



Australian Government
Medical Services Advisory Committee

Public Summary Document

Application 1360 – Specialist dermatology services delivered by telecommunications

Applicant: **Australasian College of Dermatologists**

Date of MSAC consideration: **MSAC 62nd Meeting, 26 – 28 November 2014**

Context for decision: MSAC makes its advice in accordance with its Terms of Reference, see at www.msac.gov.au

1. Purpose of application and links to other applications

An application for MBS listing of specialist dermatology services delivered by Asynchronous store and forward technology Delivered by Telecommunications (ADT) for inflammatory skin conditions was received from the Australasian College of Dermatologists by the Department of Health in May 2013.

2. MSAC's advice to the Minister

After considering the available evidence in relation to safety, clinical effectiveness and cost-effectiveness of specialist dermatology services delivered by asynchronous store and forward technology, MSAC did not support public funding because of uncertain clinical effectiveness and cost-effectiveness due to:

- uncertainty that the appropriate comparator had been identified for comparative evaluation and costing;
- insufficient evidence regarding diagnostic performance equivalence between ADT and video conferencing (VC);
- uncertain cost-effectiveness of ADT against VC and with other existing services (eg, Telederm);
- uncertainty that an interaction between the GP and dermatologist (only) meets the requirements of a consultation, which in all other cases includes direct interaction between the patient and the medical practitioner(s) billing for the item(s); and
- lack of clarity on the eligible population for those patients where it is proposed that eligibility be determined based on 'disability'.

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

MSAC noted that the application for MBS funding of specialist dermatology services delivered by ADT for inflammatory skin conditions proposes two new MBS items: one for an initial consultation involving ADT technology and one for a follow-up consultation involving ADT technology.

The proposed service represents a new approach for patients with inflammatory skin conditions who currently do not have access, or do not have timely access, due to geographical or physical impediments, to specialist dermatology services. As such, the proposed population groups for this service would encompass those currently eligible for MBS telehealth items and also extend to include:

- people who reside in an outer metropolitan area who have difficulty travelling to a face-to-face (FTF) specialist dermatology consultation; or
- people with disability who have difficulty travelling.

MSAC noted that Australian general practitioners (GPs) conduct around 21 million consultations for skin conditions each year. In 2012-13, 7% of patients with skin complaints were referred. However, GPs in large and small rural areas refer less frequently at only 4%, suggesting there is an unmet demand by rural patients for FTF specialist dermatology consultations. It was anticipated that dermatologists working with primarily rural and remote GPs would provide this new service.

MSAC noted that telehealth services have been providing under-served populations with access to specialist dermatological services for many years, either through videoconferencing (VC) (MBS rebates and financial incentives introduced in 2011) or via other programs such as TeleDerm (established by the Australian College of Rural and Remote Medicine in 2004). MSAC commented that although TeleDerm was a comprehensive service, well supported by rural practitioners, that provided specialist diagnosis as well as educational opportunities and access to additional dermatological information, its capacity was limited.

MSAC noted that ADT was expected to substitute for the standard MBS telehealth items for professional attendance of specialist dermatologist in real-time by videoconference including patient-end telehealth items. MSAC considered it may also be appropriate to compare ADT against other funded telehealth and teledermatology services such as TeleDerm. MSAC expressed uncertainty regarding videoconferencing as a comparator for a population that resides in major cities (either in outer metropolitan areas or people with disability). It was suggested that usual care, FTF consultations by a dermatologist, may represent a more appropriate comparator in this population.

No comparative safety data were found by MSAC, although conflicting data regarding the reliability of ADT for (i) diagnosis of pigmented lesions and (ii) exclusion of melanoma was noted.

Diagnostic accuracy of ADT was informed by ten studies of which seven directly compared ADT and FTF in primary diagnosis of skin lesions using histopathology as a gold standard. A single head-to-head trial (Edison, 2008) compared diagnostic concordance of SAF and VC using FTF as a common reference standard. Both telehealth modalities demonstrated good concordance (80% and 73%, respectively) against FTF. However, the study was underpowered to detect any statistically significant difference in diagnostic concordance between ADT and VC. MSAC reviewed the data provided to assess clinical effectiveness of

ADT against VC and FTF, and concluded that in the absence of sufficient evidence, the equivalence in the diagnostic accuracy of ADT and VC remains uncertain.

