

**6.06 LANREOTIDE,
Injection 60 mg (as acetate) in single dose pre-filled
syringe,
Injection 90 mg (as acetate) in single dose pre-filled
syringe,
Injection 120 mg (as acetate) in single dose pre-filled
syringe,
Somatuline® Autogel,
IPSEN PTY LTD**

1 Purpose of Submission

- 1.1 The Category 3 submission requested changes to the Section 100 (Highly Specialised Drug Program (HSD)) Community Access (CA), Authority Required (STREAMLINED) listings of lanreotide 60 mg/0.5 mL, 90 mg/0.5 mL and 120 mg/0.5 mL injections to allow the initiation of the treatment of acromegaly and functional carcinoid tumour in the CA setting (hereafter referred to as CA initiation). The submission also requested changes to the listing of lanreotide 120 mg/0.5 mL injection to allow the CA initiation of the treatment of non-functional gastroenteropancreatic neuroendocrine tumour (GEP-NET).

2 Background

- 2.1 Lanreotide is currently PBS-listed as Section 100 HSD, Authority Required (STREAMLINED) listings in the public and private hospital setting for both treatment initiation (hereafter referred to as hospital initiation) and continuation, and in the CA setting for treatment continuation (hereafter referred to as CA continuation). The following forms are listed for the treatment of acromegaly and functional carcinoid tumour:
- lanreotide 60 mg/0.5 mL injection, 0.5 mL syringe
 - lanreotide 90 mg/0.5 mL injection, 0.5 mL syringe
 - lanreotide 120 mg/0.5 mL injection, 0.5 mL syringe
- 2.2 The 120 mg/0.5 mL injection is also listed for the treatment of non-functional GEP-NET.
- 2.3 Lanreotide is listed with a maximum quantity of 2 syringes and 5 repeats for all listings.
- 2.4 The approved product information (PI) for lanreotide contains the following instructions in regard to administration:

Somatuline Autogel should be injected via the deep subcutaneous route in the superior external quadrant of the buttock **by a healthcare professional**. The deep subcutaneous injection should be given at varying places in the buttock or in the upper outer thigh.

For **patients who are controlled on Somatuline Autogel**, the product may be administered either by the patient or their carer, who both must be motivated and competent to perform the injection following appropriate training. In the case of self-injection, the injection should be given in the upper outer thigh.

The decision regarding administration of Somatuline Autogel by the trained patient / carer should be taken by a health professional. A monitoring system should be in place for such patients to ensure the maintenance of their disease control in the long term.

Registration status

2.5 Lanreotide was registered by the Therapeutic Goods Administration (TGA) on 11 September 2003 for:

- the treatment of acromegaly when the circulating levels of growth hormone and IGF-1 remain abnormal after surgery and/or radiotherapy or in patients who are dopamine agonist treatment refractory.
- the treatment of symptoms of carcinoid syndrome associated with carcinoid (neuroendocrine) tumours.
- the treatment of GEP-NETs in adult patients with unresectable locally advanced or metastatic disease.

Previous PBAC consideration

2.6 Lanreotide has not previously been considered by the PBAC for CA initiation.

2.7 At its November 2017 meeting, the PBAC recommended CA continuation for the treatment of acromegaly and functional carcinoid tumour. At its March 2019 meeting, the PBAC likewise recommended CA continuation for the treatment of non-functional GEP-NET. The PBAC considered that the initial phase of treatment should remain unchanged under Section 100 – HSD Program (Public and Private Hospitals) (paragraph 6.2, Lanreotide Public Summary Documents , November 2017 and March 2019).

2.8 At its November 2022 meeting, the PBAC recommended the first generic brand of lanreotide, Mytolac[®], under the same circumstances as the PBS-listed reference brand, Somatuline[®] Autogel[®] (Table 1). Mytolac first listed on 1 August 2023.

2.9 Table 1 presents a summary of the previous PBAC considerations of lanreotide to date.

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Table 1: Previous PBAC considerations

Meeting date	Brand	Form	Request	Outcome	Detail
September 2001	Somatuline LA®	Lanreotide acetate, powder for suspension for injection 30 mg	The submission requested the Section 100 listing of lanreotide for the treatment of acromegaly when the circulating levels of Growth Hormone and Insulin-like Growth Factor (IGF-1) remain abnormal after surgery and/or radiotherapy, or in patients who are dopamine agonist refractory.	Recommended	The PBAC recommended listing on a cost-minimisation basis compared with octreotide acetate (modified release) injection. Lanreotide acetate prolonged release 30 mg every 11.7 days was considered equivalent to octreotide acetate modified release 20.07 mg every 28 days (, September 2001 PBAC Positive Recommendations).
September 2003	Somatuline Autogel®	Lanreotide acetate, pre-filled syringe (PFS), 60 mg (base), 90 mg (base), 120 mg (base)	The submission requested the Section 100 HSD listing of lanreotide for the treatment of active acromegaly under certain conditions.	Recommended	The PBAC recommended listing on a cost-minimisation basis against the comparators. The equi-effective doses were: lanreotide autogel 93.3 mg every 28 days to octreotide acetate long acting formulation (Sandostatin LAR) 20 mg every 28 days and lanreotide acetate long acting formulation (Somatuline LA) 30 mg every 11.7 days (September 2003 PBAC Positive Recommendations).
July 2005	Somatuline Autogel	Lanreotide Acetate, PFS, 60 mg in 0.3 mL (base), 90 mg in 0.3 mL (base) and 120 mg in 0.5 mL (base)	The submission requested an extension to the current Section 100 listing of lanreotide acetate to include the treatment of carcinoid syndrome.	Recommended	The PBAC recommended listing on a cost-minimisation basis compared with octreotide acetate modified release injection (Sandostatin LAR®). A dose relativity of 4.67:1 for lanreotide Autogel versus octreotide LAR was considered appropriate and is consistent with the ratio between these products established for the acromegaly PBS listing (Paragraph 12, Lanreotide acetate PSD, July 2005).
March 2007	Somatuline Autogel	Lanreotide acetate, injection 60 mg,	The submission requested an amendment to the restriction for the somatostatin analogues,	Recommended	The PBAC recommended the amendment to Lanreotide acetate (March

