406.05	0	$0	-
15320	Combined intrauterine and intravaginal treatment using radioactive sealed sources having a half-life greater than 115 days using automatic afterloading techniques. (Anaes.)	$406.05	0	$0	-
15323	Combined intrauterine and intravaginal treatment using radioactive sealed sources having a half-life of less than 115 days including iodine, gold, iridium, or tantalum using manual afterloading techniques. (Anaes.)	$722.00	0	$0	-
15324	Combined intrauterine and intravaginal treatment using radioactive sealed sources having a half-life of less than 115 days including iodine, gold, iridium, or tantalum	$722.00	257	$166,960	2.9%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
	using automatic afterloading techniques. (Anaes.)				
15327	Implantation of a sealed radioactive source (having a half-life of less than 115 days including iodine, gold, iridium or tantalum) to a region, under general anaesthesia, or epidural or spinal (intrathecal) nerve block, requiring surgical exposure and using manual afterloading techniques. (Anaes.)	$785.45	0	$0	-
15328	Implantation of a sealed radioactive source (having a half-life of less than 115 days including iodine, gold, iridium or tantalum) to a region, under general anaesthesia, or epidural or spinal (intrathecal) nerve block, requiring surgical exposure and using automatic afterloading techniques. (Anaes.)	$785.45	89	$62,438	-18.4%
15331	Implantation of a sealed radioactive source (having a half-life of less than 115 days including iodine, gold, iridium or tantalum) to a site (including the tongue, mouth, salivary gland, axilla, subcutaneous sites), where the volume treated involves multiple planes but does not require surgical exposure and using manual afterloading techniques. (Anaes.)	$745.80	0	$0	-
15332	Implantation of a sealed radioactive source (having a half-life of less than 115 days including iodine, gold, iridium or tantalum) to a site (including the tongue, mouth, salivary gland, axilla, subcutaneous sites), where the volume treated involves multiple planes but does not require surgical exposure and using automatic afterloading techniques. (Anaes.)	$745.80	297	$180,221	-16.3%
15335	Implantation of a sealed radioactive source (having a half-life of less than 115 days including iodine, gold, iridium or tantalum) to a site where the volume treated involves only a single plane but does not require surgical exposure and using manual afterloading techniques. (Anaes.)	$676.80	296	$176,827	-
15336	Implantation of a sealed radioactive source (having a half-life of less than 115 days including iodine, gold, iridium or tantalum) to a site where the volume treated involves only a single plane but does not require surgical exposure and using automatic afterloading techniques. (Anaes.)	$676.80	51	$29,600	-29.3%
15338	Prostate, radioactive seed implantation of, radiation oncology component, using transrectal ultrasound guidance, for localised prostatic malignancy at clinical stages t1 (clinically inapparent tumour not palpable or visible by imaging) or t2 (tumour confined within prostate), with a gleason score of less than or equal to 7 and a prostate specific antigen (psa) of less than or equal to 10ng/ml at the time of diagnosis. The procedure must be performed at an approved site in association with a urologist.	$935.60	366	$268,563	-13.2%

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
15339	Removal of a sealed radioactive source under general anaesthesia, or under epidural or spinal nerve block. (Anaes.)	$76.20	69	$4,652	3.9%
15342	Construction and application of a radioactive mould using a sealed source having a half-life of greater than 115 days, to treat intracavity, intraoral or intranasal site.	$190.30	0	$0	-
15345	Construction and application of a radioactive mould using a sealed source having a half-life of less than 115 days including iodine, gold, iridium or tantalum to treat intracavity, intraoral or intranasal sites.	$507.80	59	$33,217	-22.1%
15348	Subsequent applications of radioactive mould referred to in item 15342 or 15345 each attendance.	$58.40	77	$7,087	38.7%
15351	Construction with or without first application of a radioactive mould not exceeding 5 cm in diameter to an external surface.	$116.60	46	$5,315	15.9%
15354	Construction and first application of a radioactive mould more than 5 cm in diameter to an external surface.	$141.50	9	$1,083	55.2%
15357	Subsequent applications of radioactive mould referred to in item 15351 or 15354, each attendance.	$40.05	681	$28,835	18.9%
15513	Radiation source localisation using a simulator or x-ray machine or CT of a single area, where views in more than 1 plane are required, for brachytherapy treatment planning for i125 seed implantation of localised prostate cancer, in association with item 15338.	$306.55	353	$183,807	-7.7%
15536	Brachytherapy planning, computerised radiation dosimetry.	$266.90	674	$163,625	-8.9%
15539	Brachytherapy planning, computerised radiation dosimetry for i125 seed implantation of localised prostate cancer, in association with item 15338.	$627.30	597	$585,676	-10.0%
15800	Brachytherapy treatment verification – maximum of one only for each attendance.	$96.30	640	$50,586	-0.2%
15850	Radiation source localisation using a simulator, x-ray machine, CT or ultrasound of a single area, where views in more than one plane are required, for brachytherapy treatment planning, not being a service to which item 15513 applies.	$199.50	488	$108,653	-1.5%

Public data (Department of Human Services).

Note: N/A means not applicable. In 2013-14 a total of 1,764,824 radiation oncology services were rendered, totalling $296,927,532.38 in benefits, of which 13.9 per cent was paid through the Medicare safety nets. In 2014-15 a total of 1,931,537 radiation oncology services were rendered, totalling $339,784,784.74 in benefits of which 16.6 per cent was paid through the Medicare safety nets.

Note that the Committee has made recommendations for both an end- and interim-state for the MBS brachytherapy items. The end-state recommendation involves replacing all MBS brachytherapy items with a new item structure consisting of four items, tiered by complexity level. The Committee has also made an interim-state recommendation (in case delays to implementing this new structure

are anticipated), which involves deleting obsolete items and consolidating unnecessary distinctions between existing MBS items. As this interim-state recommendation affects only items that are unused or rarely used, the Committee expects that it may be implemented quickly (if accepted by the Minister).

For clarity, the interim-state recommendation is not intended to prevent the end-state recommendation from being implemented straight away (i.e., without first implementing the interim-state recommendation).

5.5.1 Interim-state recommendation: Delete obsolete items and consolidate unnecessary distinctions between items

Recommendation 6

- Delete the following items, recognising that radioactive sealed sources with a half-life greater than 115 days have become obsolete:
  - Items 15303 and 15304 (intrauterine brachytherapy).
  - Items 15311 and 15312 (intravaginal brachytherapy).
  - Items 15319 and 15320 (combined brachytherapy).
  - Item 15342 (construction and application or intracavity, intraoral or intranasal radioactive mould).
- Consolidate the following items to remove the unnecessary distinction between manual and automatic after-loading techniques:
  - Item 15307 into 15308 (intrauterine brachytherapy).
  - Item 15315 into 15316 (intravaginal brachytherapy).
  - Item 15323 into 15324 (combined brachytherapy).
  - Item 15327 into 15328 (other site, surgical exposure).
  - Item 15331 into 15332 (other site, multiplane non-surgical exposure).
- Remove half-life references from all brachytherapy items that remain in the MBS after the above deletions and consolidations have been implemented: items 15308, 15316, 15324, 15328, 15332, 15335, 15336 and 15345.

  The proposed item descriptors are below.

Item 15308:

Intrauterine treatment alone using radioactive sealed sources including iodine, gold, iridium or tantalum.

(Anaes.)

Item 15316:

Intravaginal treatment alone using radioactive sealed sources including iodine, gold, iridium or tantalum.

(Anaes.)

Item 15324:

Combined intrauterine and intravaginal treatment using radioactive sealed sources including iodine, gold, iridium or tantalum.

(Anaes.)

Item 15328:

Implantation of a sealed radioactive source (including iodine, gold, iridium or tantalum) to a region, under general anaesthesia, or epidural or spinal (intrathecal) nerve block, requiring surgical exposure.

(Anaes.)

Item 15332:

Implantation of a sealed radioactive source (including iodine, gold, iridium or tantalum) to a site (including the tongue, mouth, salivary gland, axilla, subcutaneous sites) where the volume treated involves multiple planes but does not require surgical exposure.

(Anaes.)

Item 15335:

Implantation of a sealed radioactive source (including iodine, gold, iridium or tantalum) to a site where the volume treated involves only a single plane but does not require surgical exposure, and using manual afterloading techniques.

(Anaes.)

Item 15336:

Implantation of a sealed radioactive source (including iodine, gold, iridium or tantalum) to a site where the volume treated involves only a single plane but does not require surgical exposure, and using automatic afterloading techniques.

(Anaes.)

Item 15345:

Construction and application of a radioactive mould using a sealed source including iodine, gold, iridium or tantalum to treat intracavity, intraoral or intranasal sites.

Explanatory notes: [None]

Rationale

These recommendations focus on ensuring that items reflect best-practice health services. They are based on the following observations.

- Δ Radioactive sources with long half-lives (such as radium) are clinically obsolete as they are almost impossible to source and are more difficult to safely dispose of, in comparison to short half-life sources. As a result, these items are rarely used. Of the items recommended for deletion, items 15303, 15304, 15311, 15319, 15320 and 15342 had no instances of use in FY2014/15. Item 15312 (for intravaginal brachytherapy) had 45 instances of use in FY2014/15 (compared to 1,303 instances of use for the corresponding short half-life item 15316).
- Δ Manual after-loading is rarely used in modern clinical practice, due to the safety risks associated with radiation exposure for the provider during the loading process. Furthermore,

the distinction between manual and automatic after-loading is unnecessary (noting that the MBS items have identical schedule fees). All manual after-loading items recommended for consolidation had no instances of use in FY2014/15.

5.5.2 End-state recommendation: Restructure remaining brachytherapy items into four items tiered by complexity level

Recommendation 7

Δ Restructure brachytherapy items (15303–15357, 15513, 15536–15539, 15800–15850) into four items:

- Tiered by three levels of complexity:
  - Level 1 – Simple Complexity, High-Dose Rate Brachytherapy.
  - Level 2 – Intermediate Complexity, High-Dose Rate or Temporary Eye Plaques (Choroidal Melanoma) Brachytherapy.
  - Level 3 – High Complexity, High-Dose Rate Brachytherapy.
  - Level 3 – High Complexity, Low-Dose Rate Permanent Seed Implant Brachytherapy.
- Covering the previously separate items for radiation source localisation, planning, treatment/insertion, treatment verification and removal.

The proposed item descriptors and explanatory notes are outlined below.

Item 15XX1:

Brachytherapy Level 1 – Simple Complexity High-Dose Rate Brachytherapy

(a) Simulation/Localisation for SIMPLE COMPLEXITY HIGH-DOSE RATE brachytherapy if:

i. Localisation is based on visual review of a single plane x-ray which demonstrates placement of the delivery applicator, needle or catheter in reference to the disease and adjacent organs at risk; and

(b) SIMPLE COMPLEXITY high-dose rate brachytherapy DOSIMETRY/TREATMENT/VERIFICATION if:

i. The planning process is required to deliver a prescribed dose to a two dimensional or simple three dimensional volume in the patient, and relative to a fixed single line or channel delivery applicator; and

ii. The planning process does not require the differential of dose between the target, organs at risk and normal tissue dose, based on review and assessment by a radiation oncologist; and

iii. Delineation of structures is not possible or required; and

iv. Dose calculations are performed in reference to the surface or a point at depth (two dimensional plan) from tables, charts or data from a treatment planning system ('library plan'), with the calculation referencing the prescription and demonstrating the relationship between exposure time, decay factor units and prescription, and all calculations approved and recorded with the plan; and

v. The final dosimetry plan is validated by both the radiation therapist and medical physicist, using robust quality assurance processes, with the plan approved by the radiation oncologist prior to delivery, which must include ensuring the plan is

deliverable, data transfer is acceptable and validation checks are completed on a high-dose rate after-loading unit that contains a single-transfer cable connection.