MSAC noted that the economic evaluation suggested ADT is potentially a cost-effective alternative to VC or FTF consultations for dermatology services, with a projected reduction in service costs of between \$111.48 – \$113.66 (base case analysis, including extra level C consultations by the referring GP). Incremental cost per correct diagnosis where ADT is used compared with VC was calculated as \$642.22. MSAC noted that the economic modelling had been based on an assumption of equivalent diagnostic accuracy between VC and ADT, for which the evidence remains insufficient.

MSAC considered that the estimated financial impact of introducing MBS items for dermatology services with ADT was an underestimation of the likely uptake of services. MSAC acknowledged there is likely an unmet clinical need, but considered that it was difficult to determine the patient population likely to benefit and the potential volume of uptake.

MSAC considered that any reapplication should be made via ESC and would require external evaluation.

4. Background

On 1 July 2011, Medicare rebates and financial incentives for specialist video consultations were introduced to address some of the barriers to accessing medical services, particularly specialist services, for Australians in remote, regional and outer metropolitan areas.

New MBS items were introduced to provide for telehealth consultations rendered by specialists, consultant physicians and consultant psychiatrists. These items allow a range of existing MBS attendance items to be provided via video conferencing, with a derived fee adding to the base item fee.

New MBS items were also introduced for patient-end services. These items enable GPs, other medical practitioners, nurse practitioners, midwives, Aboriginal health workers and practice nurses to provide FTF clinical services to the patient during the consultation with the specialist. Telehealth MBS items may be billed where a specialist consultation is conducted via video conferencing with a patient who is:

- not an admitted patient; and
- eligible for Medicare rebates; and
- located in an Eligible Geographical Area (see www.mbsonline.gov.au/telehealth); or
- a care recipient at an eligible Residential Aged Care Facility (RACF); or
- in an eligible Aboriginal Medical Service (AMS).

The geographic eligibility criteria for telehealth MBS items changed from 1 January 2013 to align eligibility for the MBS telehealth items with the Australian Standard Geographical Classification Remoteness Area (ASGC-RA) used by the Australian Bureau of Statistics. Under the new criteria Medicare benefits cannot generally be claimed for services provided to patients in outer metropolitan areas.

However, benefits can be claimed by patients of an AMS or care recipients in a RACF in all areas including outer metropolitan. Rural and remote telehealth provision remains unaffected. The applicant has requested that the original 2011 MBS geographic regions for

videoconferencing be applied to people with disability who may have difficulty travelling and patients who have difficulty accessing services from outer metropolitan areas because of a lack of specialist dermatologists.

Teledermatology has been used by dermatologists in Australia since the mid-1990s to assist in clinical education and to provide access to dermatology services to underserved communities. TeleDerm was established by the Australian College of Rural and Remote Medicine (ACRRM) in 2004. According to the application, specialist dermatology services receive other public funding, both state and Federal. For example Queensland Health funds the Far North Queensland and Torres Strait Program that is part of the Princess Alexandra Hospital (PAH) Outreach Teledermatology Network operated by its dermatology department as part of the Princess Alexandra Hospital Online project.

The TeleDerm initiative is funded by the Australian Government Department of Health through the Rural Health Outreach Fund (RHOF)¹. TeleDerm is an online resource designed primarily for rural doctors interested in obtaining practical advice on the diagnosis and management of skin disease in general practice. Access to the program is free for ACRRM members and GPs who work in rural Australia. GPs are able to access online dermatological case studies, education opportunities, recommended links, and discussion forums. Subscribers can submit a digital photo of affected skin and a history (and diagnosis, if made) through the ACRRM portal. An experienced dermatologist will examine the evidence, and reports back to the medical practitioner, usually within two days, with diagnosis and/or treatment options. TeleDerm also allows rural doctors anywhere in Australia to electronically submit specific de-identified cases for assessment.

Table 1 shows the current MBS items available for specialist consultations including dermatology.