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Meeting date	Brand	Form	Request	Outcome	Detail
		90 mg and 120 mg (base) in a single dose PFS	octreotide acetate and lanreotide acetate to remove “histologically-confirmed” from the restrictions and add the requirement that the tumour must be causing “intractable symptoms”.		2007 PBAC Positive Recommendations).
November 2015	Somatuline Autogel	Lanreotide 120 mg injection	The submission requested a Section 85 Authority Required (STREAMLINED) listing of lanreotide for the treatment of GEP-NETs.	Not recommended	The PBAC did not recommend the listing of lanreotide for the treatment of GEP-NETs on the basis of uncertainty around the clinical significance of the progression free survival results from the CLARINET study; and that the economic model used to estimate the ICER was not reliable given fundamental issues with the model structure (para 7.1, Lanreotide PSD, November 2015).
November 2016	Somatuline Autogel	Lanreotide 120 mg injection in a single dose PFS	The resubmission requested a Section 100 HSD Authority Required listing for lanreotide for the treatment of non-functional GEP-NETs.	Not recommended	The PBAC did not recommend listing lanreotide for the treatment of non-functional GEP-NETs on the basis of uncertain and unacceptable cost-effectiveness at the price proposed by the sponsor (paragraph 7.1, Lanreotide PSD, November 2016).
July 2017	Somatuline Autogel	Lanreotide acetate 120 mg injection in a single dose PFS	The resubmission requested a Section 100 Authority Required listing for the treatment of non-functional GEP-NETs in adults with unresectable locally advanced or metastatic disease.	Not recommended	The PBAC did not recommend listing lanreotide for the treatment of non-functional GEP-NETs on the basis of uncertain cost-effectiveness, uncertainty regarding meaningful clinical benefit for the majority of patients, and uncertain budget impact (paragraph 7.1, Lanreotide PSD, July 2017).
November 2017	Somatuline Autogel	Lanreotide Injection 120 mg (as acetate) in a single dose PFS	The minor resubmission requested a Section 100 (HSD) listing for the treatment of non-functional GEP-NETs in adults with	Deferred	The PBAC deferred making a recommendation on the basis that the cost-effectiveness of the proposed listing was uncertain. The PBAC

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Meeting date	Brand	Form	Request	Outcome	Detail
			unresectable locally advanced or metastatic disease.		advised that further negotiations are required to establish a price and financial caps which would adequately offset the uncertainty around cost-effectiveness (paragraph 6.1, Lanreotide GEP-NETS PSD, November 2017).
November 2017	Somatuline Autogel	Lanreotide Solution for injection 60 mg/ 0.5 ml, 90 mg/ 0.5 ml, 120 mg/ 0.5 ml, PFS	The submission requested extending the listing of lanreotide acetate PFS, 120 mg/0.5 mL, 90 mg/0.5 mL and 60 mg/0.5 mL to a Section 100 HSD CA, Authority Required (STREAMLINED) listing for patients with acromegaly and functional carcinoid tumour.	Recommended	The PBAC recommended extending the existing listings from Section 100 HSD to Section 100 HSD CA listings (paragraph 6.1, Lanreotide PSD, November 2017).
July 2018	Somatuline Autogel	Lanreotide Injection 120 mg (as acetate) in a single dose PFS	To consider a revised pricing offer for the listing of lanreotide for the treatment of non-functional gastroenteropancreatic neuroendocrine tumours (GEP-NETS) in adults with unresectable locally advanced or metastatic disease.	Recommended	The PBAC recommended the listing of lanreotide on the PBS for the treatment of non-functional GEP-NETS in adults with unresectable locally advanced or metastatic disease on the basis that it was now satisfied that the proposed listing would be sufficiently cost-effective at the proposed price.
March 2019	Somatuline Autogel	Lanreotide Injection 120 mg (as acetate) in single dose PFS	The submission requested extending the listing of lanreotide injection 120 mg (as acetate) for the treatment of non-functional GEP-NET to include a Section 100 HSD CA listing for continuing patients who have previously received treatment through the S100 HSD – Public/Private Hospital listing.	Recommended	The PBAC recommended extending the listing of lanreotide acetate 120 mg/0.5 mL PFS from Section 100 HSD to Section 100 HSD CA, Authority Required (STREAMLINED) for patients requiring continuing treatment of non-functional GEP-NET (paragraph 6.1, Lanreotide PSD, March 2019).
November 2022	Mytolac®	Lanreotide (as acetate) Injection 60 mg, 90 mg, 120 mg in single dose PFS	The submission requested Section 100 HSD Authority Required (STREAMLINED) listings of a new brand of lanreotide (Mytolac®) under the same circumstances as the PBS-listed reference brand Somatuline Autogel.	Recommended	The PBAC recommended the Section 100 HSD Authority Required (STREAMLINED) listing of lanreotide (Mytolac®) under the same circumstances as the PBS-listed reference brand Somatuline Autogel

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Meeting date	Brand	Form	Request	Outcome	Detail
					(paragraph 6.1, Lanreotide PSD, November 2022).

Abbreviations: GEP-NET - Gastroenteropancreatic neuroendocrine tumours; HSD - Specialised Drugs Program; PBAC - Pharmaceutical Benefits Advisory Committee; PBS - Pharmaceutical Benefits Scheme; PFS - Pre-filled syringe; PSD - Public Summary Documents

3 Requested listing

- 3.1 The submission requested the removal of the clinical criterion “Patient must have previously received PBS-subsidised treatment with this drug for this condition” from the existing Section 100 HSD CA listings. Subsection 7(4)(b)(ii) of the HSD Special Arrangement, at the time of consideration, only permitted the CA continuation of any medicine on the HSD Program.
- 3.2 An abridged version of the listing requested is presented below showing only the revised clinical criteria. Suggested additions and deletions to the proposed listing are in italics and strikethrough respectively.