Item 15XX2:

Brachytherapy Level 2 – Intermediate Complexity High-Dose Rate or Temporary Eye Plaque (Choroidal Melanoma) Brachytherapy

(a) Simulation/Localisation for INTERMEDIATE COMPLEXITY HIGH-DOSE RATE brachytherapy or temporary eye plaques (choroidal melanoma) if:

i. Localisation is based on review of an orthogonal x-ray, computed tomography or volumetric ultrasound image which demonstrates placement of delivery applicator, needles or catheters in reference to the disease and adjacent organs at risk; and

ii. (Not essential for eye plaques) The simulation process enables delineation of treatment volume and organs at risk, for inclusion in the calculation process (as point, surface or volumetric structures), with a dose-volume histogram used in the planning process if required; and

(b) INTERMEDIATE COMPLEXITY high-dose rate brachytherapy DOSIMETRY, TREATMENT and VERIFICATION if:

i. The planning process is required to deliver a prescribed dose to a two dimensional or simple three dimensional volume in the patient, and relative to a fixed two or three line/channel delivery applicator (or personalised plaque in the case of choroidal melanoma eye plaque brachytherapy); and

ii. If required, the planning process requires the differential of dose between target, organs at risk and normal tissue dose, using avoidance strategies (which include placement of sources/dwell-times or tissue packing), based on review and assessment by a radiation oncologist; and

iii. If required, delineation of structures is possible, but point or surface dose assessments must be performed; and

iv. Dose calculations are performed in reference to the surface or a point at depth (two dimensional plan) from tables, charts or data from a treatment planning system ('library plan'); or

v. Dose calculations are performed on a personalised basis, using dose calculation to tumour and organ-at-risk volumes ('personalised plan'), with the calculation referencing the prescription and demonstrating the relationship between exposure time, decay factor units and prescription; and

vi. All calculations are approved and recorded with the plan; and

vii. The final dosimetry plan is validated by both the radiation therapist and medical physicist, using robust quality assurance processes, with the plan approved by the radiation oncologist prior to delivery, which must include ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a high-dose rate after-loading unit that contains two or three transfer cable connections (and in the case of eye plaques, the applicator is applied and removed in accordance with dose, time and radiation safety requirements); and

viii. A minimum of two (2) planar image views or one (1) volumetric image set (using computed tomography, ultrasound or magnetic resonance imaging) to facilitate a three-dimensional adjustment to the applicators, needles, catheters or dosimetry plan, with an allowance for these images included in the MBS fee (and not billed separately), if:

ix. Decisions using the acquired image are based on action algorithms and are enacted immediately prior to or during treatment delivery by qualified and trained staff, considering complex competing factors, which must include manipulation/adjustment of delivery applicator or adjustment of the dosimetry plan; and

x. Image decisions and actions are documented in the medical record; and

xi. The radiation oncologist is responsible for supervising the process, which must include specifying the type and frequency of imaging, the tolerance and action levels to be incorporated in the process, reviewing the trend analysis(es)/reports and relevant images during the treatment course, and specifying action protocols as required; and

xii. Re-planning is only billed when treatment adjustments are inadequate to satisfy treatment protocol requirements.

Item 15XX3:

Brachytherapy Level 3 – Complex High-Dose Rate Brachytherapy

(a) Simulation/Localisation for COMPLEX HIGH-DOSE RATE brachytherapy if:

i. Localisation is based on review of relevant imaging (such as computed tomography, or magnetic resonance or volumetric ultrasound or other imaging) which demonstrates placement of delivery applicator, needles or catheters in reference to disease and adjacent organs at risk; and

ii. The simulation process enables delineation of treatment volume and organs at risk, for inclusion in the calculation process as volumetric structures, with a dose-volume histogram required in the planning process; and

(b) COMPLEX high-dose rate brachytherapy DOSIMETRY, TREATMENT and VERIFICATION if:

i. The planning process is required to deliver a prescribed dose to three dimensional volume in the patient, relative to a three or more line/channel delivery applicator, needles or catheters; and

ii. The planning process requires the differential of dose between target, organs at risk and normal tissue dose by avoidance strategies (which include placement of sources/dwell times or tissue packing), based on review and assessment by a radiation oncologist; and

iii. Delineation of structures is required as part of the planning process, in order to produce a dose-volume histogram to review and assess the plan; and

iv. Dose calculations are performed on a personalised basis, which must include three dimensional dose calculation to tumour and organ at risk volumes ('personalised plan'), with the calculation referencing the prescription and demonstrating the relationship between exposure time, decay factor units and prescription, and all calculations and the dose-volume histogram being approved and recorded with the plan; and

v. The final dosimetry plan is validated by the medical physicist or radiation therapist, using robust quality assurance processes, with the plan approved by the radiation oncologist

prior to delivery, which must include ensuring the plan is deliverable, data transfer is acceptable and validation checks are completed on a high-dose rate after-loading unit that includes three or more transfer cable connections; and

vi. A minimum of two (2) planar image views or one (1) volumetric image set (using computed tomography, ultrasound or magnetic resonance imaging) to facilitate a three dimensional adjustment to the applicators, needles, catheters or dosimetry plan, with an allowance for these images included in the MBS fee (and not billed separately), if:

A. Decisions using the acquired image are based on action algorithms and are enacted immediately prior to or during treatment delivery by qualified and trained staff, considering complex competing factors, which must include manipulation/adjustment of delivery applicator or adjustment of the dosimetry plan; and

B. Image decisions and actions are documented in the medical record; and

C. The radiation oncologist supervises the process, which must include specifying the type and frequency of imaging, the tolerance and action levels to be incorporated in the process, reviewing the trend analysis(es)/reports and relevant images during the treatment course, and specifying action protocols as required; and

D. Re-planning is only billed when treatment adjustments are inadequate to satisfy treatment protocol requirements.

Note: The schedule fees are identical for item 15XX3 (Level 3 – Complex High-Dose Rate Brachytherapy) and item 15XX4 (Level 3 – Complex Low-Dose Rate Brachytherapy).

Item 15XX4:

Brachytherapy Level 3 – Complex Low-Dose Rate Brachytherapy

(a) Simulation/Localisation for COMPLEX LOW-DOSE RATE brachytherapy if:

i. Pre-planning volumetric ultrasound localisation is performed up to 4 – 6 weeks prior to implantation, to enable preliminary dose review and order of seeds for implantation; and

ii. Volumetric ultrasound localisation is performed at implantation to enable implantation of seed trains so the intended dose is delivered to target structures, and organs/regions of risk are avoided; or

iii. (For real-time simulation) volumetric ultrasound localisation is performed at implantation to enable personalised construction and implantation of seeds so the intended dose is delivered to target structures, and organs/regions of risk are avoided; and

iv. Simulation and localisation enable delineation of structures as volumes, to enable generation of a dose-volume histogram for plan review and assessment; and

(b) COMPLEX low-dose rate brachytherapy DOSIMETRY, TREATMENT AND VERIFICATION if:

i. Pre-planning or real-time planning is required to deliver a prescribed dose to three dimensional volume in the patient, and relative to the implanted seeds; and

ii. Informed placement of seeds (by high quality volumetric ultrasound) determines the dose to the target and organs/structure at risk; and

iii. (For pre-planning) post-implant dosimetry is undertaken at a prescribed time point following implantation; and

iv. The planning process requires the differential of dose between target, organs/regions at risk and normal tissue dose by avoidance strategies, based on review and assessment by a radiation oncologist and/or urologist; and

v. Delineation of structures is undertaken as part of the planning process, in order to produce a dose-volume histogram to review and assess the plan; and

vi. Dose calculations are performed on a personalised basis, which must include three dimensional dose calculation to tumour and organs/regions at risk volumes ('personalised plan'), with the calculation referencing the prescription and demonstrating the relationship between the implanted radioactive load, decay factor units and prescription, with all calculations and the dose-volume histogram being approved and recorded with the plan; and

vii. The initial and final dosimetry plan is validated by the medical physicist or radiation therapist, using robust quality assurance processes, with the plan approved by the radiation oncologist, which must include

    A. A review of seed positions, including possible seed loss in the 24 hour period following implantation; or

    B. Post-implant dosimetry at a prescribed time point following implantation to assess the delivered dosimetry; and

viii. A minimum of two (2) planar image views or one (1) volumetric image set (using computed tomography, ultrasound or magnetic resonance imaging) to facilitate a three-dimensional adjustment to the applicators, needles, catheters or dosimetry plan, with an allowance for these images included in the MBS fee (and not billed separately).

Note: The schedule fees are identical for item 15XX3 (Level 3 – Complex High-Dose Rate Brachytherapy) and item 15XX4 (Level 3 – Complex Low-Dose Rate Brachytherapy).

Explanatory notes for items 15XX1–15XX4:

Meaning of Level 1 Items (Complexity = Simple High-Dose Rate)

In item 15XX1: Simple High-Dose Rate Brachytherapy is planned and delivered via a single line source application using a standard "library" dosimetry plan to deliver the prescribed dose at a known distance from the applicator, needle, catheter or source (2D Dose Distribution). Placement of the applicator is by the Radiation Oncologist (or trained delegate) and localisation is achieved with x-ray or fluoroscopy visualisation.

Delivery Technologies: Single line delivery by applicator, needle, catheter or other (for example balloon/source) using a library plan.

Grouped Elements: High-Dose Rate Delivery, Simple High-Dose Rate Plan, Simple Localisation.

Meaning of Level 2 Items (Complexity = Intermediate High-Dose Rate or Temporary Eye Plaques for Choroidal Melanoma)

In item 15XX2: Intermediate High-Dose Rate Brachytherapy is planned and delivered via a two or three line application or temporary eye plaque application using a standard "library" plan or personalised plan to deliver the prescribed dose to a 2D or 3D volume with minimal dose shaping to avoid organs at risk (2D or 3D Dose Distribution). Placement of the applicators is by the Radiation Oncologist (or trained delegate) and localisation is achieved with orthogonal x-ray or CT or Volumetric Ultrasound visualisation. DVH is not required but may be utilised in the plan review process.

> *Delivery Technologies: Eye Plaque or 2 or 3 line delivery by applicator, needles, catheter using a library plan or personalised plan.*
>
> *Grouped Elements: Eye Plaque Plan/Load/Delivery or High-Dose Rate Delivery, Intermediate High-Dose Rate Plan, Intermediate Localisation.*

Meaning of Level 3 Items (Complexity = Complex High-Dose Rate)

In item 15XX3: Complex High-Dose Rate Brachytherapy is planned and delivered via multiple lines (3 or more) using a personalised plan to deliver the prescribed dose to a complex 3D Radiation Oncologist delineated volume with complex dose shaping to avoid organs at risk (3D Dose Distribution). Placement of the applicators is by the Radiation Oncologist (or trained delegate) and the localisation is achieved with orthogonal x-ray or CT, MRI or Volumetric Ultrasound visualisation. DVH is required in the plan review process.