Table 1: Current MBS item descriptors for MBS items used to deliver specialist dermatology consultations

Category 1 – Professional attendances
<p>MBS 104 SPECIALIST, REFERRED CONSULTATION - SURGERY OR HOSPITAL (Professional attendance at consulting rooms or hospital by a specialist in the practice of his or her specialty where the patient is referred to him or her) -INITIAL attendance in a single course of treatment, not being a service to which ophthalmology items 106, 109 or obstetric item 16401 apply. Fee: \$85.55 Benefit: 75% = \$64.20 85% = \$72.75 Extended Medicare Safety Net Cap: \$256.65</p>
<p>MBS 105 Each attendance SUBSEQUENT to the first in a single course of treatment Fee: \$43.00 Benefit: 75% = \$32.25 85% = \$36.55 Extended Medicare Safety Net Cap: \$129.00</p>

5. Prerequisites to implementation of any funding advice

This intervention requires delivery of a consultation service via the telecommunications network and does not require TGA approval.

¹ RHOF and the Visiting Optometrists Scheme (VOS) are two programs implemented to overcome some specific barriers faced by people living in rural and remote Australia. The programs are specifically targeted at facilitating access by people living in these communities to medical specialist and optometry services. They are administrated separately, but have overlapping reach.

6. Proposal for public funding

The applicant provided a proposed MBS item descriptor for the listing of ADT services:

Category [category number] – [Category description]
MBS [item number] Dermatology-Asynchronous Initial Consultation Fee: \$72.72 Referrer is required to complete dermatologist template and provide photos, both to a standard whereby the dermatologist can decide if asynchronous consultation is suitable
MBS [item number] Dermatology-Asynchronous Follow-up Consultation Fee: \$36.36 Referrer is required to complete dermatologist template and provide photos, both to a standard whereby the dermatologist can decide if asynchronous consultation is suitable

The applicant's proposed patient group for this intervention includes:

- patients with inflammatory skin conditions or skin lesions who reside in MBS telehealth eligible areas; or
- patients in any location who are care recipients in a RACF or in an AMS; or
- people who reside in an outer metropolitan area who have difficulty travelling to a FTF specialist dermatology consultation; or
- people with disability who have difficulty travelling.

There are no restrictions proposed to patients due to prior interventions. The service (consultation) will continue to be provided by specialist dermatologists. The specialist dermatologist may require training in the use of the SAF teledermatology.

Proposed MBS descriptor and fee

Category 1 – Professional attendances
<p>MBS [item number] Professional attendance on a patient by a specialist practicing in his or her speciality if: the attendance is by asynchronous telecommunications; and the attendance is for a service: the patient is not an admitted patient; and the patient: is located both: within a telehealth eligible area; and at the time of the attendance—at least 15 klms by road from the specialist; or Is a care recipient in a residential care service; or Is a patient of: an Aboriginal Medical Service; or an Aboriginal Community Controlled Health Service for which a direction made under subsection 19(2) of the Act applies; or <i>Resides in Outer Metropolitan Areas of Australia; or Resides in Major Cities and has a disability which prevents travelling. .</i></p> <p>Fee: \$72.72 Referrer is required to complete an online template, using store and forward technology, specified by the dermatologist, to a standard whereby the dermatologist can decide if asynchronous consultation is suitable</p>
<p>MBS [item number] Each attendance SUBSEQUENT to the first in a single course of treatment</p> <p>Fee: \$36.36 Referrer is required to complete dermatologist template and provide photos, both to a standard whereby the dermatologist can decide if asynchronous consultation is suitable</p>

The proposed patient group for this intervention, in terms of location, is similar to that for MBS telehealth items. The exception is that the applicant has requested that eligibility for ADT be extended to people with disability in all areas, and other people who reside in outer metropolitan areas, who have difficulty travelling to attend FTF consultations.

The proposed fee is 85% of the fees for MBS items 104 and 105. The rationale for the requested fee is that it is a balance between increased dermatology responsibility and skills, plus risk, reduced by the time taken and convenience of the proposed SAF technology. The time a specialist dermatologist would otherwise be required to spend with a patient will be reduced due to the responsibility of the referrer to supply a detailed clinical history and digital images, and to explain to the patient the diagnosis and manage the treatment.