MEDICINAL PRODUCT medicinal product pack	PBS item code	Max. qty packs	Max. qty units	No. of Rpts	Available brands
LANREOTIDE					
lanreotide 60 mg/0.5 mL injection, 0.5 mL syringe	11315M	2	2	5	Mytolac Somatuline Autogel
lanreotide 90 mg/0.5 mL injection, 0.5 mL syringe	11316N	2	2	5	Mytolac Somatuline Autogel
lanreotide 120 mg/0.5 mL injection, 0.5 mL syringe	11513Y 11289E	2	2	5	Mytolac Somatuline Autogel
Restriction Summary / Treatment of Concept:					
Category / Program: Section 100 – Highly Specialised Drugs Program {Community Access (Code CA)}					
Prescriber type: <input checked="" type="checkbox"/> Medical Practitioners					
Restriction type: <input checked="" type="checkbox"/> Authority Required (Streamlined)					
Indication: Acromegaly					
Administrative Advice: Somatuline Autogel and Mytolac products are equivalent for the purpose of substitution. Pharmacists should ensure that patients are educated regarding the product differences upon dispensing.					
Clinical criteria:					
Patient must have previously received PBS-subsidised treatment with this drug for this condition					
AND					
Clinical criteria:					
The condition must be active					
AND					
Clinical criteria:					
Patient must have persistent elevation of mean growth hormone levels of greater than 2.5 micrograms per litre					
AND					

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	Clinical criteria:
	The treatment must be after failure of other therapy including dopamine agonists; or
	The treatment must be as interim treatment while awaiting the effects of radiotherapy and where treatment with dopamine agonists has failed; or
	The treatment must be in a patient who is unfit for or unwilling to undergo surgery and where radiotherapy is contraindicated
	AND
	Clinical criteria:
	The treatment must cease in a patient treated with radiotherapy if there is biochemical evidence of remission (normal IGF1) after lanreotide has been withdrawn for at least 4 weeks (8 weeks after the last dose)
	AND
	Clinical criteria:
	The treatment must cease if IGF1 is not lower after 3 months of treatment
	AND
	Clinical criteria:
	The treatment must not be given concomitantly with PBS-subsidised pegvisomant
	Prescribing Instructions: In a patient treated with radiotherapy, lanreotide should be withdrawn every 2 years in the 10 years after radiotherapy for assessment of remission.
Restriction Summary / Treatment of Concept:	
	Category / Program: Section 100 – Highly Specialised Drugs Program {Community Access (Code CA)}
	Prescriber type: <input checked="" type="checkbox"/> Medical Practitioners
	Restriction type: <input checked="" type="checkbox"/> Authority Required (Streamlined)
	Administrative Advice: Somatuline Autogel and Mytolac products are equivalent for the purpose of substitution. Pharmacists should ensure that patients are educated regarding the product differences upon dispensing.
	Indication: Functional carcinoid tumour
	Clinical criteria:
	Patient must have previously received PBS-subsidised treatment with this drug for this condition
	AND
	Clinical criteria:
	The condition must be causing intractable symptoms
	AND
	Clinical criteria:
	Patient must have experienced on average over 1 week, 3 or more episodes per day of diarrhoea and/or flushing, which persisted despite the use of anti-histamines, anti-serotonin agents and anti-diarrhoea agents
	AND
	Clinical criteria:
	Patient must be one in whom surgery or antineoplastic therapy has failed or is inappropriate
	AND
	Clinical criteria:
	The treatment must cease if there is failure to produce a clinically significant reduction in the frequency and severity of symptoms after 3 months' therapy at a dose of 120 mg every 28 days

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Prescribing Instructions: Dosage and tolerance to the drug should be assessed regularly and the dosage should be titrated slowly downwards to determine the minimum effective dose.

MEDICINAL PRODUCT medicinal product pack	PBS item code	Max. qty packs	Max. qty units	No. of Rpts	Available brands
LANREOTIDE					
lanreotide 120 mg/0.5 mL injection, 0.5 mL syringe	11736Q	2	2	5	Mytolac Somatuline Autogel

Restriction Summary / Treatment of Concept:	
	Category / Program: Section 100 – Highly Specialised Drugs Program {Community Access (Code CA)}
	Prescriber type: <input checked="" type="checkbox"/> Medical Practitioners
	Restriction type: <input checked="" type="checkbox"/> Authority Required (Streamlined)
	Administrative Advice: Somatuline Autogel and Mytolac products are equivalent for the purpose of substitution. Pharmacists should ensure that patients are educated regarding the product differences upon dispensing.
	Administrative Advice: No increase in the maximum quantity or number of units may be authorised.
	Administrative Advice: No increase in the maximum number of repeats may be authorised.
	Indication: Non-functional gastroenteropancreatic neuroendocrine tumour (GEP-NET)
	Clinical criteria: Patient must have previously received PBS-subsidised treatment with this drug for this condition
	AND
	Clinical criteria: The condition must be unresectable locally advanced disease or metastatic disease
	AND
	Clinical criteria: The condition must be World Health Organisation (WHO) grade 1 or 2
	AND
	Clinical criteria: The treatment must be the sole PBS-subsidised therapy for this condition
	Population criteria: Patient must be aged 18 years or older Patient must be at least 18 years of age
	Prescribing Instructions: WHO grade 1 of GEP-NET is defined as a mitotic count (10HPF) of less than 2 and Ki-67 index (%) of less than or equal to 2.
	Prescribing Instructions: WHO grade 2 of GEP-NET is defined as a mitotic count (10HPF) of 2-20 and Ki-67 index (%) of 3-20.

- 3.3 The submission used the incorrect PBS item code for the 120 mg strength of lanreotide in the first restriction table. This has been corrected.
- 3.4 The restrictions of the proposed Section 100 HSD CA listings are the same as that of the Section 100 HSD Public and Private Hospital listings with the exception of the

different Category/Program, i.e. there would not be separate initial and continuing restrictions.

- 3.5 Through limitations on authorised prescribers imposed by the s100 HSD (Public/Private) instruments, prescribing must occur either by a hospital specialist or under the supervision of a specialist. Such limitations do not exist under the s100 HSD CA instrument (irrespective of initial or continuing), i.e. any medical practitioner (such as GP's and non-specialist medical practitioners), could prescribe lanreotide, with or without hospital specialist involvement. The pre-PBAC response clarified that the intent of the submission was not to have lanreotide restricted to specialists. The submission nor the pre-PBAC response provided justification for this request other than that it would improve equity of access and the quality use of medications for patients located in remote/rural areas or who otherwise have difficulty travelling to a hospital pharmacy for dispensing.

