

Analysis of apremilast for severe chronic plaque psoriasis

Drug utilisation sub-committee (DUSC)

September 2023

Abstract

Purpose

To review the utilisation of apremilast for severe chronic plaque psoriasis (CPP) and a market review as requested by DUSC at its June 2023 meeting.

Date of listing on the Pharmaceutical Benefits Scheme (PBS)

Apremilast was PBS listed for CPP on 1 January 2021.

Data Source / methodology

Data extracted from the PBS database maintained by Department of Health and Aged Care, processed by Services Australia were used for the analyses.

Key Findings

- In 2022, 146,205 prescriptions for the treatment of CPP were supplied to 31,121 patients.
- In 2021, 128,318 prescriptions for the treatment of CPP were supplied to 27,864 patients.
- In 2022, 4,908 apremilast patients were supplied 25,248 prescriptions for the treatment of CPP.
- In 2021, 3,312 apremilast patients were supplied 14,311 prescriptions for the treatment of plaque psoriasis.
- Actual utilisation of apremilast for the CPP was different from estimated. The number of treated patients and prescriptions supplied were lower than estimated.

Purpose of analysis

To review the utilisation of apremilast for severe chronic plaque psoriasis (CPP) and a market review as requested by DUSC at its June 2023 meeting.

Background

Clinical situation

Psoriasis is a chronic immune-mediated, painful, and disabling disease of the skin, characterised by disfiguring, scaling and erythematous plaques that may cause significant reductions in quality of life. The Psoriasis Area and Severity Index (PASI) score is used to assess the severity of psoriasis.¹

There are currently several PBS listed therapies available for the treatment of CPP: apremilast, biologic and non-biologic therapies.

Biologic therapies currently PBS listed for CPP are:

- Tumour necrosis factor inhibitors (TNFi): adalimumab, etanercept and infliximab.
- Interleukin (IL)-17 inhibitors: ixekizumab and secukinumab.
- IL-12/23 inhibitor: ustekinumab.
- IL-23 inhibitors: guselkumab, risankizumab and tildrakizumab.

Non-biologic therapies currently PBS listed for CPP are: acitretin, cyclosporin and methotrexate.

Pharmacology

Apremilast is a small-molecule inhibitor of phosphodiesterase 4 (PDE4) and works to regulate the immune response associated with psoriasis and psoriatic arthritis and helps control the signs and symptoms of these conditions.

Therapeutic Goods Administration (TGA) approved indications

Apremilast is TGA indicated for:

- The treatment of signs and symptoms of active psoriatic arthritis in adult patients.
- The treatment of adult patients with moderate to severe plaque psoriasis who are candidates for phototherapy or systemic therapy.

¹ Kimmel GW, Lebwohl M. Psoriasis: Overview and Diagnosis. Evidence-Based Psoriasis. 2018;1-16. doi:10.1007/978-3-319-90107-7_1

Dosage and administration

Treatment should be initiated by specialists experienced in the diagnosis and treatment of psoriasis or psoriatic arthritis.

The recommended dose is 30 mg twice daily taken orally approximately 12 hours apart. An initial titration schedule is shown in Table 1. No re-titration is required after initial titration.

Table 1: Apremilast dose titration schedule

Day 1	Day 2		Day 3		Day 4		Day 5		Day 6 & thereafter	
AM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
10 mg	10 mg	10 mg	10 mg	20 mg	20 mg	20 mg	20 mg	20 mg	30 mg	30 mg

Tablets should be swallowed whole, either with or without food. The tablets should not be crushed, split or chewed.

If patients miss a dose, the next dose should be taken as soon as possible. If it is close to the time for their next dose, the missed dose should not be taken and the next dose should be taken at the regular time.²

The current Product Information (PI) and Consumer Medicine Information (CMI) are available from [the TGA \(Product Information\)](#) and [the TGA \(Consumer Medicines Information\)](#).

² Otezla (apremilast). Australian Approved Product Information. Sydney: Amgen Australia Pty Ltd. Approved 19 March 2015, updated 1 August 2023 . Available from < <https://www.tga.gov.au/product-information-pi>.>

PBS listing details (as at June 2023)

Table 2: PBS listing of apremilast

Item	Name, form & strength, pack size	Max. qty. units	Rpts	DPMQ	Brand name and manufacturer
12218C	apremilast 10 mg tablet [4] (&) apremilast 20 mg tablet [4] (&) apremilast 30 mg tablet [19], 27	1	0	\$272.35	Otezla® Amgen Australia Pty Limited
12223H	apremilast 30 mg tablet, 56	56	5	\$652.86	Otezla® Amgen Australia Pty Limited

Source: the [PBS website](#).

Notes:

- No increase in the maximum quantity or number of units may be authorised.
- No increase in the maximum number of repeats may be authorised.
- Special Pricing Arrangements apply.

Restriction

Apremilast is PBS listed as an Authority Required (STREAMLINED) listing for severe chronic plaque psoriasis.

Clinical criteria:

- Patient must have failed to achieve an adequate response after at least 6 weeks of treatment with methotrexate prior to initiating treatment with this drug; OR
- Patient must have a contraindication to methotrexate according to the Therapeutic Goods Administration (TGA) approved Product Information; OR
- Patient must have demonstrated severe intolerance of, or toxicity due to, methotrexate,

AND

- The condition must have caused significant interference with quality of life,

AND

- Patient must not be undergoing concurrent PBS-subsidised treatment for psoriasis with each of: (i) a biological medicine, (ii) ciclosporin.

Treatment criteria:

- Must be treated by a medical practitioner who is either: (i) a dermatologist, (ii) an accredited dermatology registrar in consultation with a dermatologist; OR

- Must be treated by a general practitioner who has been directed to continue treatment (not initiate treatment) by one of the above practitioner types.

Population criteria:

- Patient must be at least 18 years of age.

For details of the current PBS listing of apremilast and CPP PBS listed medicines, refer to the [PBS website](#).

Date of listing on the PBS

Apremilast was PBS listed for CPP on 1 January 2021. The listing history of CPP PBS listed medicines can be found in Appendix A.

Changes to listing

September 2022: Extension of apremilast's listing to allow accredited dermatology registrars to initiate treatment in consultation with a dermatologist and to allow general practitioners to prescribe maintenance treatment in consultation with a dermatologist or accredited dermatology registrar. This was recommended at the May 2022 PBAC meeting.

Current PBS listing details are available from the [PBS website](#).

Relevant aspects of consideration by the Pharmaceutical Benefits Advisory Committee (PBAC)

The PBAC has considered 7 submissions for apremilast for the treatment of CPP.