The proposed MBS item descriptor has been formatted to be consistent with existing telehealth items, which apply to specialist consultations without specifically referring to any disease speciality. However, while the existing telehealth items are intended to cover the full range of specialties there is no reason why, in this case, the descriptor should not refer specifically to dermatology. In fact, not to do so might risk misuse of the item by specialists other than dermatologists.

7. Summary of Public Consultation Feedback/Consumer Issues

A Consumer organisation indicated support of MBS funding for a specialist dermatology service using SAF technology, where patient information and digital images are sent by telecommunication services to a treating specialist dermatologist for diagnosis and treatment recommendations. They note that this service has the potential to remove the disadvantages experienced by people living in regional, rural and remote parts of Australia including lack of

access and choice of both diagnostic and treatment options, and high financial and time-related costs.

8. Proposed intervention's place in clinical management

This is a specialist service involving asynchronous dermatology using store and forward technology delivered by telecommunications (ADT). The patient is referred to a specialist dermatologist and the referrer provides the dermatologist with a medical history, an outline of the patient's condition and digital images via a secure web application. The dermatologist reviews the information and, where necessary, requests additional information and/or images. The dermatologist then provides a diagnosis and treatment plan to the referrer.

This is a new approach to providing specialist dermatology services which enables patients who currently do not have access, or do not have timely access, due to geographical or physical impediments, to receive specialist dermatology services via an asynchronous consultation and support of other health practitioners. It is not anticipated to be a routine substitute for face-to-face (FTF) consultations, but to be used where it better serves the interests of patients and offers better use of resources. It is intended to have an impact on the delivery of specialist dermatology services and its implementation may result in a change in the relationship between a patient and their specialist.

Specialist dermatology services delivered by asynchronous store and forward technology are applicable to all inflammatory skin conditions referred including skin cancer management, eczema, psoriasis, acne, bacterial impetigo, Kaposi's varicelliform eruption and amoxicillin-induced drug eruption. In each case the dermatologist will determine, based on the information provided, whether the consult is suitable for asynchronous consult.

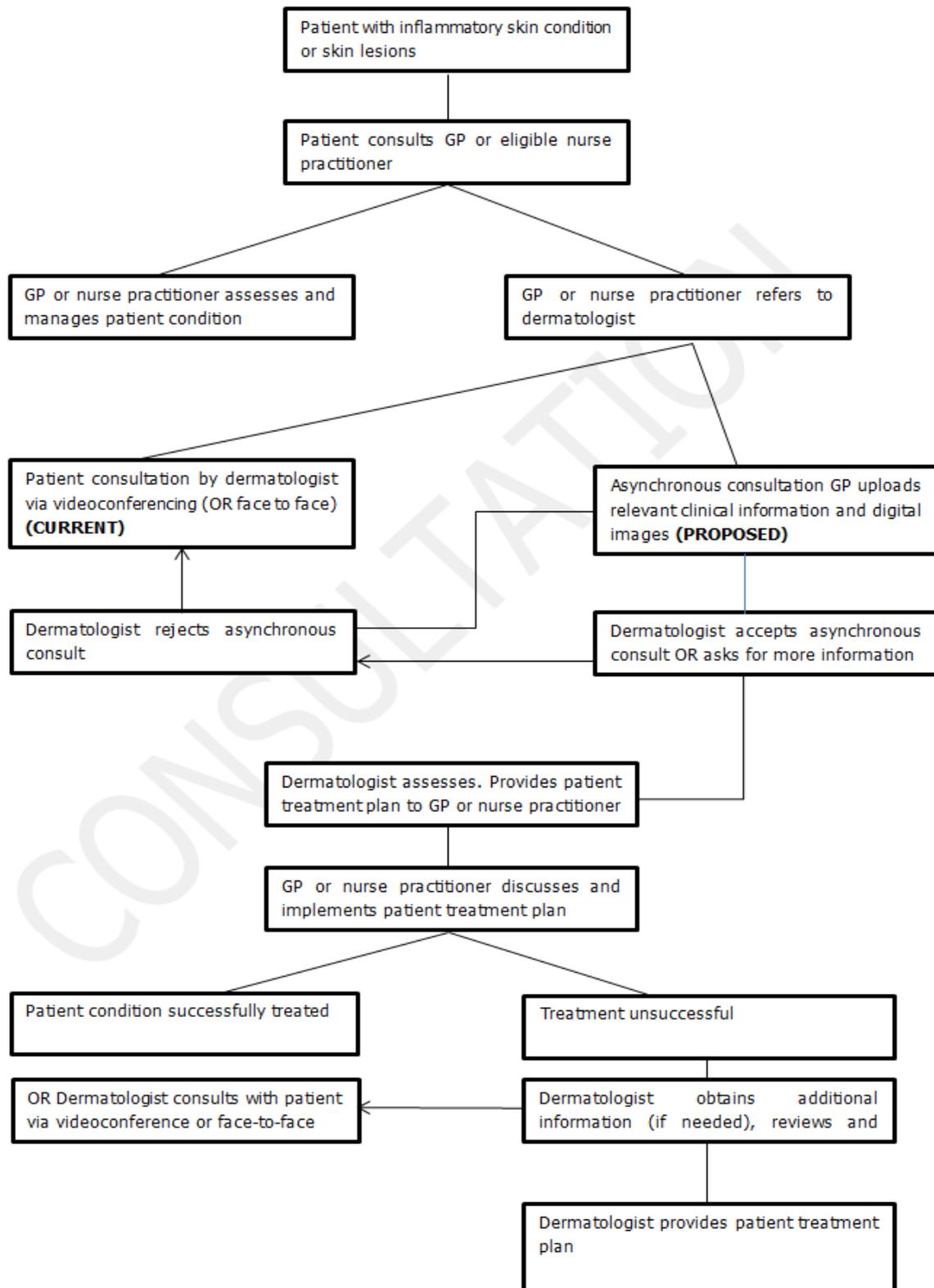
Australia has a widely dispersed population with the majority of the population concentrated in major cities. Patients' access to dermatology services in Australia is limited due to maldistribution of dermatologists and specialist workforce shortage. There is a scarcity of dermatologists, and most practice in the major cities, often with wait times of up to six months. Rural patients face barriers to access to dermatologists due to long travelling times.