> *Delivery Technologies: 3 or more Line delivery by needles or catheters using a personalised plan.*
>
> *Grouped Elements: High-Dose Rate Delivery, Complex High-Dose Rate Plan, Intermediate Localisation (No MRI)/Complex Localisation (Includes MRI).*

Meaning of Level 3 Items (Complexity = Complex Low-Dose Rate Permanent Seed Implant)

In item 15XX4: Complex Low-Dose Rate Permanent Seed Brachytherapy is planned and delivered via multiple permanently implanted radioactive seeds using a personalised plan to deliver the prescribed dose to a prescribed complex 3D volume with complex dose shaping to avoid organs at risk (3D Dose Distribution). Placement of the seeds is by the Radiation Oncologist or Urologist (or trained delegate) and the localisation is achieved with orthogonal x-ray or CT, MRI or Volumetric Ultrasound visualisation. Pre-planning to determine seed loading and Post Implant Dosimetry at >Day 21 post implant may be required depending on the implantation technique.

> *Delivery Technologies: Permanent seed implant using a personalised plan (pre-calculated or real-time).*
>
> *Grouped Elements: Pre Plan Dosimetry, Implantation, Real Time or Post Implant Dosimetry, Complex Localisation (Includes Orthogonal X-Ray, CT and Volumetric Ultrasound).*

Rationale

This recommendation focuses on bringing item structure and descriptors in line with the modern delivery of brachytherapy and simplifying the MBS. It is based on the following observations.

- Δ The complexity levels described above reflect the major drivers of differing levels of professional involvement due to patient complexity, such as whether the volume is 2D or 3D, whether differential dosing is required between the target tissue and other tissue, and the complexity of dose calculations. The previous separation of items primarily by target organ (for example, intrauterine versus intravaginal) is not a sufficiently accurate predictor of complexity in modern practice.

- Δ The recommended items simplify the MBS schedule by reducing the large number of existing items to four items. These items remain auditable, and unambiguous item descriptors that reflect real differences in the technique employed to deliver radiotherapy.

5.6 Cobalt and caesium radiation therapy

Table 9: Item introduction table for items 15211–15214

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
15211	Radiation oncology treatment, using cobalt unit or caesium teletherapy unit – each attendance at which treatment is given – 1 field.	$54.70	0	0	N/A
15214	Radiation oncology treatment, using cobalt unit or caesium teletherapy unit – each attendance at which treatment is given – 2 or more fields up to a maximum of 5 additional fields (rotational therapy being 3 fields).	The fee for item 15211 plus for each field in excess of 1, an amount of $31.90	0	0	N/A

Public data (Department of Human Services).

Note: N/A means not applicable.

Recommendation 8

Δ Delete items 15211 and 15214.

Rationale

This recommendation focuses on ensuring that items reflect best-practice health services. It is based on the following observations.

Δ Cobalt and caesium radiotherapy are clinically obsolete due to the physical characteristics of cobalt and caesium (namely, poor depth of dose and a wide penumbra), which make it difficult to target treatment. These radioactive sources are also no longer available in Australia.

Δ Items 15211 and 15214 have not been used for more than five years.

6. Surgical and paediatric oncology recommendations

The following recommendations and requests were developed by the Committee and accepted unanimously.

6.1 Sentinel lymph node biopsy for breast cancer

Table 10: Item introduction table for items 30299–30303

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
30299	Sentinel lymph node biopsy or biopsies for breast cancer, involving dissection in a level I axilla (as defined at t8.16), using preoperative lymphoscintigraphy and lymphotropic dye injection, not being a service associated with a service to which item 30300, 30302 or 30303 applies. (Anaes.) (Assist.)	$637.45	3,326	$762,858	4.1%
30300	Sentinel lymph node biopsy or biopsies for breast cancer, involving dissection in a level ii/iii axilla, using preoperative lymphoscintigraphy and lymphotropic dye injection, not being a service associated with a service to which item 30299, 30302 or 30303 applies. (Anaes.) (Assist.)	$764.90	4,731	$2,426,064	8.3%
30302	Sentinel lymph node biopsy or biopsies for breast cancer, involving dissection in a level i axilla, using lymphotropic dye injection, not being a service associated with a service to which item 30299, 30300 or 30303 applies. (Anaes.) (Assist.)	$509.95	363	$64,060	-1.4%
30303	Sentinel lymph node biopsy or biopsies for breast cancer, involving dissection in a level ii/iii axilla, using lymphotropic dye injection, not being a service associated with a service to which item 30299, 30300 or 30302 applies. (Anaes.) (Assist.)	$611.85	148	$33,586	1.4%

Public data (Department of Human Services).

Recommendation 9

Δ Consolidate sentinel lymph node biopsy items (30299–30303) into a single item covering use of preoperative lymphoscintigraphy and/or lymphotropic dye injection, in any axilla level. The proposed item descriptor is below.

Item 303XX:

Sentinel Lymph Node Biopsy or Biopsies for breast cancer, involving dissection in an axilla, using preoperative lymphoscintigraphy and/or lymphotropic dye injection.

(Anaes.) (Assist.)

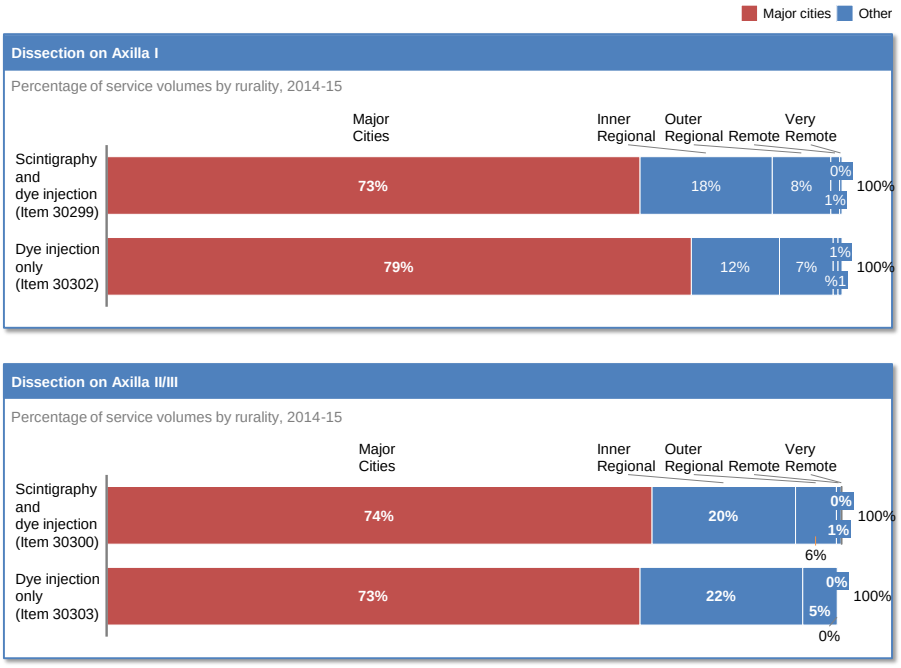
Explanatory notes: [None]

Rationale

This recommendation focuses on maintaining access to best-practice health services, as well as ensuring value for the individual patient and the health system. It is based on the following observations.

- Δ Sentinel lymph node biopsy for breast cancer uses radioisotopes and/or lymphotrophic blue dyes to identify lymph node(s) that, in theory, are the first node(s) to receive metastatic cells from the primary tumour. The sentinel nodes may be preoperatively identified by lymphoscintigraphy and can be surgically identified by either using a hand-held gamma probe or by visually identifying a blue stained lymph vessel and node, depending on the technique used to identify the sentinel nodes. The excised sentinel nodes are then pathologically examined and further treatment decisions are based on the metastatic status of the sentinel node(s). As only one or two nodes need be removed, sentinel lymph node biopsy is less invasive method of staging the axilla than axillary clearance, in which many more axillary lymph nodes are removed for pathological testing, and it could help to avoid the morbidities associated with axillary clearance.
- Δ The Committee noted that sentinel lymph node biopsy is safe and as effective as axillary lymph node clearance, with better morbidity outcomes.
  - Sentinel lymph node biopsy items were originally listed on an interim basis by the MSAC in 2005, based on available evidence that the procedure was safe and effective in identifying sentinel lymph nodes, but noting that the long-term outcomes compared to lymph node clearance were uncertain.
  - The Committee believes that sufficient evidence has since emerged that demonstrates that sentinel lymph node biopsy offers comparable long-term equivalence in efficacy, compared to axillary lymph node clearance, as well as improved morbidity outcomes.
- Δ Although there are clinical circumstances in which dual-agent mapping with both lymphoscintigraphy and lymphotropic dye injection may be contraindicated, the Committee felt that retaining separate items for single-agent mapping with lymphotropic dye was unnecessary. In order to simplify the schedule, the Committee therefore recommended creating one item using the phrase “and/or,” rather than listing separate items for dual-agent and single-agent mapping. Retaining the word “or” allows flexibility for the rare situations in which lymphoscintigraphy may be contraindicated.
- Δ The existing explanatory note states that “both lymphoscintigraphy and lymphotropic dye injection must be used, unless the patient has an allergy to the lymphotropic dye.” This is unnecessary and does not adequately cover all circumstances in which it may be appropriate to use single-agent mapping, particularly as clinical evidence develops on the most appropriate course of action in each of these circumstances.
  - The Committee noted that dual-agent mapping (using lymphoscintigraphy with lymphotropic dye) is more accurate than using either of the mapping methods alone. It is also easier for the Surgeon, which means that there is no perverse incentive to use dye only.
  - Where sentinel lymph node biopsy is available, there does not appear to be a difference in access to lymphoscintigraphy between major cities and regional or remote areas. Service distribution between single-agent mapping items (30302 and 30303) and dual-agent mapping items (30299 and 30300) is similar across geographical remoteness classifications (see Figure 7). All items are predominantly used in major cities, which account for more than 70 per cent of services for each item.

Figure 7: Distribution of dual-agent versus single-agent sentinel lymph node biopsy services by remoteness



Unpublished data, extract based on date of service (Department of Health)

Δ Although the separate items for Level I axillae and Level II/III axillae reflect differences in surgical complexity, these differences are likely to be averaged over a provider's case-mix. Separate items for sentinel lymph node biopsy by axillary level are therefore unnecessary. A single item (regardless of axillary level) also removes any possibility of inadvertent or intentional miscoding between axillary levels (for example, where sentinel lymph node biopsy is undertaken in a Level I axilla, but the Level II/III axilla is billed). The recommended consolidation of existing separate items for sentinel lymph node biopsy in a Level I or Level II/III axilla renders the existing explanatory note defining axillary lymph node levels (Level I, Level II and Level III) redundant.

6.2 Sentinel lymph node biopsy for melanoma

Recommendation 10

- Consider an expedited MSAC assessment of the MBS listing of items for sentinel lymph node biopsy for patients with intermediate to high-risk melanoma.

Rationale

This recommendation focuses on providing affordable and universal access to best-practice health services. It is based on the following observations.

- There is strong clinical need (and supporting evidence) for sentinel lymph node biopsy for melanoma.
  - Sentinel lymph node biopsy provides prognostic clarity, regional control of disease and improved disease-free survival at 10 years (and likely overall survival), compared to symptomatic relapse in patients without sentinel lymph node biopsy.[2–4]
  - There is also low procedure-associated morbidity with sentinel lymph node biopsy for melanoma.[5,6]
- Although there are MBS items for sentinel lymph node biopsy for breast cancer, no corresponding items are currently listed for sentinel lymph node biopsy for melanoma. The MSAC has not previously considered an MBS listing for sentinel lymph node biopsy for melanoma.
  - At present, sentinel lymph node biopsy for melanoma is provided under MBS items for limited excision (sampling) of lymph nodes (for example, item 30322 in the axilla or item 30329 in the groin).
  - The MBS benefit that patients receive for these items is less than the benefit received for items relating to sentinel lymph node biopsy for breast cancer. However, sentinel lymph node biopsy for melanoma in nodal regions such as parotid/neck and deep pelvic may be more surgically complex than axillary sentinel lymph node biopsy for breast cancer.
  - A substantial proportion of patients with melanoma who are deemed suitable for sentinel lymph node biopsy (based on the clinical guidelines) do not receive sentinel lymph node biopsy.[7] One of the barriers to uptake of sentinel lymph node biopsy in melanoma patients is the lack of specific MBS benefits available.
- The Committee noted that the MSAC has already undertaken pre-lodgement consultation on the potential MBS listing of sentinel lymph node biopsy for melanoma, and that the Department of Health is supportive of a submission being made to the MSAC.