Table 3: Previous PBAC considerations for apremilast for CPP

Meeting date	Request	Outcome	Detail
March 2015	Streamlined authority listing for moderate-severe plaque psoriasis on the basis of non-inferior efficacy/superior safety to cyclosporin and cost-utility analysis of delay to initiation of biologics.	Rejected	Cost-effectiveness to cyclosporin not adequately established; incremental benefit not evident, therefore not appropriate to require patients to trial an additional line of therapy prior to biologics (paragraph 7.1)
November 2016	Streamlined authority listing for moderate-severe plaque psoriasis based on superior efficacy and safety to cyclosporin.	Rejected	The evidence presented did not support the claims of superior comparative efficacy or safety versus cyclosporin (paragraph 7.1).
March 2017	Streamlined authority listing for moderate-severe psoriasis in patients who have failed to achieve an adequate response to or are contraindicated to methotrexate.	Rejected	The resubmission did not address issues identified in its November 2016 consideration of apremilast (paragraph 7.2).
November 2017	Streamlined authority listing for moderate-severe psoriasis on a cost-minimisation basis with cyclosporin.	Deferred	The PBAC deferred making a recommendation on whether apremilast should be listed on the PBS to allow further work to establish a price that could be considered cost effective (paragraph 7.1).
March 2018	Price and risk sharing arrangement (RSA) proposal to achieve cost effective listing of apremilast.	Rejected	The PBAC considered the RSA proposed by the sponsor was unlikely to achieve an overall price per patient for apremilast within the range the PBAC considered cost effective at its November 2017 meeting (paragraph 7.1).

Source: Paragraph references for March 2015, November 2016, March 2017, November 2017 and March 2018 refer to apremilast public summary documents (PSDs).

July 2020 PBAC meeting

The PBAC recommended the General Schedule, Authority Required (STREAMLINED) listing of apremilast for the treatment of severe CPP in patients who have failed treatment with or who are contraindicated or intolerant to methotrexate. In making this recommendation, the PBAC accepted that the resubmission had adequately addressed concerns raised in previous considerations, and had appropriately proposed a price and risk sharing arrangement (RSA) consistent with Committee's November 2017 advice.

The PBAC recommended the listing of apremilast on a cost minimisation basis with cyclosporin, accounting for differential adverse event and drug monitoring costs.

The PBAC recalled previous concerns that there was significant uncertainty in the utilisation estimates and the Committee's advice that this uncertainty could be addressed through the implementation of a tiered RSA based on patient numbers (paragraph 7.10, apremilast PSD, November 2017 PBAC Meeting). The PBAC noted the amendments to the financial estimates along with clarification from the pre-PBAC response that a product familiarisation program was no longer in operation. The PBAC considered that it was reasonable to accept the Tier 1 and Tier 2 utilisation estimates as presented in the resubmission as the basis of an RSA.

For further details refer to the [Public Summary Document](#) from the July 2020 PBAC meeting.

May 2022 PBAC meeting

The PBAC recommended amendments to the treatment criteria for apremilast to allow accredited dermatology registrars to initiate treatment in consultation with a dermatologist and to allow general practitioners to prescribe maintenance treatment in consultation with a dermatologist or accredited dermatology registrar.

For further details refer to the [Public Summary Document](#) from the May 2022 PBAC meeting.

Previous reviews by the DUSC

September 2007 DUSC meeting

DUSC examined the utilisation of efalizumab in the first 12 months of listing. The analysis found lower than expected patient numbers (approximately 20% of predicted) but a higher rate of continuation than predicted. The DUSC considered the eligible population was probably overestimated due to uncertainty in the prevalence of the disease and the proportion of patients with severe disease that would qualify for treatment. The DUSC also noted this was the first written Authority for dermatologists and experience with rheumatologists showed that uptake of new treatments may be slow.

June 2014 DUSC meeting

DUSC reviewed biological treatments (adalimumab, etanercept, infliximab and ustekinumab) for severe CPP.

The number of patients on treatment has increased steadily since the first product was listed in 2006. During 2013, almost 3,500 patients accessed biologics for CPP, with adalimumab and ustekinumab being most commonly used. The majority of patients who start treatment continue long term. DUSC considered that there may be some eligible patients with severe refractory disease not treated with biologics if they do not have access to a dermatologist. DUSC also considered there may be some use of subsidised biologics for

less severe psoriasis, outside of the PBS criteria, although this cannot be ascertained from prescription data.

For details of the DUSC consideration of biologics for severe chronic plaque psoriasis refer to the [Public Release Document](#) from the June 2014 DUSC meeting.

Methods

Data extracted from the PBS claims database maintained by the Department of Health and Aged Care and processed by Services Australia were used for the analyses. Prescription data were extracted from 1 January 2013 up to and including 30 June 2023.

These data were used to determine the prescription and patients counts, and the age and gender of initiating patients for the CPP market.

For these analyses, adalimumab, etanercept, guselkumab, infliximab, ixekizumab, secukinumab, risankizumab, tildrakizumab and ustekinumab were categorised as biologic therapies. Acitretin, ciclosporin and methotrexate were categorised as non-biologic therapies. As biologics were PBS listed with an item code corresponding with their indication, analyses were conducted based on the relevant item code. For non-biologic therapies, as item codes corresponded to multiple indications, the indication was derived based on their streamlined authority code. Utilisation for methotrexate tablets were unable to be derived as it is an unrestricted PBS listing.

For apremilast, these data were used to determine the number of incident and prevalent patients, number of prescriptions supplied, prescriber type and to analyse patient demographics including age and gender. Initiating and prevalent patients were counted by quarter of supply. An initiating patient was defined based on their first date of supply of apremilast.

A drug sequence analysis was conducted to examine the pattern of utilisation in patients. Two cohorts were selected for this analysis to compare therapy patterns before and after apremilast was PBS listed. The first cohort were patients who were followed from January 2019 to December 2020, before apremilast was PBS listed. The second group were patients who were followed from January 2019 to June 2023, the analysis end date. In both of these cohorts, the first prescribed drug was recorded and if patients were subsequently supplied other drugs, these were noted to form the patient's drug chronological sequence.

A coadministration analysis was conducted. If a biologic or non-biologic therapy was supplied within 28 days of the first supply of apremilast, and there was more than one occurrence of this supply, this was identified as a potential co-administration of apremilast with a biologic or non-biologic therapy. To exclude possible switching between drugs, co-administration was only counted if there were at least two occurrences where a patient received apremilast and a biologic or non-biologic therapy.

As this analysis uses date of supply prescription data, there may be small differences compared with publicly available Services Australia Medicare date of processing data.³ The publicly available Services Australia Medicare data only includes subsidised R/PBS prescriptions with prescriptions under the patient co-payment not included.

³ PBS statistics. Australian Government Services Australia. Canberra. Available from <http://www.medicareaustralia.gov.au/provider/pbs/stats.jsp>.