Skin conditions are the third most common condition seen by GPs. Skin conditions are usually not fatal but they can be painful, uncomfortable, and disfiguring. Skin cancers are an increasing problem in fair-skinned populations around the world, particularly in Australia, which has the highest age-standardised rates of melanoma of the skin at 937 per 100,000 (which is more than 12 times the average world rate of 93 per 100,000).

The non-melanoma skin cancers include basal cell carcinoma and squamous cell carcinoma, and together their incidence is more than five times the incidence of other cancers combined making these cancers by far the most expensive to treat.

It is estimated that in total across Australia GPs see around 21.43 million patients a year with a skin condition. Although dermatology is not one of the major medical specialities, dermatologists are among those most frequently receiving referrals from GPs. In 2012–13, at the national level, 7% of patients with skin complaints were referred. However, GPs in rural areas refer less frequently at only 4%, indicating unmet demand by rural patients for FTF dermatology consultations.

Below is the clinical management algorithm with and without the proposed service.



9. Comparator

With respect to the population residing in eligible telehealth areas, the proposed service is expected to substitute for the standard MBS telehealth items for professional attendance of specialist dermatologist in real-time by videoconference including patient-end telehealth items.

With respect to the population that resides in major cities (either in outer metropolitan areas or people with disability), should they be granted eligibility for ADT services, the proposed service is expected to substitute for a proportion of FTF consultations by a dermatologist. The substituted specialist dermatology services, standard MBS telehealth items, for professional attendance and patient-level support services and FTF consultation items are listed on the MBS.

10. Comparative safety

There are no inherent safety concerns with ADT compared to FTF consultations. However, no reports that concern safety were located by the assessment group.

There are some conflicting data regarding the reliability of ADT for (i) diagnosis of pigmented lesions and (ii) exclusion of melanoma. Variations in digital technology and techniques are used to explain these. However, this would seem to raise a quality concern in respect of the type or standard of device that is used to capture the images, and the skills of the operator. Nevertheless, it seems likely that clinical data transfer (by way of image quality) would likely exceed commonly-used (and MBS-reimbursed) methods, even with fairly low-resolution still images.