6.3 Paediatric cancer

Recommendation 11

Δ No specific changes.

Rationale

This recommendation is based on the following observations.

Δ Paediatric cancer services are concentrated in the public system, rather than MBS-funded services. In FY2014/15, for example, patients aged 0–19 years old accounted for approximately 1 per cent of MBS medical oncology and radiation oncology services.

Δ Issues of concern to the Committee are common to both adult and paediatric patients.

Δ The Committee's recommendations on restructuring Megavoltage radiation therapy items include consideration of age extremes when determining the complexity of the service (for example, to determine the need for anaesthesia).

Δ The Committee received advice from the Australian and New Zealand Children's Haematology/Oncology Group (ANZCHOG) confirming that there are no pressing paediatric cancer issues for the MBS Review to address.

7. Stakeholder impact statement

Both patients and providers are expected to benefit from these recommendations as they address concerns regarding patient safety and quality of care, and they take steps to simplify the MBS and make it easier to use and understand. Patient access to services was considered for each recommendation.

The Committee also considered each recommendation's impact on provider groups to ensure that any changes were reasonable and fair. However, if the Committee identified evidence of potential item misuse or safety concerns, recommendations were made to encourage best practice, in line with the overarching purpose of the MBS Review.

8. References

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Appendix A **Index of items**

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Appendix B **Summary for consumers**

This table describes the medical service, the recommendation(s) of the clinical experts and why the recommendation(s) has been made.

Section 4: Medical oncology recommendations

Recommendation 1: revise chemotherapy items

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
13915–13942	A therapeutic procedure delivering cytotoxic chemotherapeutic drugs into a vein (13915–13924), into an artery (13927–13936), into an implanted pump or reservoir (13939), a mobile drug delivery device (13942) or a body cavity (13948). The items for delivery of these drugs into a vein and the items for delivery of these drugs into an artery differ by the period of time over which the single continuous treatment is provided: not more than one hour (13915, 13927), more than one hour but not more than six hours (13918, 13930), the first day of a treatment lasting more than six hours (13921, 13933), or subsequent days of a treatment lasting more than six hours (13924, 13936).	Replace the existing items with a set of three items for the medical management of anticancer therapy, that: covers elements of care beyond that which occurs in physical attendances (for example, management of side effects of treatment); is applicable regardless of the chosen route of administration (i.e., including routes such as via vein or artery, as well as medication take via the mouth); excludes hormonal therapy and bisphosphonate therapy but includes all other anticancer therapies such as cytotoxic chemotherapy and newer therapies such as monoclonal antibodies; and differs by the duration of medical management covered (two, three or four weeks).	Modern anticancer therapies will be covered, such as monoclonal antibodies, rather than just traditional cytotoxic chemotherapeutic drugs. There will no longer be different benefit levels depending on the route of administration or duration of a single treatment.	Modern treatment of cancer with medications may involve drugs that are not cytotoxic or chemotherapeutic agents and may fall within in a new class of drugs, such as monoclonal antibodies. Good clinical practice includes the Medical Oncologist being involved beyond the direct administration of a drug, such as monitoring side effects and checking blood tests for signs of unsafe levels of toxicity. Once a cycle of anticancer therapy has begun, the patient and Medical Oncologist have typically committed to a set of irreversible consequences. In particular, many anticancer therapies, such as cytotoxic chemotherapy, result in clinically significant side effects, such as an ensuing two- to three-week period of immune system suppression. Historically, Medical Oncologists administered chemotherapy directly into a vein or artery. The existing items assume that the type of the administration determines the levels of medical professional involvement required, with higher schedule fees for longer durations of administration, and for more difficult routes of administration. In modern practice, however, the therapeutic agent is typically administered by a Nurse into a long-term implanted vascular access device (for example, a portacath or PICC line, rather than directly into a vein) and carries less risk of immediate complications (for example, leakage of the cytotoxic drug from the vein into the surrounding tissue). Removing different benefit levels based on duration and route of administration removes incentives favouring one administration route over another (for example, intravenous infusion over subcutaneous injection or medication taken via the mouth). The length of time for a single treatment no longer determines the length of involvement required from the Medical Oncologist.

Recommendation 2: **revise of items for accessing long-term implanted drug delivery devices**

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
13945	A procedure where a long-term implanted drug delivery device (for example, a portacath) is accessed (regardless of whether this is done as an independent medical service (i.e., on its own), such as to flush the device to keep it clear, or whether it is done in the course of delivering an anticancer treatment).	Ensure MBS items for the accessing of a long-term implanted drug delivery device are only eligible for MBS benefits where this is performed as a service on its own.	Accessing a long-term implanted drug delivery device will only attract an MBS benefit where it is done as a medical service on its own.	Improve the value of services funded by MBS benefits. In modern clinical practice, the use of long-term implanted drug delivery devices such as portacaths and PICC lines are an integral part of the delivery of anticancer therapies such as chemotherapy, and it should not result in a separate bill when used in such circumstances. Current use of this item number is highly irregular: many providers never bill the item with chemotherapy, while other bill over $100,000 per year in MBS benefits in association with chemotherapy.

Section 5: Radiation oncology recommendations

Recommendation 3: restructure items for megavoltage radiation therapy

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
15215–15275, 15500–15512, 15515–15533, 15550–15710	'Megavoltage radiation therapy' is a set of therapeutic procedures to treat cancer, where high-energy radiation is delivered externally to the body to anatomical areas deeper in the body. There are separate items for simulation and field-setting, dosimetry, treatment, and treatment verification. The treatment items differ by the site treated (lung, prostate, breast or other); whether single-photon lower energy or dual-photon higher energy is used; the number of fields involved; and whether the radiation is delivered to the primary cancer site or secondary sites. There are specific items for the use of recent/technologically advanced techniques such as intensity-modulated radiation therapy (IMRT) or stereotactic radiosurgery.	Restructure items for megavoltage radiation therapy into two parts: planning and treatment, with different items within each part, depending on the complexity level of the service. The treatment part is paid for each time a treatment (also known as a 'fraction') is given.	Patients will receive bills with a simpler set of MBS items that more accurately reflect the service provided, and the level of MBS benefit payable will more consistently match the complexity of the service provided.	The current MBS items are complicated to use (with 45 items that are divided based on multiple factors); are not structured in a way that reflects the delivery of modern services (where simulation, field-setting and dosimetry are performed in an integrated fashion, as are treatment and verification); refer to outdated differences between services (for example, between single-photon and dual-photon energies); and do not reflect the factors that determine the level of professional involvement required in different instances. The complexity levels in the new items reflect the main factors that determine the level of professional involvement required. The existing use of field count and beam energy (single versus dual photon) is not an accurate predictor of complexity in modern practice. They also simplify the MBS schedule — while remaining auditable and difficult to misuse —by creating items that are unambiguous, with clear differences between items, reflecting real differences in the technique employed to deliver radiotherapy. Keeping the pay-per-fraction approach recognises that one size does not fit all: there are over 200 indications for radiation therapy, each with its own guidance on the appropriate number of fractions. Furthermore, the mix of patients with different clinical complexities may differ by facility for any given indication. A pay-per-course approach would require separate items by indication, adding significant complexity to the billing system. Keeping the pay-per-fraction approach also recognises the need to balance the risk of incentivising inappropriate hyperfractionation (giving more than one treatment with a smaller dose per day) with the greater clinical risks of incentivising hypofractionation through a pay-per-course (or equivalent) approach.

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
15000–15115	'Kilovoltage radiation therapy' is a set of therapeutic procedures to treat cancer, where low energy radiation is delivered to areas close to the surface of the body, such as to skin cancers. Superficial radiotherapy (15000–15012) involves a slightly lower energy than orthovoltage radiotherapy (15100–15115). The radiotherapy may be given in a single dose treatment (15112, 15115) or in fractions at a rate of one to two doses per week (15106, 15109) or more than two doses per week (15100, 15103). The radiotherapy may be delivered via a single body area (15000, 15006, 15100, 15106, 15112) or via multiple body areas (15003, 15009, 15103, 15109, 15115). Treatment to the eye is covered under a separate item (15012).	Combine the separate items for superficial and orthovoltage radiotherapy into items for kilovoltage therapy that cover both energy levels.	There will no longer be separate items for superficial and orthovoltage radiotherapy.	The distinction between superficial and orthovoltage items is clinically obsolete. The distinction between single dose therapy and fractionated therapy does not reflect significant differences in the involvement needed from the Radiation Oncologist and may inappropriately encourage single dose therapy when this is not best practice. The changes will reduce unnecessary complexity in bills, improving transparency for consumers, reducing the administrative burden for providers, and reducing the chances of billing errors or misuse of the MBS items.
15303–15357, 15513, 15536–15539, 15800–15850	'Brachytherapy' is a set of therapeutic procedures to treat cancer, relating to the use of a radioactive source either implanted directly into the body (15303–15339, 15513, 15536–15539, 15800-15850) or applied to the body using a mould (15342–15357). The radioactive source can be inserted into the prostate (15338), uterus (15303–15308), vagina (15311–15316), both the uterus and vagina (15319–15324), or other areas (15329—5328 if requiring surgical exposure; otherwise 15331–15336). These sets of items also differ depending on whether loading of the radioactive materials occurs	Restructure items for brachytherapy into four items that differ by the complexity of the service, and which covers the previously separate items for radiation source localisation, planning, treatment/insertion, treatment verification and removal. The Committee has also made a short term recommendation (in case delays to implementing this restructure are	Patients will receive bills with a simpler set of MBS items that more accurately reflect the service provided, and the level of MBS benefit will more consistently match the complexity of the service provided. There will no longer be separate items referring to the outdated practices of using radioactive sources with long half-lives or manual loading techniques.	Radioactive sources with long half-lives (such as radium) are clinically obsolete, more difficult to source and more difficult to appropriately dispose of, in comparison to short half-life sources. The items are rarely used. Manual after-loading is rarely used in modern clinical practice. Furthermore, the distinction between manual and automatic after-loading is unnecessary (noting that the MBS items have identical schedule fees). All manual after-loading items recommended for consolidation had no instances of use in FY2014/15. This recommendation focuses on bringing item structure and descriptors in line with the modern delivery of brachytherapy and on simplifying the MBS. It is based on the following observations.