Results

Analysis of drug utilisation

Overall utilisation

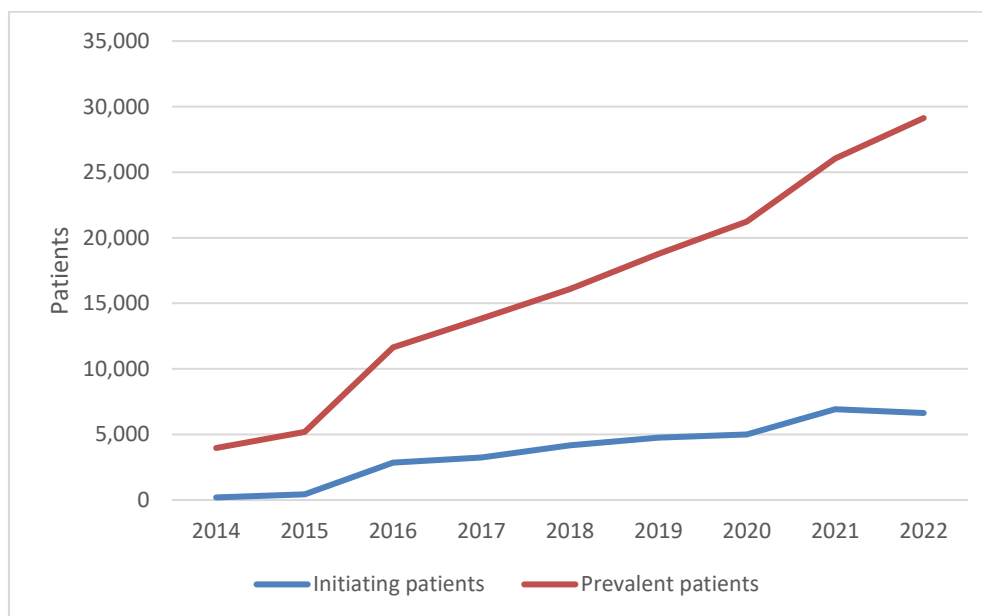


Figure 1: Patients treated for CPP (first initiating and prevalent)

Table 4: Number of patients treated for CPP per calendar year

Year	Patients	% Growth
2014	9,708	
2015	10,742	12%
2016	12,336	11%
2017	13,875	15%
2018	16,572	12%
2019	19,910	19%
2020	22,764	20%
2021	27,864	14%
2022	31,121	22%

As shown in Figure 1 and Table 4, the number of patients treated for CPP has been increasing over time, with the largest increase observed between 2021 and 2022.

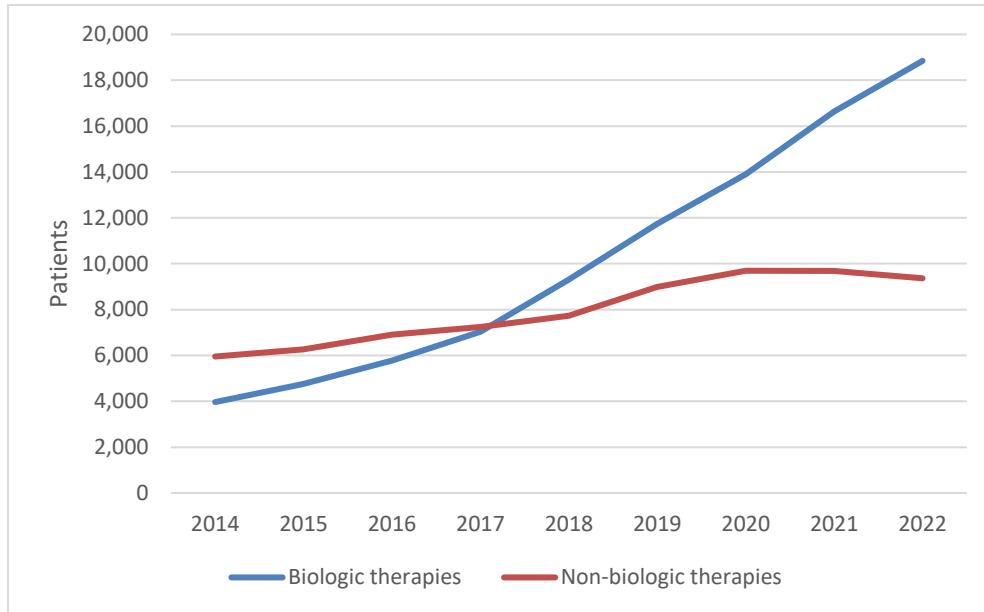


Figure 2: Patients treated by therapy type by calendar year

As shown in Figure 2, the number of patients treated with biologic therapies have been increasing over time, with the rate of increase greater for those treated with non-biologic therapies.

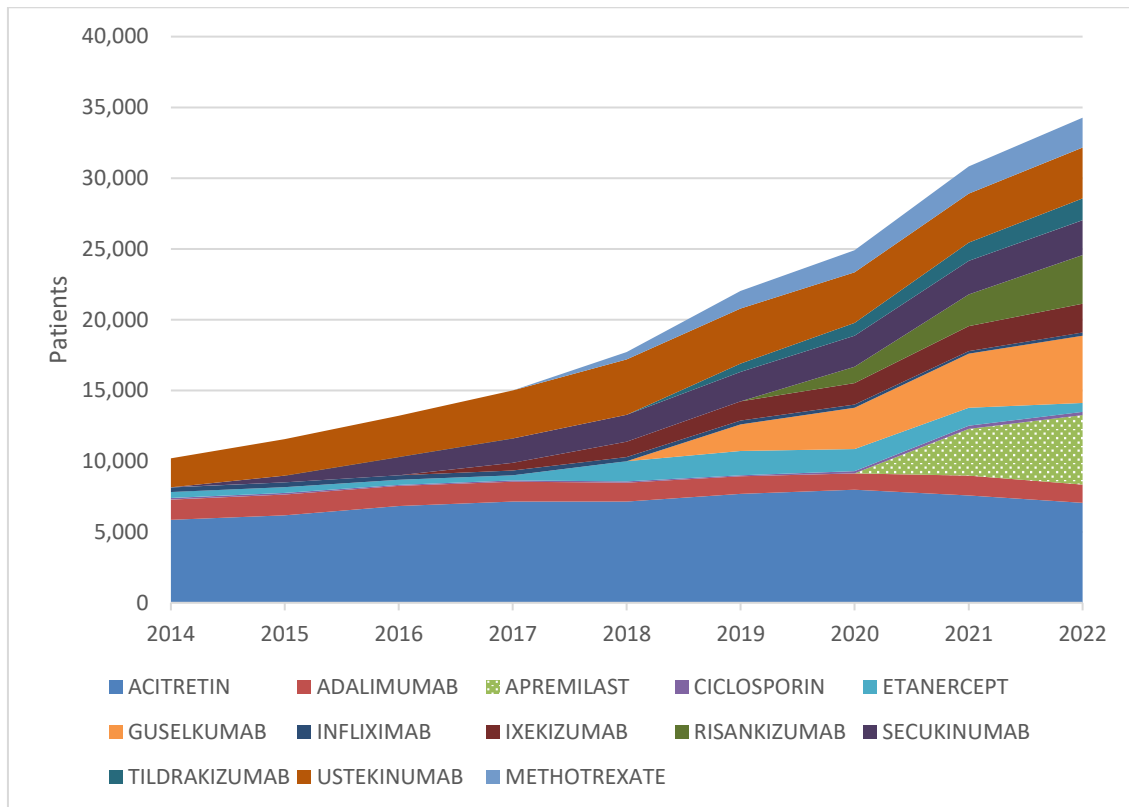


Figure 3: Number of patients treated for CPP by drug and calendar year

Note: Methotrexate figures were only based on the methotrexate injection as the PBS listing for methotrexate tablets were unrestricted.