4 Target population and disease

- 4.1 The submission stated that the patient population receiving lanreotide is diverse and that patients in remote/rural areas face geographical barriers, often requiring extensive travel or relocation to access specialised care due to debilitating symptoms and possible side effects following treatment, which could significantly impact a patients' quality of life.
- 4.2 The submission stated that the proposed listing will reduce the out-of-pocket costs including transport and accommodation associated with lanreotide initiation in the hospital.

5 Comparator

- 5.1 The submission did not nominate a comparator. However, the submission stated that, of the 40 PBS-listed drugs currently available via s100 HSD CA, buprenorphine, ganciclovir (cytotoxic) and cabotegravir + rilpivirine are available on the PBS for CA initiation (Table 2).
- 5.2 The submission requested that the proposed listing should follow the examples of buprenorphine, ganciclovir (cytotoxic) and cabotegravir + rilpivirine as they demonstrate precedence for s100 HSD CA initiation.

Table 2: Other s100 HSD medicines listed on the PBS for CA initiation

Drug name, dosage form, administration method, date of CA recommendation	Indication	PBS listing notes/criteria
BUPRENORPHINE MR solution for SC injection, Buvidal® PI admin: HCP SC monthly CA recommended: Nov 2021	Opioid dependence	Note: Shared Care Model: For prescribing by NPs where care of a patient is shared between a NP and medical practitioner in a formalised arrangement with an agreed management plan. Treatment criteria: Must be treated by an HCP. Clinical criteria: Treatment must be within a framework of medical, social and psychological treatment.
GANCICLOVIR powder for reconstitution (IV infusion) PI admin: HCP IV infusion 1 hour, (init: 12hrly, cont:7 days) CA listed: July 2015 Cytotoxic drug ¹	Cytomegalovirus (CMV) retinitis and severely immunocompromised ³	-
CABOTEGRAVIR (&) RILPIVIRINE, MR intramuscular injection PI admin: HCP IM monthly CA listed: April 2022	HIV infection Following oral lead-in therapy ²	Note: It is recommended that patients have previously received 4 weeks of PBS-subsidised initial oral lead-in treatment with cabotegravir and rilpivirine tablets. While this listing is for CA continuation only, it is relevant in terms of HCP training for the oral lead-in therapy.

Source: Table 1.1.4 (Pg 22) of the submission main body

Abbreviations: CA – community access; HCP - healthcare provider; HIV - human immunodeficiency virus; IM – intramuscular; IV - intravenous; MR - modified release; NP - nurse practitioner; PBS - Pharmaceutical Benefits Scheme; SC - subcutaneous

1. Cancer Institute NSW, 2019. eviQ 909 List of cytotoxic drugs, QLD Guideline on cytotoxic drugs 2018.

2. PI states patient must have oral lead-in therapy for 1 month prior to commencing injections to assess the tolerability of active pharmaceutical ingredients.

3. Immunocompromised patients includes patients following bone marrow and solid organ transplantation or with HIV infection (Ganciclovir PI 2018).

6 Consideration of the evidence

Sponsor hearing

6.1 There was no hearing for this item.

Consumer comments

6.2 The PBAC noted and welcomed the input from individuals (3) and health care professionals (2) via the Consumer Comments facility on the PBS website. The comments from the individuals described a range of benefits to treatment with lanreotide including its efficacy at reducing disease progression and improving quality of life. The comments further highlighted some side effects associated with lanreotide treatment including pain, diarrhea, weight gain and malnutrition, and that these are generally well tolerated by patients. Similarly, the comments from the health care professionals noted that lanreotide treatment improved the quality of life for people with neuroendocrine tumours. They also indicated that community access to treatment would be particularly beneficial for patients living in rural and remote areas.

Clinical trials

6.3 The submission presented no new clinical evidence.

Estimated PBS usage and financial implications

6.4 The submission adopted a market share approach to estimate the net financial impact of expanding the lanreotide listings to include CA initiation.

6.5 The submission estimated that lanreotide CA units would substitute for lanreotide public/private hospital units at a 100% substitution rate (i.e. 1 unit to 1 unit). The submission used the following calculation to estimate the substitution rates of lanreotide over the forward estimates (shown in Table 3):

- % of new lanreotide patients x (100% - % of new patients currently using the CA listing) x estimated uptake rate of CA initiation over hospital initiation

Table 3: Substitution rates of lanreotide

	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Year 6 2030
Proportion of patients initiating lanreotide (% new patients)	8%	8%	8%	8%	8%	8%
Proportion of total new patients receiving lanreotide via the current CA listing (i.e. contrary to the listing criterion of continuing only) This proportion of injections are not affected by the proposed listing.	30%	30%	30%	30%	30%	30%
Proportion of total new patients eligible for lanreotide via the proposed listing (CA initiation) (Calculation: 100% - 30% = 70%)	70%	70%	70%	70%	70%	70%
Uptake rate of lanreotide via CA initiation rather than hospital listings (initial and continuing).	5%	5%	5%	5%	5%	5%
TOTAL proportion of hospital volume affected by CA initiation (Calculation: 8% x 70% x 5% = 0.3%)	0.3%	0.3%	0.3%	0.3%	0.3%	0.3%

Source: Table 4.1.3 (Pg 41) of the submission main body

Abbreviations: CA - community access; PBS - Pharmaceutical Benefits Scheme.

6.6 The methodology used to derive the financial estimates relied on the following assumptions:

- The rates will remain constant over the forward estimates;
- The annual lanreotide market growth rate informs the proportion of initiating patients;
- The proportion of patients currently initiating lanreotide in a CA setting (contrary to the PBS restriction criteria) will be included under the proposed listing;
- The uptake will be from patients who would've otherwise initiated in a hospital setting; and
- There is no increase to the population anticipated as a result of the listing.