11. Comparative effectiveness

A systematic literature search identified 13 systematic reviews on the subject of teledermatology but only one (Warshaw, 2011) was assessed as meeting the research question and quality requirements. The results of this systematic review are replicated in the assessment. Ten studies formed an evidence base for assessing the diagnostic accuracy of ADT. Seven of these studies directly compared ADT and FTF in primary diagnosis of skin lesions using histopathology as a gold standard.

Only one small sample size head-to-head trial was identified that directly compared SAF and VC modalities using FTF presentation as a common reference standard (Edison, 2008). Fifteen studies on diagnostic concordance of ADT using FTF clinical consultation as the reference standard were included in the pooled analysis. Eight studies were identified on the diagnostic concordance of VC teledermatology using FTF consultation as the reference standard.

The high quality systematic review assessed diagnostic performance separately by the type of lesions, and stated that the diagnostic concordance of ADT was good, although the rates for video conferencing (VC) were higher, albeit based on the fewer patients (Warshaw, 2011).

Statistical pooling of 11 primary diagnosis studies in which ADT was used to diagnose skin lesions reported that the weighted mean absolute difference was 11% better for FTF consultation than SAF teledermatology.

The head-to-head primary diagnosis study compared ADT and VC modalities with respect to diagnostic and management concordance (using FTF as a reference standard). Overall teledermatology (both VC and ADT modalities) demonstrated good performance in comparison to FTF consultations for diagnostic concordance (Edison, 2008). A meta-

analysis was conducted of the identified studies comparing proportions of correct primary diagnoses obtained by ADT and FTF dermatology (using histology results as a gold standard for diagnostic accuracy).

Thirteen studies evaluated diagnostic concordance of ADT, with digital images only, using a primary diagnosis as the outcome. The weighted average estimate of a primary diagnosis concordance of all skin conditions was 64.5% (95% CI 57.4-71.5).

Six studies evaluated diagnostic concordance of VC teledermatology using a primary diagnosis as an outcome. The weighted average estimate of a primary diagnosis concordance of all skin conditions was 70.6% (95% CI 62.4-78.9). This is higher than the weighted average estimate of a primary diagnosis concordance of all skin conditions (64.5% 95% CI 57.4-71.5), assessed with ADT. However the evidence base of VC teledermatology is considerably smaller and of a poorer quality. These pooled results did not directly compare ADT to VC.

The head-to-head study that compared SAF to VC teledermatology (Edison, 2008) was a small study that was underpowered to detect any statistically significant difference in diagnostic concordance of ADT and VC (using FTF consultation as a reference standard).

The validity of results of the assessment of the diagnostic concordance of SAF teledermatology was compromised by the absence of the gold standard and lack of good quality trials. Overall, there was insufficient evidence to produce a definite conclusion about the equivalence of diagnostic performance of ADT vs VC. The evidence found that the diagnostic accuracy of FTF dermatologists was superior to teledermatology irrespective of the addition of teledermatoscopy.

12. Economic evaluation

Two economic analyses were presented:

- A cost-minimisation analysis (CMA) comparison of ADT with real time (RT) teledermatology; and
- A cost-effectiveness analysis (CEA) comparison of ADT with RT teledermatology.

The objective of the analysis was to compare cost-effectiveness of interventions in two settings:

- where ADT is not available; and
- where ADT is available to meet unmet demand for specialist dermatology services.

The findings of the economic evaluation suggest that ADT is potentially a cost-effective alternative to VC or FTF consultations for dermatology services. The base case analysis, including extra level C consultations by the referring GP, projects a reduction in service cost of between \$111.48–\$113.66.

PASC advised that the cost effectiveness analysis should include any superiority of outcomes, if evidence is found, and to model increased access for patients. The report found some studies which found that there were some positive patient outcomes from SAF, namely reduced waiting times, reduction in travel time and some faster recovery times. Only one study measured a change in quality of life of dermatology patients treated with and without SAF. However, none of the studies were head-to-head studies that directly compared the benefits to patients of using ADT and VC.