Figure 3 shows the number of patients treated for CPP by drug and calendar year. Patients have most commonly been treated with acitretin. Ustekinumab was the second most treatment up until 2021. The second most common treatment in 2021 was guselkumab and in 2022 was apremilast.

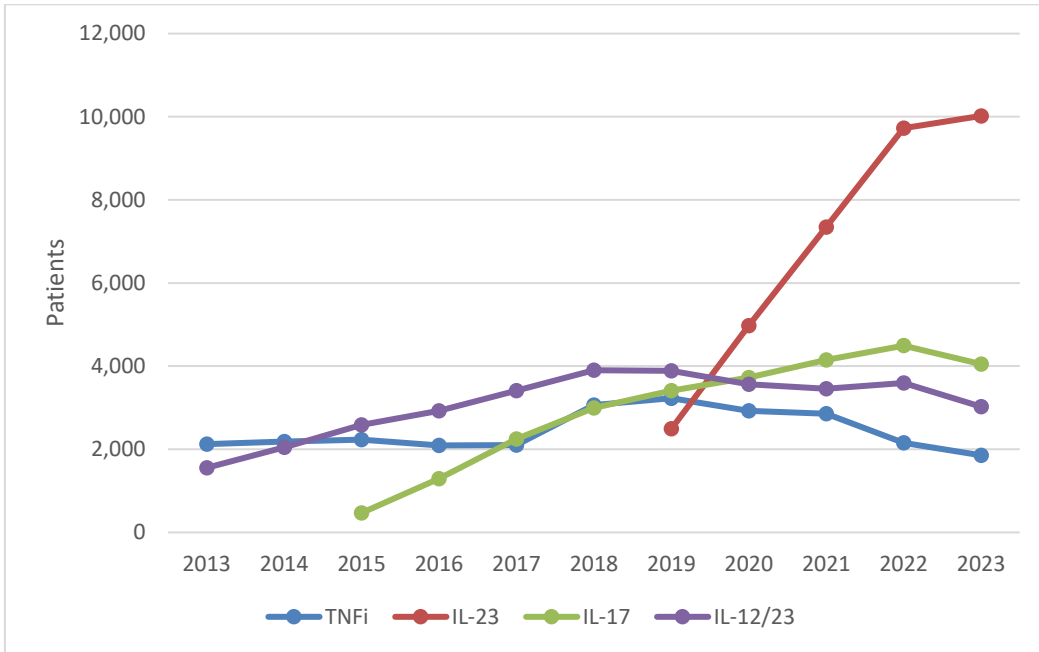


Figure 4: Number of patients treated by biologic therapy type by calendar year

Figure 4 shows the utilisation by type of biologic therapy. From 2019 onwards, IL-23 inhibitors became the most common biologic therapy.

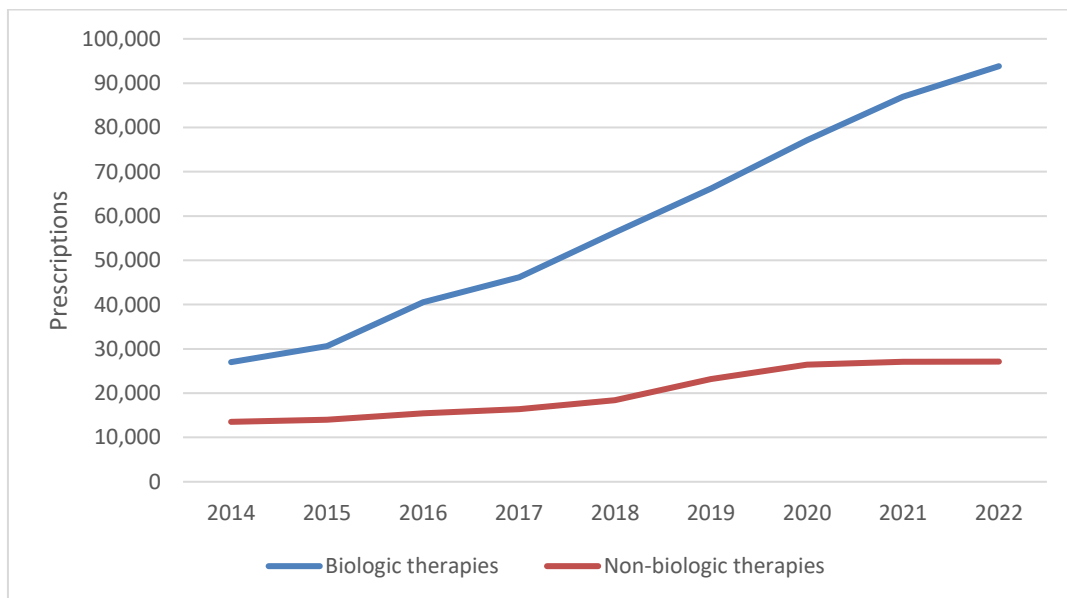


Figure 5: Prescriptions supplied by therapy type and calendar year

Similar to Figure 2, in Figure 5 the number of prescriptions supplied for biologic therapies have been increasing over time, with the rate of increase greater than for those treated with non-biologic therapies.

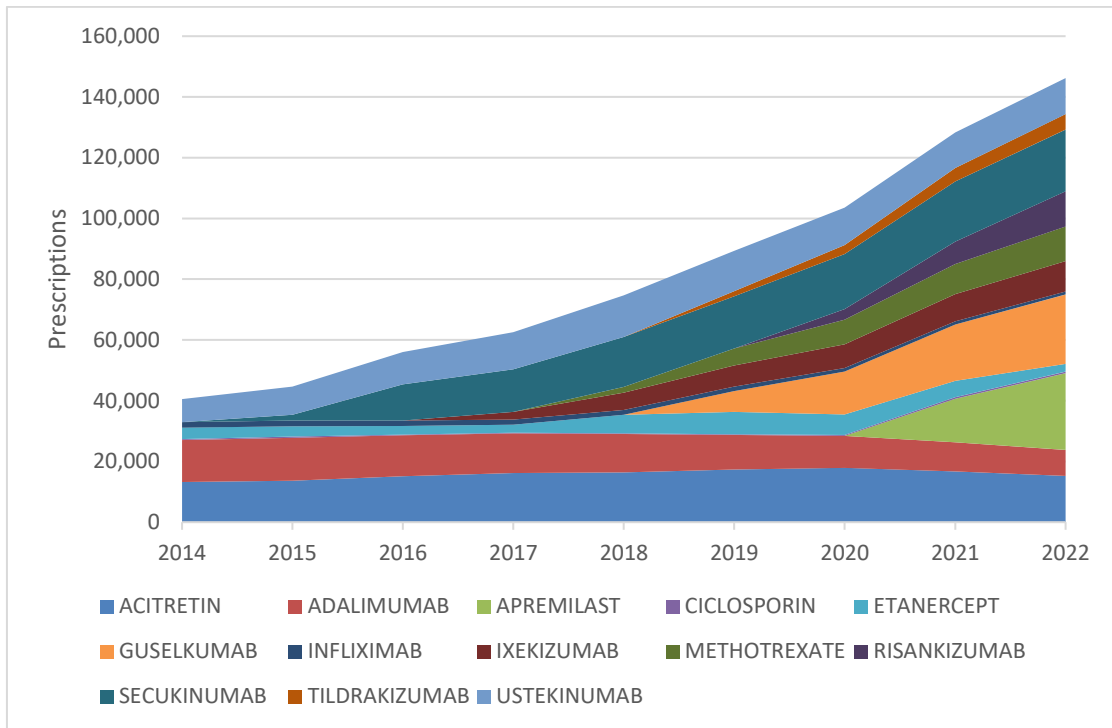


Figure 6: Number of prescriptions supplied in the CPP market by calendar year

Note: Methotrexate figures are only based on the methotrexate injection as the PBS listing for methotrexate tablets are unrestricted.