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
	manually or automatically, and whether the radioactive source has a short half-life (less than 115 days) or long half-life (greater than 115 days). Other services include planning and dose-setting (15539 for the prostate, and 15536 otherwise); localisation of the radioactive source (15513 for the prostate, and 15850 otherwise); verification of treatment (158500); and removal of the implant under anaesthetic (15339).	anticipated): remove all references to the half-life of the radioactive source, as well as references to whether the after-loading technique is manual or automatic. Δ This is achieved by deleting all items referring to sources of radiation with a half-life greater than 115 days (15303 and 15304, 15311 and 15312, 15319 and 15320, 15342); and by combining all items referring to manual loading of radioactive materials into the corresponding items for automatic loading techniques (15307 into 15308, 15315 into 15316, 15323 into 15324, 15327 into 15328, 15331 into 15332).		Δ The complexity levels described above reflect the main factors that determine differing professional involvement required due to patient complexity, such as whether the volume is 2D or 3D, whether differential dosing is required between the target tissue and other tissue, and the complexity of dose calculations. The previous separation of items primarily by target organ (for example, intrauterine versus intravaginal) is no longer an accurate reflection of how complex the service is. The recommended items simplify the MBS schedule by reducing the large number of existing items to four items. These items will be clear (and therefore their use will be auditable by Medicare), and reflect real differences in the technique employed to deliver radiotherapy.
15221–15214	'Cobalt and caesium radiation therapy' is a therapeutic procedure to treat cancer, where radiation is delivered using cobalt or caesium as radioactive sources.	Delete these items from the MBS.	The service will no longer attract an MBS rebate.	These items are no longer used because clinical best practice has replaced cobalt and caesium radiotherapy with more effective types of radiation therapy. Cobalt and caesium sources are no longer available in Australia.

Recommendation 4: **conduct a 'dummy-billing' modelling exercise for the megavoltage item restructure**

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
15215–15275, 15500–15512, 15515–15533, 15550–15710	A dummy billing modelling exercise would identify how different business models would be impacted by the item restructure.	Conduct a 'dummy-billing' modelling exercise prior to implementation of the two-part payment model, mapping a sample of existing cases (where the actual use of MBS items is known) to the items proposed in the two-part payment model. This exercise should: Δ Involve MBS billings over a recent historical period of six months, for a mix of treatment centres that includes facilities providing complex and less-complex services, across states and territories, private and public hospitals, metropolitan and regional hospitals. Δ Be conducted with the support of RANZCR, which has offered to help design and run this exercise. Δ Involve input from Radiation Therapists who are familiar with the complexity of services and the current MBS items. Δ Be supported by a new source of funds to cover components of the exercise that are unable to be provided by RANZCR and participating facilities.	There would be greater confidence in how the new item descriptors will be used in practice, and what the impacts will be at different treatment centres.	The current item descriptors are complicated to use and are not structured in a way that reflects the delivery of modern services. The new item descriptors aim to address this, but represent a major change that the Committee would like to model further before full implementation.

Recommendation 5: consolidate kilovoltage radiation therapy items

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
15000–15115	'Kilovoltage radiation therapy' is a set of therapeutic procedures to treat cancer, where low energy radiation is delivered to areas close to the surface of the body, such as to skin cancers. Superficial radiotherapy (15000–15012) involves a slightly lower energy than orthovoltage radiotherapy (15100–15115). The radiotherapy may be given in a single dose of treatment (15112, 15115) or in fractions of the total dose at a rate of one to two doses per week (15106, 15109) or more than two doses per week (15100, 15103). The radiotherapy may be delivered via a single body area (15000, 15006, 15100, 15106, 15112) or via multiple body areas (15003, 15009, 15103, 15109, 15115). Treatment to the eye is covered under a separate item (15012).	Combine the separate items for superficial and orthovoltage radiotherapy into items for kilovoltage therapy that cover both energy levels.	There will no longer be separate items for superficial and orthovoltage radiotherapy.	The distinction between superficial and orthovoltage items is no longer relevant to modern practice. The distinction between single dose therapy and fractionated (where the total dose is divided into small doses) therapy does not reflect significant differences in professional involvement and may inappropriately encourage single dose therapy when this is not best practice. The changes will reduce unnecessary complexity in bills, improving transparency for consumers, reducing the administrative burden for providers, and reducing the chances of billing errors or misuse of items.

Recommendation 6: delete obsolete brachytherapy items and remove obsolete distinctions between remaining items (interim-state recommendation)

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
15303–15357, 15513 15536–15539, 15800–15850	'Brachytherapy' is a set of therapeutic procedures to treat cancer, relating to the use of a radioactive source either implanted directly into the body (15303–15339, 15513, 15536–15539, 15800-15850) or applied to the body using a mould (15342–15357). The radioactive source can be inserted into the prostate (15338), uterus (15303–15308), vagina (15311–15316), both the uterus and vagina (15319–15324), or other areas (15329—5328 if requiring surgical exposure; otherwise 15331–15336). These sets of items currently differ unnecessarily depending on whether manual or automatic after-loading is used, and whether the radioactive source has a short half-life (less than 115 days) or long half-life (greater than 115 days).	Delete the following items, recognising that use of radioactive sealed sources with a half-life greater than 115 days are no longer best practice in modern radiotherapy: Δ Items 15303 and 15304 (intrauterine brachytherapy). Δ Items 15311 and 15312 (intravaginal brachytherapy). Δ Items 15319 and 15320 (combined brachytherapy). Δ Item 15342 (construction and application or intracavity, intraoral or intranasal radioactive mould). Consolidate the following items to remove the unnecessary distinction between manual and automatic technique for loading radioactive materials: Δ Item 15307 into 15308 (intrauterine brachytherapy). Δ Item 15315 into 15316 (intravaginal brachytherapy). Δ Item 15323 into 15324 (combined brachytherapy). Δ Item 15327 into 15328 (other site, surgical exposure).	There will no longer be separate items referring to the clinical practices of using radioactive sources with long half-lives or manual after-loading techniques, which are no longer best practice in modern radiotherapy.	Radioactive sources with long half-lives (such as radium) are no longer best practice in modern radiotherapy, and are more difficult to source and more difficult to appropriately dispose of, in comparison to short half-life sources. The items are rarely used. Manual loading of radioactive materials is rarely used in modern clinical practice. Furthermore, the distinction between manual and automatic loading is unnecessary (noting that the MBS items have identical schedule fees). None of the manual loading items were used in financial year 2014-2015.

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
		Δ Item 15331 into 15332 (other site, multiplane non-surgical exposure). Δ Remove half-life references from all brachytherapy items that remain in the MBS after the above deletions and consolidations have been implemented: items 15308, 15316, 15324, 15328, 15332, 15335, 15336 and 15345.		

Recommendation 7: restructure brachytherapy items (end-state recommendation)

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
15303–15357, 15513, 15536–15539, 15800–15850	'Brachytherapy' is a set of therapeutic procedures to treat cancer, relating to the use of a radioactive source either implanted directly into the body (15303–15339, 15513, 15536–15539, 15800-15850) or applied to the body using a mould (15342–15357). The radioactive source can be inserted into the prostate (15338), uterus (15303–15308), vagina (15311–15316), both the uterus and vagina (15319–15324), or other areas (15329—5328 if requiring surgical exposure; otherwise 15331–15336).	Restructure brachytherapy items (15303–15357, 15513, 15536–15539, 15800–15850) into four items: Δ tiered by three levels of complexity: – Level 1 – Simple Complexity, High-Dose Rate Brachytherapy. – Level 2 – Intermediate Complexity, High-Dose Rate or Temporary Eye Plaques (Choroidal Melanoma) Brachytherapy. – Level 3 – High Complexity, High-Dose Rate Brachytherapy. – Level 3 – High Complexity, Low-Dose Rate Permanent Seed Implant Brachytherapy. Δ covering the previously separate items for radiation source localisation, planning, treatment/insertion, treatment verification and removal.	Patients will receive bills with a simpler set of MBS items that more accurately reflect the service provided, and the level of MBS benefit will more consistently match the complexity of the service provided.	This recommendation focuses on bringing item structure and descriptors in line with the modern delivery of brachytherapy and on simplifying the MBS. It is based on the following observations. Δ The complexity levels described above reflect the main factors the determine the level of professional involvement required due to patient complexity, such as whether the volume is 2D or 3D, whether different doses are required between the target tissue and other tissue, and the complexity of dose calculations. The previous separation of items primarily by target organ (for example, intrauterine versus intravaginal) is not a sufficiently accurate predictor of complexity in modern practice. The recommended items simplify the MBS schedule by reducing the large number of existing items to four items. These items will be clear (and therefore their use will be auditable by Medicare), and reflect real differences in the technique used to deliver radiotherapy.

Recommendation 8: delete obsolete cobalt and caesium radiation therapy items

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
15211–15214	'Cobalt and caesium radiation therapy' is a therapeutic procedure to treat cancer, where radiation is delivered using cobalt or caesium as radioactive sources.	Delete these items from the MBS.	The service will no longer attract an MBS rebate.	These items are no longer used because clinical best practice has replaced cobalt and caesium radiotherapy with more effective types of radiation therapy. Cobalt and caesium sources are no longer available in Australia.

Section 6: Surgical and paediatric oncology recommendations

Recommendation 9: consolidate sentinel lymph node biopsy items

MBS Item(s)	What it does	Committee Recommendation	What would be different	Why
30299–30303	'Sentinel lymph node biopsy for breast cancer' is a surgical procedure for diagnostic purposes, where the main lymph nodes into which a potentially cancerous breast drains (sentinel lymph nodes) are identified visually using an injected dye (30302 and 30303), or using an injected dye and by detection of radiation from an injected radioactive tracer (30299 and 30300). This may be undertaken in the axilla (arm pit) in lymph nodes up to the lower border of the pectoralis minor muscle (30299 and 30302) or above that level (30300 and 30303). This method allows earlier detection of cancer recurrence (coming back), rather than relying on the noticeable symptoms. It has fewer side effects than the older method, which was to remove many or all lymph nodes ('axillary dissection' or 'axillary clearance').	Retain MBS listing for sentinel lymph node biopsy in breast cancer. Consolidate the four items into a single item that may be used in any part of the axilla, and whether either or both dye and radioactive tracers are used. There is good clinical evidence for the use of this procedure in breast cancer and in intermediate to high-risk melanoma. MBS items for breast cancer are currently listed on a temporary basis following the MSAC recommendation from application reference 1065 in May 2005. The Committee's recommendation is that it now be listed on a permanent basis.	Consolidate the four items MBS items for this service will no longer be listed on an "interim" basis. The same MBS item will be used regardless of which part of the axilla the procedure is performed on, and regardless of whether either/both dye and radioactive tracers are used.	There is now sufficient evidence that the service is safe and effective, with fewer side effects than the alternative of removing many or all lymph nodes. While use of both dye and radioactive tracers together more accurate, there are circumstances where this may not be appropriate (for example, where a patient has an allergy). Although the surgical complexity of the procedure differs depending on which part of the axilla is involved, these differences are likely to be averaged over a provider's patients.

Recommendation 10: consider introduction of MBS items for sentinel lymph node biopsy for melanoma

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
Not applicable	'Sentinel lymph node biopsy for melanoma' a surgical procedure for diagnostic purposes in patients with intermediate to high-risk melanoma, where the main lymph nodes into which a potentially cancerous anatomical region drains (sentinel lymph nodes) are identified visually using an injected dye, or using both an injected dye and detection of radiation from an injected radioactive tracer. The procedure may allow earlier detection of cancer relapse than relying on development of symptoms. It has fewer side effects than the older method of removing all lymph nodes.	Consider an expedited (rapid) MSAC assessment for introducing MBS items for this service.	The MBS would offer greater benefits for sentinel lymph node biopsy for patients with melanoma, improving access to this best-practice health service.	There is now sufficient evidence that the service provides better prediction of disease course, better control of disease, and improved disease-free survival compared to the alternative of waiting for symptoms to appear. Many patients who could benefit from the service do not receive it, as the service currently attracts only limited MBS benefits

Recommendation 11: no specific changes to medical and radiation oncology items for paediatric patients

MBS Item(s)	What it does	Committee recommendation	What would be different	Why
Not applicable	Approximately one per cent of oncology services apply to paediatric patients (children under the age of 18???) using the existing medical and radiation oncology therapy items. There are no specific items for paediatric medical and radiation oncology.	No specific changes	The above recommendations will apply equally to adult and paediatric patients.	Paediatric cancer services are concentrated in the public system, which do not attract MBS-benefits. Issues of concern to the Committee are common to both adult and paediatric patients. The Committee's restructure of megavoltage radiation therapy items include consideration of age extremes when determining the complexity of the service.