13. Financial/budgetary impacts

The estimated financial impact on the MBS of introducing ADT is outlined in the table below. It is estimated in the assessment report to be a modest increase on current expenditure for dermatology services. The assessment report also modelled the financial impact of adding a new GP referral item, which added significantly more costs to the projected MBS expenditure.

The assessment report bases its assumptions on uptake of ADT around the proportion of rural GPs who currently use ACCRM's TeleDerm service. The Department believes that this may be an underestimation, as the financial incentive to bill the MBS may attract a higher volume of services.

Estimated financial impact on MBS expenditure

	2014	2015	2016	2017	2018
Total expenditure forecast for current dermatology services	26,213,130	26,658,754	27,111,953	27,572,856	28,041,594
Total expenditure forecast for dermatology services with ADT	26,488,478	27,078,796	27,681,530	28,296,931	28,925,255
Total expenditure forecast for dermatology services with ADT and an extra GP referral item	28,072,285	29,550,143	31,070,135	32,633,266	34,240,565

PASC requested that the assessment try to estimate the cost of extending the delivery of specialist dermatological services via store and forward technology to people with disability. The estimated total additional cost to Medicare if asynchronous specialist dermatology services by telecommunications is extended to people with disabilities is \$9.876M in 2014 to \$10.565M in 2018, if the rates of disability, that interfere with core functioning, increase at the same rate as population growth.

14. Key issues from ESC for MSAC

ESC noted that the eligible population has been designed to align with the existing video-conferencing based MBS telehealth items. However, ESC questioned whether there was any evidence to support this choice of population.

ESC also suggested that MSAC may wish to consider limiting eligibility according to an appropriate definition of disability. The Department questions the rationale for granting special status to people with disability in relation to dermatology among all medical specialties.

ESC considered that it may be reasonable to compare ADT to the existing telehealth items. However, ESC questioned whether it may be appropriate to also compare to other funded telehealth and teledermatology services such as the ACCRM TeleDerm service which is funded through a block funding rather than a fee-for-service model.

ESC noted that, overall, both video-conferencing teledermatology and ADT demonstrated good performance in comparison to FTF consultations for diagnostic concordance.

ESC was concerned that it would be difficult to view the service as a patient consultation given that an interaction need only occur between a general practitioner and a dermatologist to claim against the proposed item. The patient has no patent opportunity for direct engagement with the specialist.

ESC noted that the assessment report had been unable to provide an estimate of the diagnostic accuracy of video-conferencing based teledermatology, and that modelling had been based on an assumption of equivalent accuracy. ESC was concerned that the validity of these results was compromised by an absence of the gold standard and lack of good quality trials. Overall, ESC concluded that there is insufficient evidence to produce a definite conclusion about the equivalence of diagnostic performance of ADT and video conferencing.

ESC expressed concern that the cost-effectiveness of the comparator had not been demonstrated, including in relation to FTF, and the ACRRM TeleDerm model.

ESC noted that there was no evidence to support appending an additional GP consultation item to the usual GP consultation time (and associated Items) for referral and review. ESC also noted that the potential cost of follow-up is highly uncertain.

ESC noted that there was considerable uncertainty regarding the volume of services that would be possible given the service would essentially remove supply constraints. ESC noted advice that the current TeleDerm service has been successfully operated with a single provider and noted the potential for very high throughput business models to emerge given the capacity for overnight and ad-hoc provision.

ESC suggested that MSAC may wish to consider the potential of alternative non-fee-for-service funding models for the proposed service, such as the TeleDerm model. The Department concurs with this view, noting potential for exploitation of the MBS model, especially if the MBS fee were set at the proposed level.

15. Other significant factors

Nil.

16. Applicant's comments on MSAC's Public Summary Document

The Applicant (Australasian College of Dermatologists) feels that ADT offers many underprivileged and underserved patients prompt, professional and cost effective Specialist Dermatologist services. This view is in line with international guidelines and practice. The Applicant has reflected on the findings of MSAC and believes that the points raised may be overcome or the position of MSAC altered with further information. The Applicant believes that new technology and innovation may require some changes in how our system approaches them. With that in mind the Applicant welcomes the opportunity to work with the MSAC process to re-submit the application through ESC.

17. Further information on MSAC

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