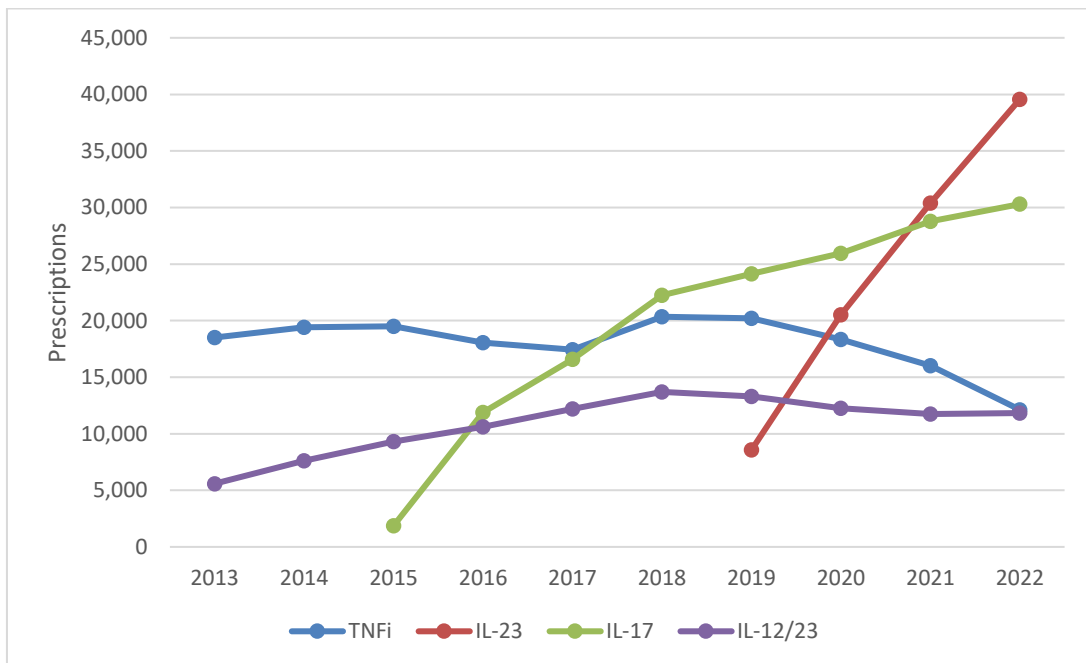


Figure 7: Prescriptions supplied by biologic type and calendar year

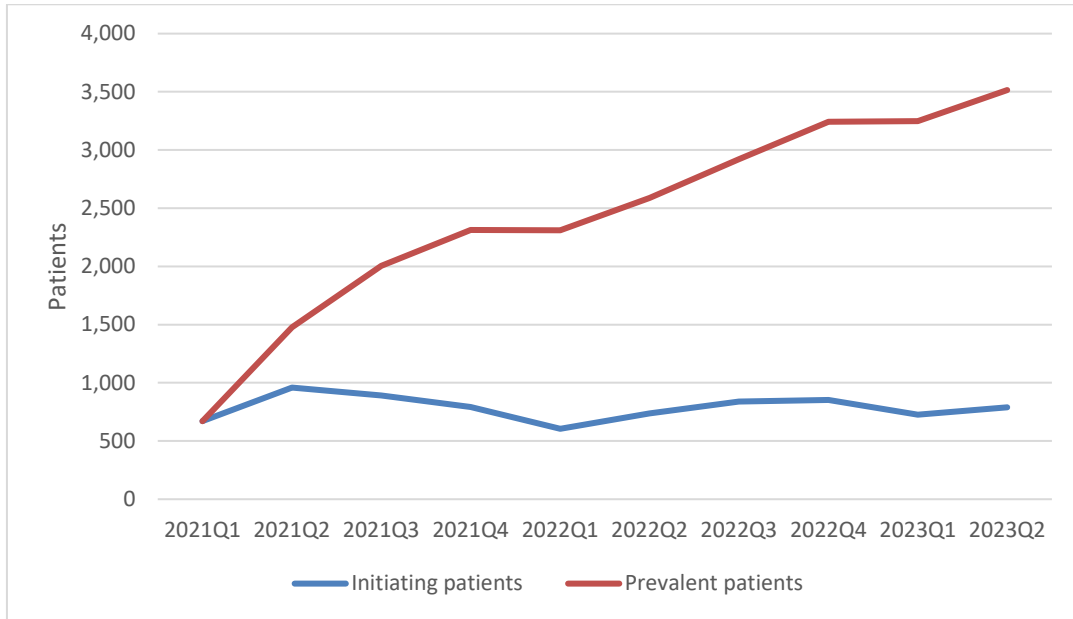


Figure 8: Number of initiating and prevalent apremilast patients by supply quarter

As shown in Figure 8, the number of patients treated with apremilast has been increasing over time. There has been an average of approximately 750 patients initiating treatment with apremilast per supply quarter.

Utilisation by relevant sub-populations/regions or patient level analysis

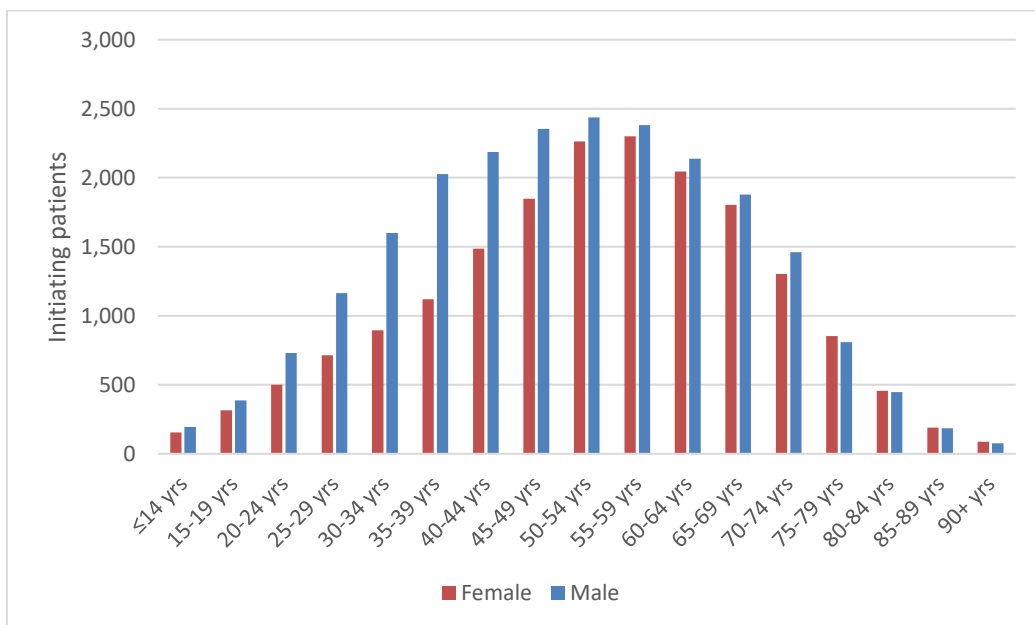


Figure 9: Age and gender distribution of initiating CPP patients

The age of female patients initiating treatment were slightly higher compared to males. For females the mean age was 54 years and median of 55 years whereas the mean and median age for males was 51 years.