Appendix C **Glossary**

Term	Description
ABS	Australian Bureau of Statistics.
ANZCHOG	Australian and New Zealand Children's Haematology/Oncology Group.
Brachytherapy	Brachytherapy treatment involves inserting radioactive material into the body near the cancer. The material may be left in place permanently or temporarily, and can be used alone or in conjunction with external radiation treatment.
CAGR	Compound annual growth rate, or the average annual growth rate over a specified time period.
Change	When referring to an item, 'change' describes when the item and/or its services will be affected by the recommendations. This could result from a range of recommendations, such as: (i) specific recommendations that affect the services provided by changing item descriptors or explanatory notes; (ii) the consolidation of item numbers; and (iii) splitting item numbers (for example, splitting the current services provided across two or more items).
Chemotherapy	The treatment of disease by the use of chemical substances, especially the treatment of cancer by cytotoxic and other drugs.
CMS	The Centers for Medicare & Medicaid Services.
CT	Computed tomography, a medical imaging modality.
DCAT	Dynamic conformal arc therapy.
Delete	Describes when an item is recommended for removal from the MBS and its services will no longer be provided under the MBS.
Department, The	Australian Government Department of Health.
DHS	Australian Government Department of Human Services.
DICC	Diagnostic Imaging Clinical Committee.
DIST	Diagnostic Imaging Services Table.
Dosimetry	Dosimetry is used to calculate and assess the radiation dose to be delivered.
FDG	Fludeoxyglucose, a radiopharmaceutical used in PET.
FRO	RANZCR Faculty of Radiation Oncology.
FY	Financial year.
GP	General Practitioner.
High-value care	Services of proven efficacy reflecting current best medical practice, or for which the potential benefit to consumers exceeds the risk and costs.
IA	Intra-arterial.
IGRT	Image-guided radiation therapy is the process of frequent two and three-dimensional imaging, during a course of radiation treatment, used to direct radiation therapy utilising the imaging coordinates of the actual radiation treatment plan.
IMRT	Intensity-modulated radiation therapy is a radiotherapy technique that allows radiation to be more closely shaped to fit the tumour and spare nearby critical normal tissue.
Inappropriate use / misuse	The use of MBS services for purposes other than those intended. This includes a range of behaviours, from failing to adhere to particular item descriptors or rules through to deliberate fraud.
IV	Intravenous.
LINAC	A linear accelerator produces megavoltage x-rays. It accelerates charged particles in a straight line by successive impulses from a series of electric fields.
Low-value care	Services that evidence suggests confer no or very little benefit to consumers; or for which the risk of harm exceeds the likely benefit; or, more broadly, where the added costs of services do not provide proportional added benefits.
MBS	Medicare Benefits Schedule.
MBS item	An administrative object listed in the MBS and used for the purposes of claiming and paying Medicare benefits, consisting of an item number, service descriptor and supporting information, schedule fee and Medicare benefits.

MBS service	The actual medical consultation, procedure or test to which the relevant MBS item refers.
Megavoltage	Deep x-rays used to treat deep seated tumours, eg bladder, bowel, prostrate, lung or brain.
Misuse (of MBS item)	The use of MBS services for purposes other than those intended. This includes a range of behaviours, from failing to adhere to particular item descriptors or rules through to deliberate fraud.
MOWG	Medical Oncology Working Group of the Oncology Clinical Committee.
MRI	Magnetic resonance imaging, a medical imaging modality that uses a magnetic field to temporarily realign hydrogen atoms and create detailed images of the organs and tissues in the body,
MSAC	Medical Services Advisory Committee.
New service	Describes when a new service has been recommended, with a new item number. In most circumstances, these will need to go through the MSAC. It is worth noting that implementation of the recommendation may result in more or fewer item numbers than specifically stated.
NHMRC	National Health and Medical Research Council.
NICE	The National Institute for Health and Care Excellence.
No change or unchanged	Describes when the services provided under these items will not be changed or affected by the recommendations. This does not rule out small changes in item descriptors (for example, references to other items, which may have changed as a result of the MBS Review or prior reviews).
Obsolete services / items	Services that should no longer be performed as they do not represent current clinical best practice and have been superseded by superior tests or procedures.
Orthovoltage	Superficial x-rays used for treating skin cancer and superficial structures.
PBS	Pharmaceutical Benefits Scheme.
PET	Positron emission tomography, a nuclear medical imaging modality.
PICC	Peripherally inserted central catheter.
QA	Quality assurance.
RACGP	Royal Australian College of General Practitioners.
RANZCR	Royal Australian and New Zealand College of Radiologists.
RCPA	Royal College of Pathologists of Australia.
ROJIG	Radiation Oncology Jurisdictional Implementation Group.
ROWG	Radiation Oncology Working Group of the Oncology Clinical Committee.
Services average annual growth	The average growth per year, over five years to 2014/15, in utilisation of services. Also known as the compound annual growth rate (CAGR).
STaR	Cancer Australia's Staging Treatment and Recurrence Committee.
SRT	Stereotactic radiation therapy.
The Committee	The Oncology Clinical Committee of the MBS Review.
The Taskforce	The MBS Review Taskforce
Total benefits	Total benefits paid in 2014/15 unless otherwise specified.
VMO	Visiting medical officer.
WHO	World Health Organisation.

Appendix D Item statistics for financial year 2015/16

At the time the Oncology Clinical Committee was established in April 2016, item statistics for financial year 2015/16 were not available to the Committee. These statistics are provided below for reference.

Table 11: Chemotherapy items statistics for financial year 2015/16 by date of processing

Item	Volume of services FY2015/16	Total benefits FY2015/16	Services 5-year-average annual growth
13915	113,196	$5,894,381	5.6%
13918	314,746	$24,399,337	6.2%
13921	33,410	$2,868,412	0.8%
13924	66,115	$3,524,590	0.9%
13927	136	$8,938	-13.1%
13930	151	$15,052	-7.9%
13933	6	$614	-51.3%
13936	54	$3,772	-7.1%
13939	307	$24,892	-8.0%
13942	9,572	$516,677	6.8%
13945	204,537	$8,421,543	6.7%
13948	8,943	$487,737	5.5%

Note: The data is available from the Department of Human Services website.

The total benefits paid for chemotherapy services increased by 1.91% between 2013-14 and 2015-16.

The total number of chemotherapy services increased by 2.09% between 2013-14 and 2015-16.

Table 12: Megavoltage and kilovoltage radiation therapy items statistics for financial year 2015/16 by date of processing

Item	Volume of services FY2015/16	Total benefits FY2015/16	Services 5-year-average annual growth
15000	$914,761	24,104	9.9%
15003	$419,094	6,111	4.3%
15006	$12,705	161	-7.1%
15009	$3,995	38	2.9%
15012	$12,633	278	-5.8%
15100	$189,939	4,687	-1.2%
15103	$16,007	264	-12.8%
15106	$7,343	154	25.2%
15109	$3,963	55	22.4%
15112	$8,848	87	-5.9%
15115	$2,805	18	-3.9%
15211	$0	0	/0
15214	$0	0	/0
15215	$406	8	-48.3%
15218	$259	4	/0
15221	$10,606	203	-23.3%
15224	$33,030	651	-12.4%
15227	$22,139	412	-26.8%

Item	Volume of services FY2015/16	Total benefits FY2015/16	Services 5-year-average annual growth
15230	$537,786	2,665	-7.0%
15233	$1,240,240	3,838	-2.0%
15236	$3,196,934	14,926	-8.1%
15239	$2,625,231	16,034	-5.3%
15242	$1,134,909	5,907	-5.4%
15245	$13,493	218	-1.6%
15248	$19,521	375	-8.6%
15251	$1,178,085	16,999	-6.0%
15254	$2,829,229	43,478	6.1%
15257	$560,726	10,070	-3.0%
15260	$8,775,821	50,173	5.0%
15263	$29,158,243	134,217	-7.2%
15266	$49,288,451	246,092	3.3%
15269	$48,933,563	277,308	-0.2%
15272	$13,026,530	91,656	5.8%
15303	$0	0	/0
15304	$0	0	/0
15307	$0	0	/0
15308	$38,083	64	11.6%
15311	$0	0	/0
15312	$1,406	5	10.8%
15315	$0	0	-100.0%
15316	$1,057,788	1,665	8.9%
15319	$0	0	/0
15320	$0	0	/0
15323	$0	0	/0
15324	$168,431	270	6.2%
15327	$0	0	/0
15328	$33,829	51	-18.6%
15331	$0	0	-100.0%
15332	$198,310	328	-14.8%
15335	$126,720	212	-0.1%
15336	$18,443	31	-29.5%
15338	$272,420	380	-10.9%
15339	$4,504	74	-2.7%
15342	$0	0	/0
15345	$34,145	59	-20.7%
15348	$7,146	83	21.8%
15351	$14,281	134	49.4%
15354	$2,353	19	44.7%
15357	$38,931	756	16.5%

Item	Volume of services FY2015/16	Total benefits FY2015/16	Services 5-year-average annual growth
15500	$719,203	3,215	-11.1%
15503	$230,124	779	-17.6%
15506	$2,547,964	6,170	-8.9%
15509	$288,941	1,616	18.7%
15512	$51,851	225	-0.8%
15513	$149,247	332	-9.2%
15515	$0	0	-100.0%
15518	$204,058	2,837	-9.3%
15521	$290,667	904	-8.3%
15524	$4,252,602	7,320	-7.6%
15527	$132,722	1,858	-2.8%
15530	$29,608	94	-13.9%
15533	$148,473	243	-17.8%
15536	$182,280	766	-2.9%
15539	$528,515	588	-8.3%
15550	$25,212,353	37,155	7.0%
15553	$1,185,187	1,865	-0.5%
15556	$3,113,981	4,653	-2.8%
15559	$3,984,304	4,568	-7.3%
15562	$36,755,343	29,076	14.1%
15600	$1,728,488	529	17.4%
15700	$4,961,207	114,173	2.9%
15705	$21,106,007	282,757	4.2%
15710	$16,400,203	211,986	37.4%

Note: The data is available from the Department of Human Services website.

The total benefits paid for radiotherapy services included in this review decreased by 3.17% between 2013-14 and 2015-16.

The total number of radiotherapy services included in this review decreased by 5.76% between 2013-14 and 2015-16.

In 2015-16 a total of 1,663,214 radiotherapy services were rendered, totalling $287,520,580.74 in benefits of which 15.6 per cent was paid through Medicare safety nets. Note that this excludes the new radiotherapy items introduced on 1 January 2016 which were not included in the review.