6.7 During the evaluation period, the Sponsor was requested to provide a revised financial model with:

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- annual supply volumes according to calendar year rather than financial year, and
- constant annual growth rates for lanreotide.

The sponsor provided a revised model on 27 May 2024.

6.8 The submission claimed that apart from the lanreotide 120 mg GEP-NETs market, where a 5% decrease was anticipated annually (31% in Year 1 down to 6% in Year 6), the proposed listing was not expected to increase the total growth (which it estimated to be 6% per annum) of the lanreotide market. This was updated in the revised model data on the market growth and is shown in Table 4. This listing has the potential to result in an increase to the growth of the lanreotide market due to CA initiations where hospital initiation was not previously accessible. The submission’s uptake rates of CA initiation over the forward estimates was based on data supporting the submission’s assumption that the target population is patients living greater than 500 km from a centre of excellence. There may be patients eligible for lanreotide initiation that were unable to travel to the nearest centre of excellence to initiate therapy under the current listing. However, it is unlikely that this would be a large patient cohort.

Table 4: Annual growth of lanreotide public/private hospital dispensed volume

	2023	2024	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Year 6 2030
60mg acromegaly/functional carcinoid								
Lanreotide (public hospital)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Lanreotide (private hospital)	-5.6%	-5.6%	-5.6%	-5.6%	-5.6%	-5.6%	-5.6%	-5.6%
90mg acromegaly/functional carcinoid								
Lanreotide (public hospital)	-15.5%	-15.5%	-15.5%	-15.5%	-15.5%	-15.5%	-15.5%	-15.5%
Lanreotide (private hospital)	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%	-3.3%
120mg acromegaly/functional carcinoid								
Lanreotide (public hospital)	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%	-4.6%
Lanreotide (private hospital)	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%	6.1%
120mg GEP-NETs								
Lanreotide (public hospital)	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%	18.5%
Lanreotide (private hospital)	21.7%	21.7%	21.7%	21.7%	21.7%	21.7%	21.7%	21.7%

Source: BIM (amended 27th May 2024, Tab 2e).

Abbreviations: GEP-NETs - gastroenteropancreatic neuroendocrine tumours

6.9 The submission estimated the annual market growth of lanreotide to be 8% based on the 2022-2023 financial year PBS script volumes using the PBS 10% sample. The submission noted that 10,000 to < 20,000 scripts of lanreotide were supplied in the calendar year of 2023 and divided this by 13 (assuming 13 supplies per patient per year) to calculate that 500 to < 5,000 patients received lanreotide. It is not reasonable to assume that every patient will use the maximum PBS supply in any given calendar year. The evaluation provided an analysis of 100% PBS data which showed that in 2022 there were 500 to < 5,000 patients using lanreotide, and 500 to < 5,000 in 2023 where 10,000 to < 20,000 scripts were dispensed. This equates to, an average of 6.3 scripts per patient in 2023 rather than the assumed 13 scripts. Using the 100% PBS data, the

total dispensed volumes from the calendar years of 2022 to 2023 was increased by 10%.

- 6.10 The submission estimated the proportion of patients initiating lanreotide in any given year of the forward estimates would be 8% of the total lanreotide PBS population based on its estimate of the annual market growth. For the calendar year of 2023, this would have been 8% of 500 to < 5,000, i.e. < 500 patients. It was noted that Table 4.2.1 of the submission incorrectly calculated the total number of new patients to be < 500 and this error flowed on to the submission’s estimated financial impact. The submission considered that this figure may be an underestimate. 100% PBS data confirmed that < 500 patients was significantly underestimated and annual initiation was more likely to be 500 to < 5,000 patients per year (500 to < 5,000 in 2023, 22.5% of the total lanreotide population). The pre-PBAC response agreed with using 22.5% as the proportion of initiation.
- 6.11 Table 5 shows a breakdown of the 2023 patient numbers as a guide of the distribution of the lanreotide market.

Table 5: Lanreotide market 2023

	Patients
Total lanreotide population (prevalence)	█ ¹
Initiating patients (22.5%)	█ ¹
Continuing patients (77.5%)	█ ¹
Total hospital patients	█ ¹
Hospital initiation	█ ² (█ ² used hospital item codes, █ ² used CA item code)
Hospital continuation (54% of continuing patients)	█ ¹
Total community patients	█ ¹
CA initiation	█ ² (supplied contrary to the restrictions of the CA listing)
CA continuation (46% of continuing patients)	█ ¹

Source: Compiled by the evaluation

The redacted values correspond to the following ranges:

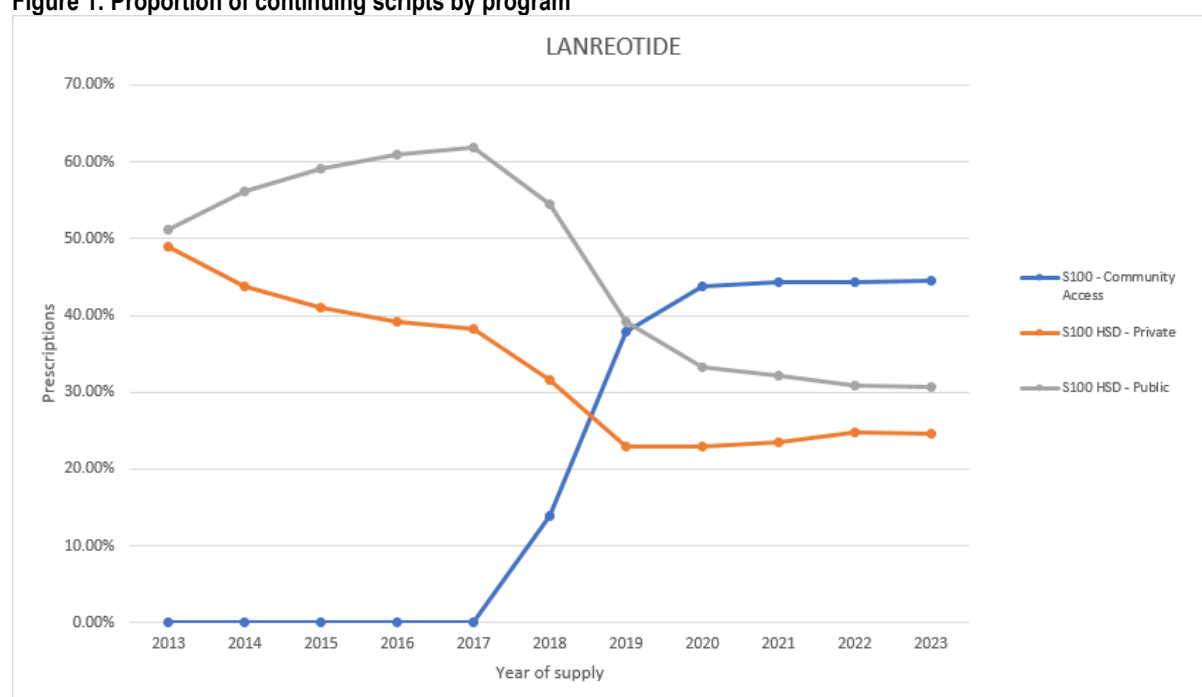
¹ 500 to < 5,000

² < 500

- 6.12 The submission assumed a constant rate each year over the forward estimates when estimating the proportion of total hospital scripts displaced by the proposed listing. It may be more likely that the uptake rate would fluctuate over the first few years of listing before reaching a steady state.
- 6.13 The submission estimated that the proportion of initiating patients receiving lanreotide via the current CA listing (i.e. contrary to its continuing only criterion) is 30%. This estimate seemed reasonable considering the current usage of this listing. In 2023, the CA item code, was used to supply 31% of initiating patients. Out of these patients, 24% had their prescriptions filled at a public or private hospital pharmacy (i.e. the CA code was used incorrectly), and 76% had their prescriptions filled at a community pharmacy using the CA continuation item code. This equates to 23.5% (76% x 31%) of all initiating patients.

6.14 The submission assumed that 5% of hospital initiation would shift to CA initiation (the uptake rate) based on data about the proportion of patients who live greater than 500 km from a centre of excellence¹, and therefore only a small proportion (0.3%) of hospital scripts (initial and continuing) would be dispensed in a community pharmacy, rather than a public/private hospital pharmacy. This may represent an underestimate as the submission had not considered scenarios that may involve patients outside of rural settings who would prefer to access the medicine via the community pharmacy for reasons of convenience or other factors. Furthermore, a study of the uptake of the current CA listing may give a more reasonable estimate of the uptake over the forward estimates. Figure 5 prepared by the evaluation shows the proportion of continuing scripts, split by the section 100 listing program.

Figure 1: Proportion of continuing scripts by program



Source: prepared during the evaluation

6.15 The proportion of CA scripts in 2018 was 14% (noting CA items were only listed on 1 April 2018 i.e. part of that year), 38% in 2019, and settled at about 45% thereafter. These figures include the initial scripts supplied in private/public hospitals under the CA listing by error. Using the number of initiating patients to remove the initial scripts from the above figures, the proportion of CA continuing scripts became 15% of all continuing scripts in 2018, 40% in 2019 and 46% in 2020 through to 2023. The pre-PBAC response concurred the revised proportions of CA continuing scripts.

6.16 The methodology employed to derive the estimates in this submission was not appropriate. If the proportion of hospital continuation to CA continuation reflects the

¹ Section 1.1.2 of the submission.

proportion likely to exist in initiation (i.e. if 46% CA initiation is assumed) then the uptake rate is likely to be higher than that assumed in the submission. Based on the 2023 PBS data, 46% of initiation would have been < 500 patients, which is < 500 patients more than the < 500 patients that had initiated in a CA setting. Therefore, the proportion of CA initiation uptake over hospital initiation (< 500 patients) would be 29% (< 500 / < 500) rather than the 5% uptake rate assumed in the submission. The total proportion of hospital volume (1,391 patients) impacted would therefore be 8.6% (< 500 / 500 to < 5,000), rather than the 0.3% assumed in the submission.

6.17 The methodology used in the submission had not considered how CA initiation would impact hospital continuation. It may be more reasonable to measure the impact of CA initiation over hospital initiation in the financial estimates, and more specifically, the proportion of public and private hospital scripts substituted, as this would determine the impact to the PBS/RPBS due to the different fees and mark-ups associated with each setting. Therefore, assuming a 29% shift from hospital to CA initiation in the financial estimates and 0% change in hospital continuation may be a more appropriate method. The pre-PBAC response supported increasing the uptake proportion of CA initiation from hospital initiation from 5% to 29% from Year 3 onwards. The response stated that a gradual uptake for Year 1 (9%) and Year 2 (25%) was implemented to reflect what it considered would be the likely real-world scenario. The response stated that this uptake trend follows the CA continuation uptake rates presented in Figure 1.

6.18 The pre-PBAC response provided the following revised uptake rates.

Table 6: Pre-PBAC response substitution rates of lanreotide

	Year 1 2025	Year 2 2026	Year 3 2027	Year 4 2028	Year 5 2029	Year 6 2030
Uptake rate of lanreotide via the proposed CA initiation restriction rather than the hospital listings	9%	25%	29%	29%	29%	29%
TOTAL proportion of hospital volume affected by the proposed CA initiation restriction	2.8%	7.5%	8.6%	8.6%	8.6%	8.6%

6.19 Table 7 presents the estimated extent of use, cost of expanding lanreotide listing to the PBS/RPBS and the net financial implications to the PBS/RPBS and MBS. The financial impact to Services Australia will be determined by that agency as part of the post PBAC process.

6.20 The submission noted that there are additional fees and mark-ups associated with patients switching from a public hospital setting to a CA setting. Therefore, the submission estimated that the proposed listing would result in a minor cost of \$0 to < \$10 million (\$0 to < \$10 million to the PBS/RPBS) to the government over six years (Year 1 \$0 to < \$10 million to Year 6 \$0 to < \$10 million). The pre-PBAC response acknowledged that this was likely underestimated due to the methodology used and revised its estimates as shown in Table 9.