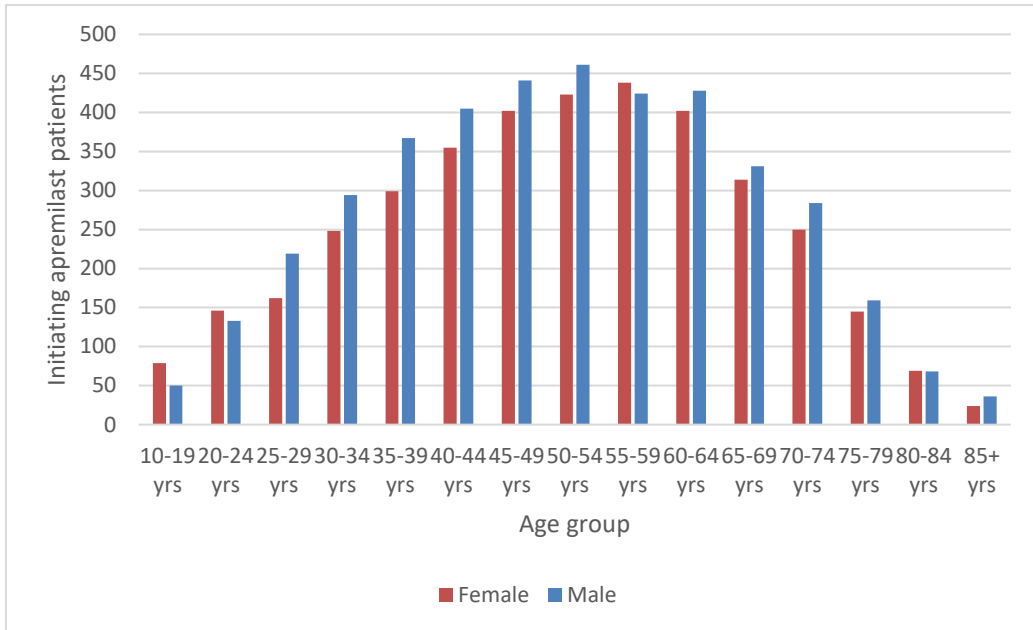


Figure 10: Age and gender distribution of initiating apremilast patients

The age of patients initiating treatment with apremilast was similar across both genders. The median age of initiation for both genders was 55 years. The mean age of initiation for females was 54 years, whereas for males this was 55 years.

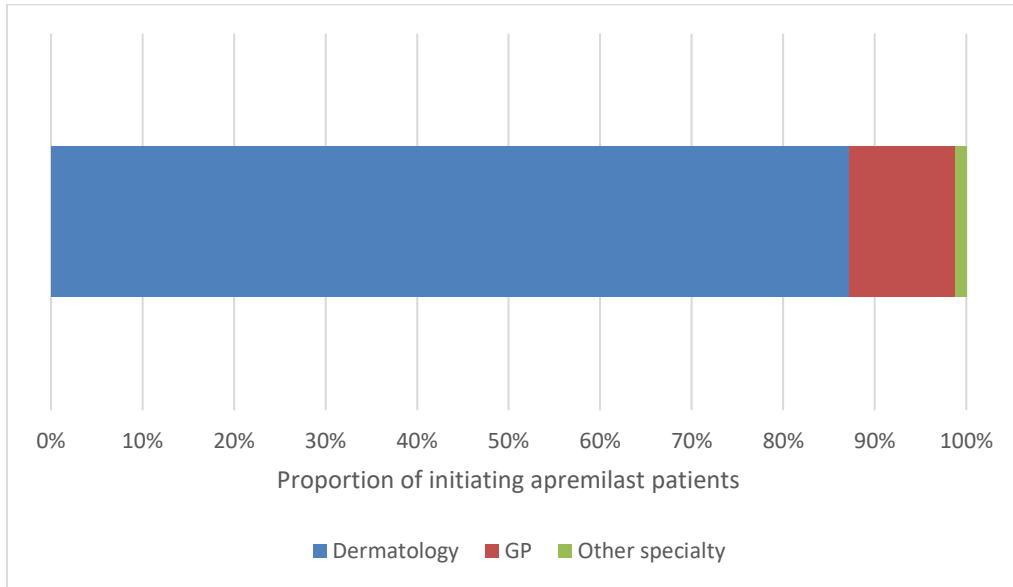


Figure 11: Prescriber type of initiating apremilast patients since PBS listing

As shown in Figure 11, the majority of patients initiating treatment with apremilast were with dermatologists.

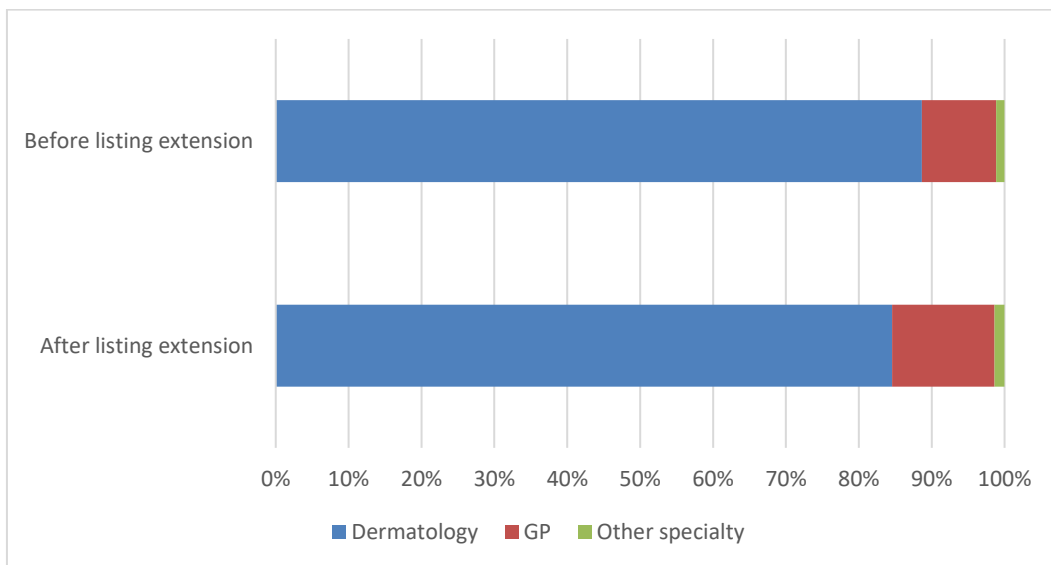


Figure 12: Prescriber type of initiating apremilast patients before and after the September 2022 extension to the PBS listing

In Figure 12, following the listing extension in September 2022 there was a slight decrease in patients who initiated treatment with dermatologists and increase in patients who initiated treatment with GPs.