Table 13: Brachytherapy items statistics for financial year 2015/16 by date of processing

Item	Volume of services FY2015/16	Total benefits FY2015/16	Services 5-year-average annual growth
15303	$0	0	/0
15304	$0	0	/0
15307	$0	0	/0
15308	$38,083	64	11.6%
15311	$0	0	/0
15312	$1,406	5	10.8%
15315	$0	0	-100.0%

Item	Volume of services FY2015/16	Total benefits FY2015/16	Services 5-year-average annual growth
15316	$1,057,788	1,665	8.9%
15319	$0	0	/0
15320	$0	0	/0
15323	$0	0	/0
15324	$168,431	270	6.2%
15327	$0	0	/0
15328	$33,829	51	-18.6%
15331	$0	0	-100.0%
15332	$198,310	328	-14.8%
15335	$126,720	212	-0.1%
15336	$18,443	31	-29.5%
15338	$272,420	380	-10.9%
15339	$4,504	74	-2.7%
15342	$0	0	/0
15345	$34,145	59	-20.7%
15348	$7,146	83	21.8%
15351	$14,281	134	49.4%
15354	$2,353	19	44.7%
15357	$38,931	756	16.5%
15800	$33,764	452	-8.1%
15850	$81,585	462	-5.0%

Note: The data is available from the Department of Human Services website.

The total benefits paid for brachytherapy services decreased by 5.71% between 2013-14 and 2015-16.

The total number of brachytherapy services increased by 2.14% between 2013-14 and 2015-16.

Table 14: Sentinel lymph node biopsy items statistics for the 2015 to 2016 financial year by date of processing

Item	Volume of services FY2015/16	Total benefits FY2015/16	Services 5-year-average annual growth
30299	$743,450	3,212	3.1%
30300	$2,582,570	5,071	7.5%
30302	$61,620	355	-0.2%
30303	$28,340	135	-3.5%
14221	$5,437,457	131,459	10.2%

Note: The data is available from the Department of Human Services website.

The total benefits paid for sentinel lymph node biopsy services increased by 9.25% between 2013-14 and 2015-16.

The total number of sentinel lymph node biopsy services increased by 11.81% between 2013-14 and 2015-16.

Appendix E Relationship between the proposed changes to medical oncology items and private health insurance arrangements

The first recommendation of the Oncology Clinical Committee may have some implications for the payment of private health insurance benefits. This issue, and some potential remedies are outlined below.

Background

MBS and private health insurance payments for private hospital services

- As a general principle, the MBS provides rebates for medical professional services. MBS rebates do not cover the cost of other components of a hospital provided service (nursing services, accommodation, consumables etc) which, in the private sector, are generally funded through private health insurance benefits.
- Historically, a large proportion of chemotherapy administration occurs within a hospital or day surgery setting which means that private health insurance benefits are payable.
- Health insurers and hospitals negotiate their own agreements on how these hospital costs are to be reimbursed. The Commonwealth is not party to these agreements and therefore has no visibility of the contract between each hospital and each insurer.
- In some cases, the payment of a Medicare rebate for a specific hospital service (in this case chemotherapy administration) directly 'triggers' a private health insurance payment. In other circumstances the negotiated agreements between the health fund and the hospital are paid based on a claim submitted by the hospital to the insurer which is not directly related to the specific Medicare claim. However, even in these circumstances the Medicare claim can be a useful reference or audit check that a service was provided on that particular day.

Administration of Intravenous Chemotherapy:

- Current MBS items provide for the administration of chemotherapy and have different fees/rebates depending on the duration of IV administration. The administration is performed by nursing staff under the supervision of a medical oncologist. During a session of chemotherapy a patient may see their medical oncologist at the start for their assessment and 'prescription' and then at scheduled times during and at the end of their course of chemotherapy. The medical oncologist is not required to be in attendance while the chemotherapy is administered and may not see the patient on a particular day when chemotherapy is administered. However, during the course of the chemotherapy the medical oncologist will check and monitor blood tests and other test results and take responsibility for the overall care of the patient.

Issues with the current structure for MBS funded chemotherapy services:

- The MBS items for IV chemotherapy administration are currently determined by the time taken for the infusion, and are paid per treatment. This may provide perverse incentives for longer chemotherapy treatments and for intravenous administration when other administration routes (subcutaneous or oral) may be a reasonable option. While the hospital costs may be related to the frequency and length of the chemotherapy treatment (as the nurse is providing the care), the inputs of the medical oncologist are not.

Oncology Clinical Committee review of MBS item structure:

- The Oncology Clinical Committee reviewed the evidence and current clinical practice and came to the view that the MBS rebate should be related to the professional input of the Medical

Oncologist, which is for the supervision and management of patients undergoing courses of chemotherapy, rather than administration of chemotherapy per se which is a hospital rather than a medical professional service.

- The Oncology Clinical Committee also recommended a range of other changes which would reduce the variability in billing between practices.

Oncology Clinical Committee Recommendation 1

Replace chemotherapy administration items (13915–13942 and 13948) with a set of three items for the medical management of anticancer therapy that:

- Covers professional involvement in elements of care beyond that which occurs in physical attendances.
- Is applicable regardless of the chosen route of administration (i.e., including both parenteral and oral therapies).
- Excludes hormonal therapy and bisphosphonate therapy.

The three proposed items differ by the duration of medical management covered, to facilitate the administration of the billing process, being two, three or four weeks (where the applicable MBS benefit per week is the same for all items).

Concerns about impact of proposal on hospital and private health insurance arrangements.

- Concerns have been raised about the potential impact of the new model on the payment of private health insurance benefits for hospital provided chemotherapy administration. For many hospital services there should be no direct impact as the contractual arrangements are not currently based on the MBS items claimed. However, in some cases the arrangements are tied to the billing of the current items and hence there appears to be an administrative impediment to the continued payment of private health insurance benefits.
- The contracts between hospitals and insurers are negotiated periodically. Given that some payments would not be affected by a reform of the medical oncology items it would be possible that this model could be applied to the other contracts as they are re-negotiated.
- In addition these changes might provide impetus to the use of “hospital substitute” provisions in private health insurance arrangement that enable private health insurers to fund some out of hospital care.

Implementation considerations:

- In consultation with providers, insurers and hospitals, system changes would need to be developed to avoid unintentional consequences for patients accessing current treatments.
- Implementation could be phased, with an interim phase followed by the full solution.
- Pending the full solution, interim options could include:
  - the investigation of hospital system changes to track and trigger the hospital treatment component, not involving an MBS item;
  - retention of a single IV chemotherapy administration MBS item (with a low fee/rebate) that could be billed during a hospital admission - to trigger the payment of private health insurance benefits where those payments are contingent upon linking a MBS service to the hospital treatment .However retaining these items works against one of the drivers for

change which is the concern that some patients are receiving inpatient IV administered chemotherapy when other out of hospital options (including oral therapy) are available.

ATTACHMENT A - Requests to other Clinical Committees [NOT FOR PUBLIC CONSULTATION]

A. Cancer care case conferences

Table 15: Item introduction table for items 871 and 872

Item	Descriptor	Schedule fee	Volume of services FY2014/15	Total benefits FY2014/15	Services 5-year-average annual growth
871	Attendance by a Medical Practitioner (including a specialist or consultant physician in the practice of his or her specialty or a General Practitioner), as a member of a case conference team, to LEAD AND COORDINATE A MULTIDISCIPLINARY CASE CONFERENCE ON A PATIENT WITH CANCER TO DEVELOP A MULTIDISCIPLINARY TREATMENT PLAN, where the case conference is of at least 10 minutes, with a multidisciplinary team of at least three other Medical Practitioners from different areas of medical practice (which may include general practice), and, in addition, allied health providers.	$80.30	31,825	$2,165,645	27.1%
872	Attendance by a Medical Practitioner (including a specialist or consultant physician in the practice of his or her specialty or a General Practitioner), as a member of a case conference team, to PARTICIPATE IN A MULTIDISCIPLINARY CASE CONFERENCE ON A PATIENT WITH CANCER TO DEVELOP A MULTIDISCIPLINARY TREATMENT PLAN, where the case conference is of at least 10 minutes, with a multidisciplinary team of at least three other Medical Practitioners from different areas of medical practice (which may include general practice), and, in addition, allied health providers.	$37.40	53,331	$1,692,549	41.4%

Unpublished data, extract based on date of processing (Department of Health).

Discussion and letter to the Principles and Rules Committee

- Δ The Committee requests that the Principles and Rules Committee of the MBS Review convenes a multidisciplinary Working Group to develop recommendations to improve the way in which the MBS funds multidisciplinary meetings, such as cancer care case conferences.
  - For cancer care case conference items, this would include input from relevant medical specialists in diagnostic imaging, pathology, medical oncology, radiation oncology, surgical oncology, palliative medicine, pain medicine and general practice, as well as allied health specialists.
  - Specifically, the Committee recommends considering whether alternative funding models are desirable and feasible (for example, items to reimburse facilities or clinical teams, rather than individual practitioners).

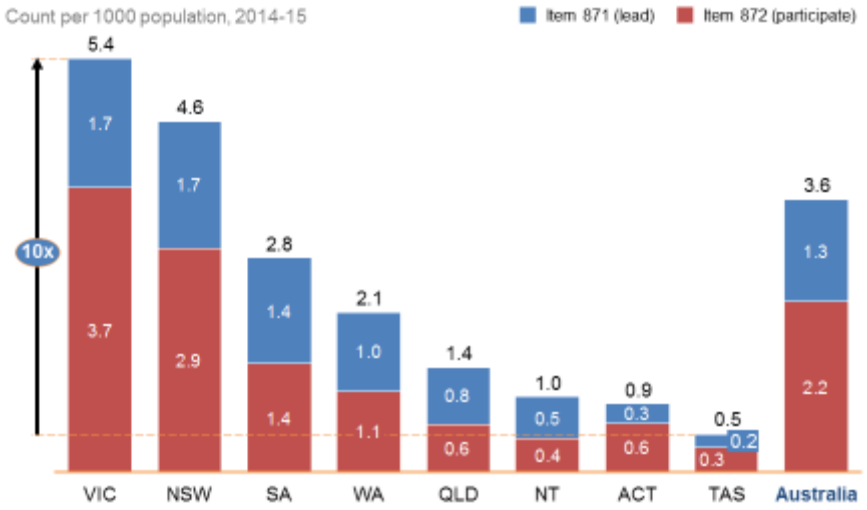
Rationale

This request reflects the Committee's concern that cancer care case conference items (871 and 872) do not function as intended. It focuses on improving affordable and universal access to best-practice health services and is based on the following observations.