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Table 9: Estimated use and financial implications

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Estimated extent of use						
Number of scripts	1	2	2	2	2	2
Estimated financial implications to PBS						
New listing	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³
Changed listing	-\$ ⁴	-\$ ⁴	-\$ ⁴	-\$ ⁴	-\$ ⁴	-\$ ⁴
Net cost to PBS	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³
Estimated financial implications to RPBS						
New listing	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³
Changed listing	-\$ ⁴	-\$ ⁴	-\$ ⁴	-\$ ⁴	-\$ ⁴	-\$ ⁴
Net cost to RPBS	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³
Net financial implications						
Net cost to PBS/RPBS	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³	\$ ³
Net cost to MBS	-\$ ⁴	-\$ ⁴	-\$ ⁴	-\$ ⁴	-\$ ⁴	-\$ ⁴
Net Cost to Government	\$³	\$³	\$³	\$³	\$³	\$³

Source: BIM revised for pre-PBAC response based on figures from the submission overview

Abbreviations: PBS - Pharmaceutical Benefits Scheme; RPBS - Repatriation Pharmaceutical Benefits Scheme; MBS - Medical Benefits Scheme.

The redacted values correspond to the following ranges:

¹ < 500

² 500 to < 5,000

³ \$0 to < \$10 million

⁴ net cost saving

6.21 Having accepted the assumptions made by the evaluation as revisions to the model, the proposed listing would result in a cost of \$0 to < \$10 million to the PBS/RPBS over six years (Year 1 \$0 to < \$10 million to Year 6 \$0 to < \$10 million). This represents an estimated <1% of the total cost of lanreotide to the Commonwealth over the same period.

6.22 As a Category 3 submission, the financial estimates have not been independently evaluated.

Quality use of medicines

6.23 The submission did not include any clinical evidence to support the clinical suitability or quality use of medicines of its request for the CA initiation of lanreotide. The submission did provide a letter of support for CA initiation provided by Professor Michael, Co-Chair of the Neuroendocrine Unit at the Peter MacCallum Cancer Centre, a European Neuroendocrine Tumours Society Centre of Excellence (ENETS CoE), and a letter of support from Associate Professor Ann McCormack on behalf of the Endocrine Society of Australia. Both noted the risks of significant discomfort and other adverse effects if injections were not administered correctly. The submission also noted that lanreotide patients require access to specialised care due to debilitating symptoms and possible side effects following treatment. The submission addressed this stating that healthcare professionals (HCPs) including clinicians, hospital staff, nurses, GPs, and community pharmacists currently undergo training on the effective use of lanreotide PFS. Additionally, other resources such as comprehensive instructions that clearly outline how to administer lanreotide PFS, the Ipsen Assist® patient support program, and an in-house medical information service are available to support HCPs,

patients, and carers. The pre-PBAC response noted that the most common adverse events occurring during initial treatment are gastrointestinal disorders. The response stated that these events are usually self-limiting or manageable in a primary care setting and that the approach to managing ongoing symptoms and serious or chronic adverse events would remain unchanged i.e. patients would continue to be reviewed by the treating specialist in scheduled telehealth or in person consultations, or more urgently where the circumstances required.

7 PBAC Outcome

- 7.1 The PBAC recommended changes to the Section 100 (HSD) Community Access (CA), Authority Required (STREAMLINED) listings of lanreotide 60 mg/0.5 mL, 90 mg/0.5 mL and 120 mg/0.5 mL injection forms to allow the initiation of the treatment of acromegaly and functional carcinoid tumours under s100 HSD CA. The PBAC also recommended changes to the listing of lanreotide 120 mg/0.5 mL injection under the same circumstances to allow the initiation of the treatment of non-functional gastroenteropancreatic neuroendocrine tumour (GEP-NET) under s100 HSD CA.
- 7.2 The PBAC considered that allowing CA initiation would improve access for patients, particularly those in rural and remote areas.
- 7.3 The PBAC recommended that CA initiation continue to be restricted to prescribing by hospital specialist endocrinologists or oncologists, or under supervision of these specialists, as per the existing arrangements for initiation under s100 (Public/Private).
- 7.4 The PBAC noted that the private/public hospital listings of lanreotide will be directly impacted by the proposed listings and therefore these are the relevant comparator. The PBAC agreed that the hospital units and community access units would be replaced at a ratio of 1 to 1.
- 7.5 The PBAC noted the pre-PBAC response had addressed some of the concerns raised during the evaluation around the methodology used to derive the financial impact but had not provided a revised financial model. The PBAC considered a revised model would be required to ensure estimates most accurately reflected the likely financial impact.
- 7.6 The PBAC considered that it is unlikely that there is a large patient cohort that is unable to access lanreotide despite being eligible under the current restrictions (e.g. those unable to travel to the nearest centre of excellence to initiate therapy). The PBAC therefore considered that the growth to the lanreotide market as a result of this restriction change would be minimal.
- 7.7 The PBAC noted that its recommendation was on a cost-minimisation basis and advised that, because initiation via a s100 HSD CA listing is not expected to provide a substantial and clinically relevant improvement in efficacy, or reduction of toxicity, over initiation via a s100 HSD hospital listing, or not expected to address a high and urgent unmet clinical need, the criteria prescribed by the *National Health*

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(Pharmaceuticals and Vaccines – Cost Recovery) Regulations 2022 for Pricing Pathway A were not met.

- 7.8 The PBAC noted that this submission would not meet the criteria for an Independent Review as it received a positive recommendation.