Changes in the use of other drugs

Table 5: Sequence analysis of patients prior to the PBS listing of apremilast

Sequence analysis	Number of patients	Proportion
BIOLOGIC THERAPIES	13,432	48%
NON-BIOLOGIC THERAPIES	12,304	44%
NON-BIOLOGIC THERAPIES>BIOLOGICS	1,736	6%
Other sequences	227	<1%

Table 6: Sequence analysis of patients following the PBS listing of apremilast

Sequence analysis	Number of patients	Proportion
BIOLOGICS	19,438	38%
NON-BIOLOGIC THERAPIES	19,002	38%
APREMILAST	4,279	8%
NON-BIOLOGIC THERAPIES>BIOLOGICS	3,882	8%
APREMILAST>BIOLOGICS	1,340	3%
NON-BIOLOGIC THERAPIES>APREMILAST	970	2%
NON-BIOLOGIC THERAPIES>APREMILAST>BIOLOGICS	410	1%
Other sequences	1,349	3%

As shown in Table 5 and 6, the majority of patients have remained on or switched to biologic therapies prior and following the PBS listing of apremilast.

150 patients may have been coadministered apremilast with a biologic or non-biologic treatment within 28 days.

Table 7: Sequence analysis of apremilast patients

Sequence analysis	Proportion
APREMILAST	75%
APREMILAST>RISANKIZUMAB	7%
APREMILAST>GUSELKUMAB	7%
APREMILAST>TILDRAKIZUMAB	4%
APREMILAST>IXEKIZUMAB	2%
APREMILAST>SECUKINUMAB	2%
APREMILAST>USTEKINUMAB	<1%
Other sequences	4.2%

Table 7 shows that the in the majority of patients to switched to a different biologic, patients had recently listed IL-23 inhibitors (guselkuzumab, risankisumab, tildrakizumab).

Analysis of actual versus predicted utilisation

Approach taken to estimate utilisation

The July 2020 minor resubmission presented two utilisation models with assumptions of use up to the Tier 1 and Tier 2 caps in the proposed RSA. The proposed utilisation models and RSA tiers were based on utilisation models in the November 2017 submission (Tier 1) and new utilisation estimates which include some re-specified assumptions recommended by the DUSC in November 2017 (Tier 2). A comparison of the utilisation model assumptions are outlined in the table below.

For Tier 1 estimates, at Year 6 the estimated number of patients was less than 10,000 and the net cost to the PBS/RPBS would be less than \$10 million.

For Tier 2 estimates, at Year 6 the estimated number of patients was 10,000 – 50,000 and the net cost to the PBS/RPBS would be \$10 - \$20 million.

Table 8: Key elements of utilisation and financial estimates models

Parameter	Tier 1 model	Tier 2 model	Comment
Projected Australian adult population (years in model)	2020-2025		Updated to projected Australian adult population estimates for period 2020-2025 (ABS Series B population projections included in Department Utilisation and Financial Estimates Workbook). Original submission used 2017-2022 from the same resource.
Prevalence of plaque psoriasis	3.3%	2.64%	Addressed - Tier 2 reduced by 20%. DUSC considered the population-level prevalence should be reduced 10-20% to account for the proportion of psoriasis that is plaque psoriasis (p6, apremilast DUSC advice, November 2017 PBAC Meeting).
Proportion of patients treated by dermatologist or experienced general physician	20%	38%	Addressed - Tier 2 increased, based on DUSC position that the number of treating physicians and number of patients physicians could consult was underestimated (p6, apremilast DUSC advice, November 2017 PBAC Meeting).
Proportion of patients meeting disease severity requirement	20%	20%	Unchanged.
Proportion of patients intolerant/contraindicated to methotrexate	61%	61%	Unchanged. Given the wide confidence intervals around this estimate DUSC suggested that the submission should have considered providing sensitivity analyses (for example 50% and 70%) (p7, apremilast DUSC advice, November 2017

Parameter	Tier 1 model	Tier 2 model	Comment
			PBAC Meeting). Reducing the proportion of patients intolerant/contraindicated to methotrexate from 61% to 50% for both Tier 1 and Tier 2 models would reduce the utilisation estimates on which the RSA is based. The pre-PBAC response argued that a value of 61% was in the middle of DUSC's 50-70% range and was used in the utilisation estimates for the November 2017 and March 2018 submissions.
Replacement/displacement of other medicines	<p>█% of apremilast use will be new (market growth)</p> <p>Of the █% apremilast use that is market share:</p> <ul style="list-style-type: none"> • █% from cyclosporin • █% from acitretin • █% from biologics 		Resubmission stated these were based on a dermatologist survey as in previous submissions but applied to match the full epidemiological approach in the updated analysis template. In November 2017 DUSC considered that the methods and calculations used to quantify the cost of medicines displaced by apremilast were unclear and cannot be relied on to determine the net financial impact to the PBS arising from the listing of apremilast (apremilast DUSC advice, November 2017 PBAC Meeting). No further verification of the survey was provided in the resubmission. The pre-PBAC response acknowledged that there was inherent uncertainty in determining the cost offsets based on a clinician survey but argued that this represents the best information available to the sponsor and noted that the majority of substitution is for cyclosporin rather than for a biologic.
Unit prices for MBS and PBS listings	<p><u>Cyclosporin:</u></p> <p>Public - \$546.40</p> <p>Private - \$546.40 (\$575.63)</p> <p><u>Ustekinumab:</u></p> <p>\$4,349.46 (\$3,926.23)</p> <p><u>Acitretin:</u></p> <p>\$207.77</p>		<p>Unchanged. Current listing prices as at June 2020 are shown in italics.</p> <p>MBS item 105 for specialist consultation has increased to \$44.35, the original cost of \$43.00 is retained.</p>
Apremilast uptake	<p>Yr 1: █%</p> <p>Yr 5: █%</p>	<p>Yr 1: █%</p> <p>Yr 5: █%</p>	Unchanged. DUSC considered to be an underestimate due to familiarity of many psoriasis-interested dermatologists with apremilast (due to the familiarisation program) (p7, apremilast DUSC advice, November 2017 PBAC Meeting). The pre-PBAC response stated that the product familiarisation program was no longer in operation (see paragraph 3.2).