- Items 871 and 872 (and the service they represent) are inconsistently used and underutilised. A 2009 review of the items by Cancer Institute NSW found that 96 per cent of respondents did not use the available MBS items, and that 93 per cent of those who did use them stated that the items' availability "makes no difference to [their] attendance" at cancer care case conferences.[8]
- MBS per-capita service volumes for these items vary considerably. (For example, there is more than a 10-fold difference between Tasmania and Victoria; Figure 8.) Although this is partly due to variation between MBS-funded and non-MBS-funded patients, there is also likely to be significant variation due to reasons unrelated to clinical need.
  - Firstly, not all cancer cases receive cancer care case conferences. For example, approximately 5 per cent of private patients and 42 per cent of public patients in Queensland are reviewed by a multidisciplinary team.[9]
  - Secondly, where such conferences occur, involvement of particular provider types is insufficient and/or inconsistent—for example, palliative medicine and pain medicine (Figure 9).
  - Lastly, where a cancer care case conference occurs, not all providers participating in the conference bill this service to the MBS. For example, although a Pathologist and a Radiologist/Nuclear Medicine Physician are typically present for all cancer care case conferences, only 9,100 or fewer MBS or less services were billed for each of these specialties in FY2014/15, compared with 23,400 for Surgeons (Figure 9). This indicates that at least half of the cancer care case conferences attended by Pathologists and Radiologists/Nuclear Medicine Physicians were not billed to the MBS.
- These issues are believed to be due to inadequate and burdensome MBS funding arrangements for both the patient and providers.
  - Firstly, the MBS benefit has become inadequate due to increases in the amount of preparation required for case conferences, reflecting increasing patient complexity over time. This is particularly the case for Pathologists and Radiologists/Nuclear Medicine Physicians, who are typically unfamiliar with the patient prior to the meeting and must spend considerable time reviewing clinical material in advance of the meeting (i.e., the meeting is akin to an initial rather than a subsequent consultation).
  - Secondly, the item descriptions are too restrictive. For example, the item stipulates a minimum 10-minute duration for the case conference, but it does not recognise the preparatory time required to ensure the efficient use of clinician time at the case conference itself (including where preparation involves preliminary or clarifying discussions between participants). This is especially true for Pathologists and Radiologists/Nuclear Medicine Physicians.
  - Lastly, the billing arrangements are burdensome and confusing for patients, as each provider bills separately for his or her involvement in the case conference. The Committee noted that this could lead to funding inefficiencies in instances where these arrangements conflict with other funding arrangements. For example, a visiting medical officer (VMO) at a public hospital could be paid for a three-hour session of cancer care case conferences involving public patients, but could also bill separately via the MBS for private patients who were discussed during the same session.
- Suggestions for improving the billing arrangements for these items include making MBS benefits payable for services by a facility or a team of clinicians collectively, rather than individual clinicians, in order to reflect the preparatory work required by each team.

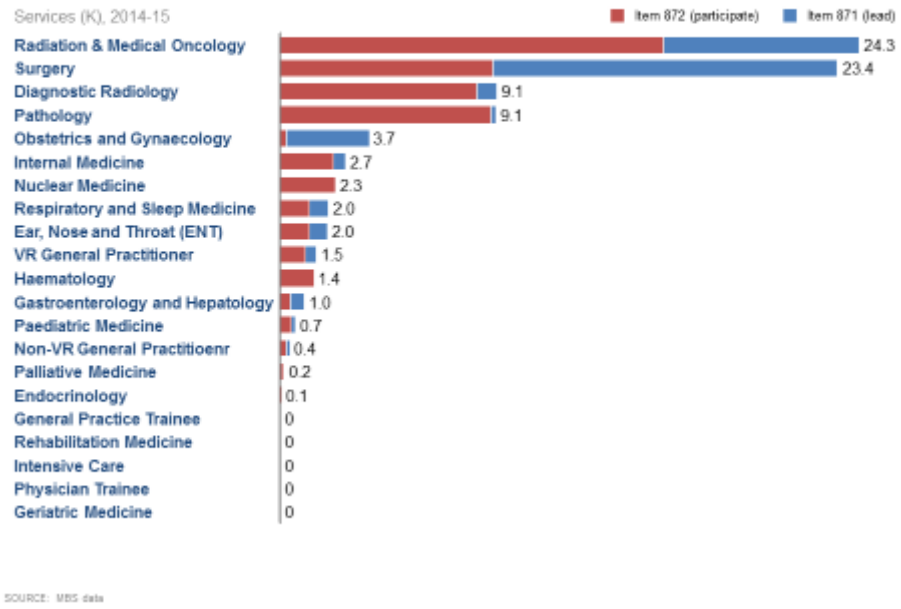
- Noting the breadth of specialties that need to be taken into account, the likelihood that similar issues must be addressed for other multidisciplinary team meetings, and the fact that solutions such as making payments to the facility (rather than individual clinicians) would represent a substantive change to existing principles, the Committee referred the issue to the Principles and Rules Committee for further consideration.
- Any resultant revision to cancer care case conference items should support integrated care. For example, decisions made at such case conferences should be made available to the patient's GP in a timely manner to support ongoing patient-centred care co-ordination.

Figure 8: MBS services per capita for cancer care case conference items 871 and 872 by state/territory



Unpublished data, extract based on date of service (Department of Health)

Figure 9: MBS services for cancer care case conference items 871 and 872 by provider specialty



Unpublished data, extract based on date of service (Department of Health)

B. Pathology for rare cancer

Discussion about pathology for rare cancer

- Δ The Committee requests that the Pathology Clinical Committee considers recommendations relating to molecular testing for patients with cancer, particularly recommendations to enable rapid MBS listing of tests relating to molecular analysis of tumours, and recommendations to improve access to archival tissue for molecular testing. This request has been communicated via letter to the Pathology Clinical Committee.

Rationale

This request focuses on providing affordable and universal access to best-practice health services and is based on the following observations.

- Δ The Committee recognised that there are pending MSAC applications regarding molecular and biomarker testing, and that the Royal College of Pathologists of Australia (RCPA) supports these applications. The Committee supports the clinical imperative of these applications and the necessity of streamlining the process for listing new and important tests.
- Δ In relation to its recommendation to enable rapid MBS listing of tests relating to molecular analysis of tumours, the Committee noted that the range of tumours that require molecular analysis is increasing.
  - For many cancer types, molecular genetic analysis has become standard and the relevant test is recognised by Medicare with an appropriate item and associated rebate. These molecular tests provide significant diagnostic and prognostic information and, more importantly, direct clinical management and the use of targeting drugs. Examples include HER-2 status and the use of Herceptin in breast cancer, RAS mutant status and the use of cetuximab in colorectal cancer, and CD20 expression and the use of Rituximab in NHL.

- In neuro-oncology, two genetic tests are now considered standard and they directly affect management decisions. Indeed, the 2016 World Health Organisation (WHO) diagnostic classification of central nervous system tumours now requires as a minimum:[10]
  - IDH-1 and IDH-2 mutant status in Grade 2–4 gliomas.
  - 1p19q deletion status in Grade 2–3 gliomas.

  Large phase III randomised trials have demonstrated that these tests affect the timing, type and aggressiveness of treatment for an individual patient.[11,12] The number of Australian patients who require IDH mutation testing is estimated at 1300–1500 per year, and the number requiring 1p/19q testing is estimated at 200–300 per year. These tests are often not available in the public hospital setting, do not attract a Medicare rebate and are not covered by private health insurance. Out-of-pocket expenses for patients are therefore often up to $800, creating a substantial barrier to equitable access.

Δ In relation to its recommendation to improve access to archival tissue for molecular testing, the Committee noted that retrieval of archival tissue for molecular testing may be required to guide treatment, especially for molecular targeted therapies, which are increasingly used based on these markers. Examples include BRAF, EGFR, RAS, c-kit, FGFR and HER-2. Access to such tissue is not always granted, however, creating barriers to patients receiving potentially beneficial treatment. The retrieval of tissue blocks is also time-consuming for medical and technical staff and usually incurs a significant cost. There is currently no mechanism for recouping these costs.

C. Diagnostic imaging for cancer

Discussion about diagnostic imaging

Δ The Committee requests that the Diagnostic Imaging Clinical Committee (DICC) considers recommendations to improve access to positron emission tomography (PET)/computed tomography (CT) and magnetic resonance imaging (MRI) for patients with cancer. In particular, it requests consideration of recommendations to revise and/or consolidate the current MBS items relevant to MRI and PET/CT in oncology into clinical indications covering diagnosis, staging and restaging of patients with malignancies undergoing active therapy.

Δ The specifics of the MBS item descriptors pertaining to oncology imaging are not within the brief of the Committee, but it would like to make the following suggestions for consideration by the DICC.

- Consider recommendations to improve access to MRI for indications that are not currently covered but are part of the standard of care in the United Kingdom, the United States and elsewhere in the world. These include (but are not limited to): MRI of the liver with liver-specific agents, such as gadoxetate disodium (for example, Primovist) and ultrasmall superparamagnetic iron oxide (USPIO); head and neck malignancy; breasts in patients at higher risk not currently covered, with multifocal disease, or for initial staging where mammography and ultrasound are inconclusive or not concordant with clinical findings that suggest more extensive disease; ovarian masses where further characterisation is required; MRI rectum for restaging after neoadjuvant treatment; and whole body MRI for children and myeloma.
- Consolidate the current 19 MBS items for fludeoxyglucose (FDG) PET into four items, based on clinical indication.

  Potential item descriptors and explanatory notes for these four items are outlined below.

- Δ This request has been detailed and communicated via letter to the DICC.

61XX1

Non-invasive characterisation of mass lesions, not readily amenable to biopsy, or where biopsy attempts have failed, for likelihood of malignancy.

[Consolidating existing item numbers 61523 and 61640.]

61XX2

Staging of malignancy prior to treatment or radiotherapy where there is a high risk of metastatic disease and when accurate determination of disease extent is critical to treatment selection.

[Consolidating existing item numbers 61529, 61571, 61577, 61598, 61610, 61616 and 61620.]

61XX3

Assessment of therapeutic response in oncological diseases with a significant likelihood of treatment failure but for which early demonstration of treatment failure will result in a change in management plan.

[Consolidating existing item numbers 61538, 61622 and 6163.]

61XX4

Evaluation of suspected residual or recurrent malignancy where curative-intent salvage therapy is planned.

[Consolidating existing item numbers 61538, 61541, 61553, 61565, 61575, 61604, 61628 and 61646.]

Rationale

This request focuses on providing affordable and universal access to best-practice health services and is based on the following observations.

- Δ A combination of imaging techniques is often required to accurately diagnose, stage and/or restage a patient with a malignancy. The exact combination depends on the nature of the tumour and patient-specific factors such as age and comorbidities.
  - PET/CT is more accurate for the staging and restaging of some malignancies in oncology patients and results in management change in up to 40 per cent of these patients.
  - MRI is more accurate than other imaging modalities in the diagnosis, staging and restaging of several malignancies. Accurate diagnosis results in a decrease in more invasive diagnostic investigations, and accurate staging leads to the selection of the most appropriate therapies for patients, avoiding futile surgical procedures and/or expensive, ineffective systemic therapy.
- Δ The MBS lags far behind both the United Kingdom and the United States in the funding of MRI, FDG PET/CT and PET/CT with other tracers in oncology.
  - The third revision of *Evidence-Based Indications for the Use of PET/CT in the United Kingdom 2016* has recently been published and provides an up-to-date contemporary summary of the current evidence-based applications of PET/CT in oncology and non-oncologic disease.[13] This document details the tumours and clinical scenarios in which PET/CT plays an important role in guiding patient management, and is an update to the 2013 revision previously commissioned by NHS England.[14]

- The Centers for Medicare & Medicaid Services (CMS) in the United States also now provide coverage for FDG PET, PET/CT and PET/MRI for all oncologic indications.(15)
- The Royal College of Radiologists' *Recommendations for Cross-Sectional Imaging in Cancer Management* (second edition) provides a comprehensive description of best-practice and evidence-based imaging in oncology.[16]
- NICE also includes several recommendations for MRI in oncology. Many of the indications are for investigations not currently funded in Australia. These include MRI pelvis for indeterminate ovarian masses, whole body MRI for young patients (≤24 years old) with melanoma, and whole body MRI in myeloma. The latter also reflects the consensus position of the International Myeloma Working Group.[17] MRI has the added advantages of high spatial and contrast resolution and no ionising radiation—an especially important consideration when imaging children or patients where cure is anticipated and long-term follow up will be indicated.

Δ There are currently 19 MBS item numbers for FDG PET in oncology. These are subject to significant indication fragmentation. In each of the clinical scenarios described in the recommended four consolidated items, the utility of FDG PET/CT may prevent futile attempts at curative interventions by detecting otherwise occult distant metastatic disease, reducing therapeutic costs and allowing more rational allocation of scarce or expensive therapies.

D. References for Attachment A

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