Outcome:

Recommended

8 Recommended listing

- 8.1 Amend existing listings as follows:

MEDICINAL PRODUCT medicinal product pack	PBS item code	Max. qty packs	Max. qty units	No.of Rpts	Available brands
LANREOTIDE					
lanreotide 60 mg/0.5 mL injection, 0.5 mL syringe	11315M	2	2	5	Mytolac Somatuline Autogel
lanreotide 90 mg/0.5 mL injection, 0.5 mL syringe	11316N	2	2	5	Mytolac Somatuline Autogel
lanreotide 120 mg/0.5 mL injection, 0.5 mL syringe	11289E	2	2	5	Mytolac Somatuline Autogel
Restriction Summary / Treatment of Concept:					
		Category / Program: Section 100 – Highly Specialised Drugs Program {Community Access (Code CA)}			
		Prescriber type: <input checked="" type="checkbox"/> Medical Practitioners			
		Restriction type: <input checked="" type="checkbox"/> Authority Required (Streamlined)			
		Indication: Acromegaly			
		Administrative Advice: Somatuline Autogel and Mytolac products are equivalent for the purpose of substitution. Pharmacists should ensure that patients are educated regarding the product differences upon dispensing.			
		Treatment criteria:			
		<i>Must be treated by an endocrinologist or in consultation with an endocrinologist</i>			
		Clinical criteria:			
		Patient must have previously received PBS subsidised treatment with this drug for this condition			
		AND			
		Clinical criteria:			
		The condition must be active			
		AND			
		Clinical criteria:			
		Patient must have persistent elevation of mean growth hormone levels of greater than 2.5 micrograms per litre			
		AND			
		Clinical criteria:			
		The treatment must be after failure of other therapy including dopamine agonists; or			

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	The treatment must be as interim treatment while awaiting the effects of radiotherapy and where treatment with dopamine agonists has failed; or
	The treatment must be in a patient who is unfit for or unwilling to undergo surgery and where radiotherapy is contraindicated
	AND
	Clinical criteria:
	The treatment must cease in a patient treated with radiotherapy if there is biochemical evidence of remission (normal IGF1) after lanreotide has been withdrawn for at least 4 weeks (8 weeks after the last dose)
	AND
	Clinical criteria:
	The treatment must cease if IGF1 is not lower after 3 months of treatment
	AND
	Clinical criteria:
	The treatment must not be given concomitantly with PBS-subsidised pegvisomant
	Prescribing Instructions: In a patient treated with radiotherapy, lanreotide should be withdrawn every 2 years in the 10 years after radiotherapy for assessment of remission.
Restriction Summary / Treatment of Concept:	
	Category / Program: Section 100 – Highly Specialised Drugs Program {Community Access (Code CA)}
	Prescriber type: <input checked="" type="checkbox"/> Medical Practitioners
	Restriction type: <input checked="" type="checkbox"/> Authority Required (Streamlined)
	Administrative Advice: Somatuline Autogel and Mytolac products are equivalent for the purpose of substitution. Pharmacists should ensure that patients are educated regarding the product differences upon dispensing.
	Indication: Functional carcinoid tumour
	Treatment criteria: <i>Must be treated by a medical practitioner who is either: (i) an endocrinologist, (ii) an oncologist; or Must be treated by a medical practitioner in consultation with one of the above specialist types</i>
	Clinical criteria:
	Patient must have previously received PBS-subsidised treatment with this drug for this condition
	AND
	Clinical criteria:
	The condition must be causing intractable symptoms
	AND
	Clinical criteria:
	Patient must have experienced on average over 1 week, 3 or more episodes per day of diarrhoea and/or flushing, which persisted despite the use of anti-histamines, anti-serotonin agents and anti-diarrhoea agents
	AND
	Clinical criteria:
	Patient must be one in whom surgery or antineoplastic therapy has failed or is inappropriate
	AND

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	Clinical criteria:
	The treatment must cease if there is failure to produce a clinically significant reduction in the frequency and severity of symptoms after 3 months' therapy at a dose of 120 mg every 28 days
	Prescribing Instructions: Dosage and tolerance to the drug should be assessed regularly and the dosage should be titrated slowly downwards to determine the minimum effective dose.

MEDICINAL PRODUCT medicinal product pack	PBS item code	Max. qty packs	Max. qty units	No. of Rpts	Available brands
LANREOTIDE					
lanreotide 120 mg/0.5 mL injection, 0.5 mL syringe	11736Q	2	2	5	Mytolac Somatuline Autogel

Restriction Summary / Treatment of Concept:

	Category / Program: Section 100 – Highly Specialised Drugs Program {Community Access (Code CA)}
	Prescriber type: <input checked="" type="checkbox"/> Medical Practitioners
	Restriction type: <input checked="" type="checkbox"/> Authority Required (Streamlined)
	Administrative Advice: Somatuline Autogel and Mytolac products are equivalent for the purpose of substitution. Pharmacists should ensure that patients are educated regarding the product differences upon dispensing.
	Administrative Advice: No increase in the maximum quantity or number of units may be authorised.
	Administrative Advice: No increase in the maximum number of repeats may be authorised.
	Indication: Non-functional gastroenteropancreatic neuroendocrine tumour (GEP-NET)
	Treatment criteria:
	<i>Must be treated by a medical practitioner who is either: (i) an endocrinologist, (ii) an oncologist; or</i>
	<i>Must be treated by a medical practitioner in consultation with one of the above specialist types</i>
	Clinical criteria:
	Patient must have previously received PBS-subsidised treatment with this drug for this condition
	AND
	Clinical criteria:
	The condition must be unresectable locally advanced disease or metastatic disease
	AND
	Clinical criteria:
	The condition must be World Health Organisation (WHO) grade 1 or 2
	AND
	Clinical criteria:
	The treatment must be the sole PBS-subsidised therapy for this condition
	Population criteria:
	Patient must be aged 18 years or older Patient must be at least 18 years of age
	Prescribing Instructions: WHO grade 1 of GEP-NET is defined as a mitotic count (10HPF) of less than 2 and Ki-67 index (%) of less than or equal to 2.
	Prescribing Instructions: WHO grade 2 of GEP-NET is defined as a mitotic count (10HPF) of 2-20 and Ki-67 index (%) of 3-20.

These restrictions may be subject to further review. Should there be any changes made to the restriction the sponsor will be informed.

9 Context for Decision

The PBAC helps decide whether and, if so, how medicines should be subsidised through the Pharmaceutical Benefits Scheme (PBS) in Australia. It considers applications regarding the listing of medicines on the PBS and provides advice about other matters relating to the operation of the PBS in this context. A PBAC decision in relation to PBS listings does not necessarily represent a final PBAC view about the merits of the medicine or the circumstances in which it should be made available through the PBS. The PBAC welcomes applications containing new information at any time.

10 Sponsor's Comment

The sponsor had no comment.