Parameter	Tier 1 model	Tier 2 model	Comment
Adherence (maintenance therapy)	85%	85%	Changed from 100% in the November 2017 submission for both Tier 1 and Tier 2. Adherence of 85% was consistent with DUSC advice that adherence of 80-90% was reasonable (apremilast DUSC advice, November 2017 PBAC Meeting).
Biologics assumptions	Ustekinumab as proxy for all biologics		<p>Submission made an arbitrary assumption on the effective price of ustekinumab (-40% of published).</p> <p>Biologics likely to be displaced (rather than replaced) in many circumstances.</p> <p>Level of displacement/replacement uncertain as apremilast would be an additional treatment option for determining eligibility for biologics and not adding a new line of therapy.</p> <p>Biologics accounted for █% of cost offsets for substituted medicines in Year 6 of both the Tier 1 and Tier 2 estimates (Tier 1 biologics \$ █ of a total of \$ █; Tier 2 biologics \$ █ of a total of \$ █).</p> <p>The pre-PBAC response argued that if at some time in the future an apremilast patient were to transition to a biologic, within the timeframe construct of the financial analysis it is reasonable to account for the immediate cost offsets.</p>

Source: Table 10, apremilast Public Summary Document, July 2020 PBAC meeting.

Analysis of actual versus predicted utilisation

Table 9: Predicted versus actual utilisation of apremilast for severe plaque psoriasis

		Year 1 January 2021 – December 2021	Year 2 January 2022 – December 2022
Patients	Predicted		
	Actual	3,312	4,908
	Difference		
Prescriptions	Predicted		
	Actual	14,311	25,248
	Difference		

From Table 9, actual utilisation of apremilast for CPP was different from estimated.

The number of treated patients and prescriptions supplied were lower than estimated. There was a larger difference in the estimated number of prescriptions supplied compared to the number of patients treated with apremilast.

Discussion

The biologics market has grown since the last DUSC review of plaque psoriasis in June 2014. Different inhibitors have since been PBS listed: interleukin (IL)-17 inhibitors (izekizumab, secukinumab) and IL-23 inhibitors (guselkuzumab, risankisumab, tildrakizumab). As such, biologics has become the most common therapy type for the treatment of CPP compared to non-biologic therapies. However, as the PBS listing for methotrexate tablets were unrestricted, it is difficult to capture complete utilisation of non-biologic therapies for CPP.

In 2022, apremilast was the second-most common treatment for CPP. However, its utilisation was lower than estimated, particularly with regards to the number of prescriptions supplied. There was a larger difference in the actual number of prescriptions supplied compared to the number of patients treated with apremilast. As shown in Table 6 and 7, the sequence analysis has shown patients switching from apremilast to a biologic, particularly the recently listed IL-23 inhibitors (guselkuzumab, risankisumab, tildrakizumab).

As shown in Figure 11, the majority of patients who initiate treatment with apremilast since PBS listing were with dermatologists. In September 2022, there was an extension of listing to allow accredited dermatology registrars to initiate treatment in consultation with a dermatologist and to allow general practitioners to prescribe maintenance treatment in consultation with a dermatologist or accredited dermatology registrar. Following the listing change, of patients who initiate treatment with apremilast, there was a slight decrease in patients who initiated treatment with dermatologists and increase in patients who initiated treatment with GPs, despite GPs restricted to prescribing maintenance treatment.

DUSC consideration

DUSC noted that apremilast had a steady incident and slowly growing prevalent population. DUSC noted the predicted versus actual analysis showed that in the first two years of listing, the actual number of patients treated with apremilast was slightly lower than estimated [REDACTED] whereas there was a greater difference in the actual number of prescriptions supplied compared to estimated [REDACTED]. DUSC considered possible reasons as to why there was a greater percentage difference in the actual number of prescriptions supplied compared to patients treated included: adherence, spacing/deprescribing or switching to next-line therapies. DUSC noted the wide age distribution of initiating patients and considered the disparity between patients treated and prescriptions supplied may be due to a dosing issue where younger patients and elderly patients may have only received one dose a day.

DUSC noted the positioning of apremilast in the treatment algorithm for CPP and noted the pathway for patients to be treated with biologics may or may not include apremilast. DUSC noted the sequence analysis showed a small proportion of patients were treated with

apremilast before biologics and that some patients stayed on apremilast without progressing to treatment with biologics.

DUSC noted that PBAC first considered apremilast for CPP in 2015 and was PBS-listed in 2021. DUSC noted the substantial changes to the prescribing landscape with the introduction of new therapies during this period. DUSC commented that by the time apremilast was PBS listed, the patient familiarisation program would have ceased, and patients would have likely transitioned to biologic therapies. However, DUSC commented that patients may have preferred treatment with apremilast due to its oral administration and considered to be relatively safe.

DUSC noted the extension to PBS listing in September 2022 to allow continuing prescribing by general practitioners. The Pre-Sub-Committee Response (PSCR, p2) had noted based on Figure 12 of the report, GP prescribing was taking place prior to the September 2022 listing change. The PSCR requested a breakdown of data by geographical area to understand if this trend is associated with areas where: access to specialty dermatology care is particularly difficult (e.g. rural and remote Australia); or GP-dermatologist shared care arrangements are established.” DUSC noted the initial patients were defined based on first PBS supply, irrespective of item code. DUSC noted additional analyses based on prescriber type and remote area before and after the September 2022 listing change and noted minor changes in prescriber type across remote areas before and after the listing change.

DUSC actions

DUSC requested the report be provided to the PBAC for consideration.

Context for analysis

The DUSC is a Sub Committee of the Pharmaceutical Benefits Advisory Committee (PBAC). The DUSC assesses estimates on projected usage and financial cost of medicines.

The DUSC also analyses data on actual use of medicines, including the utilisation of PBS listed medicines, and provides advice to the PBAC on these matters. This may include outlining how the current utilisation of PBS medicines compares with the use as recommended by the PBAC.

The DUSC operates in accordance with the quality use of medicines objective of the National Medicines Policy and considers that the DUSC utilisation analyses will assist consumers and health professionals to better understand the costs, benefits and risks of medicines.

The utilisation analysis report was provided to the pharmaceutical sponsors of each drug and comments on the report were provided to DUSC prior to its consideration of the analysis.

Sponsors' comments

Amgen Australia Pty Limited: The sponsor has no comment.

Disclaimer

The information provided in this report does not constitute medical advice and is not intended to take the place of professional medical advice or care. It is not intended to define what constitutes reasonable, appropriate or best care for any individual for any given health issue. The information should not be used as a substitute for the judgement and skill of a medical practitioner.

The Department of Health and Aged Care has made all reasonable efforts to ensure that information provided in this report is accurate. The information provided in this report was up-to-date when it was considered by the Drug Utilisation Sub-committee of the Pharmaceutical Benefits Advisory Committee. The context for that information may have changed since publication.

To the extent provided by law, the Department of Health and Aged Care makes no warranties or representations as to accuracy or completeness of information contained in this report.

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Appendix

Appendix A: Listing history for PBS listed medicines for CPP

First PBS listing date for CPP	Medicine
May 2000	ACITRETIN
February 2003	CICLOSPORIN
August 2006	ENTANERCEPT
December 2007	INFLIXIMAB
June 2009	ADALIMUMAB
March 2010	USTEKINUMAB
September 2015	SECUKINUMAB
December 2017	IXEKIZUMAB
April 2018	METHOTREXATE
February 2019	GUSELKUMAB
February 2019	TILDRAKIZUMAB
December 2019	RISANKIZUMAB
January 2021	APREMILAST