Is that drug listed on the Pharmaceutical Benefits Scheme (PBS)?

Sharon Leadbitter, MPH (UNSW) MPP (ANU)
TACS Healthcare NSW Australia

#186

Objective

As one of the three pillars of Australia's universal public health system, the Pharmaceutical Benefits Scheme (PBS) provides equitable access to medicines for all Australians. Cancer is a leading cause of death of Australians (18% in 2020).[1] Hence, timely availability of new treatments on the PBS has become more critical than ever.

This retrospective review of the listing and use of cancer pharmacotherapies on the PBS considers whether the current scheme is meeting the needs of Australian medical oncologists, haematologists and their patients.

Methods

PBS and Repatriation PBS (RPBS) claims data for all funded programs, including chemotherapy, were sourced from the Services Australia [2] and PBS[3] websites. Services (prescription dispensed for a PBS item) for and benefit statistics were graphed by Anatomical Therapeutic Chemical (ATC) first level code over time. Proportions of Government expenditure and average cost per service were calculated.

Outcomes of Pharmaceutical Benefits Advisory Committee (PBAC) Meetings[4] were reviewed to identify considerations for the first indication of new products for non-small cell lung cancer (NSCLC) and Multiple Myeloma (MM), as representative of pharmacological treatments for solid tumour and haematology indications. The duration between marketing approval by the Therapeutic Goods Administration (TGA) and time points to PBS listing were determined.[5]

Table 2. New medicines for NSCLC and first PBS listing (1999-2023)

Drug Originator Brand	TGA approval for NSCLC	# PBAC reviews	First Indication PBS listing date	PBS Listing
Gefitinib, Iressa®	4/2003	3	12/2004	EGFRm required despite not being specified in TGA label
Pemetrexed, Alimta®	6/2004	1	4/ 2005	After prior platinum-based CTx. First-line listing delayed over comparator for pricing
Erlotinib, Tarceva®	1/2006	3	8/2008	After prior platinum-based CTx and docetaxel or pemetrexed. Listing removed after IPASS Study
Bevacizumab, Avastin®	10/2008	1	Not listed	Brand removed from PBS by Roche at patent expiry
Afatinib, Giotrif®	11/2013	1	5/2018	Not eligible for a Special pricing arrangement (SPA)
Crizotinib, Xalkori®	9/2013	3	7/2015	Managed Entry Scheme (MES) for first 50 patients
Nintedanib, Ofev®	9/2015	2	Not listed	Non-inferiority to pemetrexed not demonstrated In combination with docetaxel
Nivolumab, Opdivo®	1/2016	4	8/2017	Uncertainties with PD-L1 testing and pathway
Ceritinib, Zykadia®	3/2016	1	9/2017	Progressed on a prior ALKi Compared to platinum doublet then pemetrexed
Pembrolizumab, Keytruda®	3/2016	5	11/2018	Uncertainties and sensitivities following melanoma listing
Alectinib, Alecensa®	3/2017	1	1/2018	Progressed on a prior ALKi Cost-minimised to ceritinib
Atezolizumab, Tecentriq®	7/2017	1	4/2018	Not conditional on PD-L1 expression status
Osimertinib, Tagrisso®	8/2016	3	2/2019	Second-line T790m
Durvalumab, Imfinzi®	10/2018	3	3/2020	Unresectable Stage III
Lorlatinib, Lorviqua®	11/2019	1	8/2020	Previously treated with ALKi Cost-minimised to alectinib
Brigatinib, Alunbrig®	3/2019	1	5/2020	Line agnostic listing Cost-minimised to alectinib
Entrectinib, Rozlytrek®	5/2020	1	8/2020	ROS1-positive Cost-minimised to crizotinib
Tepotinib, Tepmetko®	1/2022	2	11/2022	Codependent: METex14sk test + Tepo vs no test + Pembro and/or CTx
Cemiplimab, Libtayo®	7/2020	1	11/2022	First-line in PD-L1≥50% cost-minimised to Pembro
Sotorasib, Lumakras®	3/2022	1	Not listed	KRAS G12C test + Sotorasib vs no test + Docetaxel Not recommended
Mobocertinib, Exkivity®	7/2022	2	Pending	Previously received platinum-based CTx EGFR ex20ins vs Std of care
Selpercatinib, Retevmo®	7/2023	1		In RET fusion positive vs Pembro + Pemetrexed + platinum based CTx Not recommended

Figure 1. PBS/RPBS services provided by ATC Code 1992/93 to 2022/23

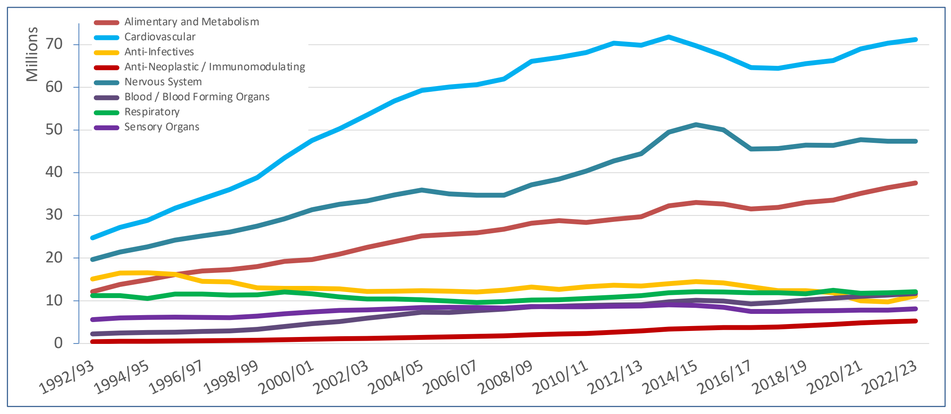

Figure 2. Australian Govt. PBS/RPBS expenditure by ATC Code 1992/93 to 2022/23

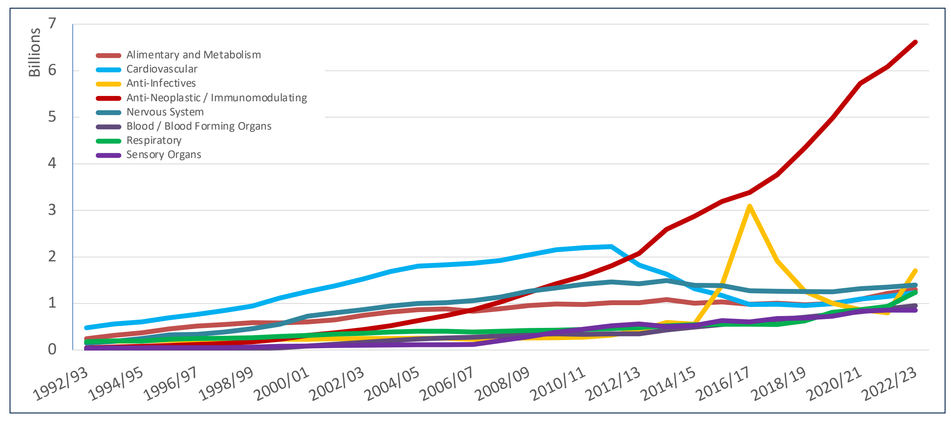

Table 3. New medicines for MM and first PBS listing (1999-2023)

Drug Originator Brand	TGA approval for MM	# PBAC reviews	First MM Indication PBS listing date	PBS Listing (d=dexamethasone)
Thalidomide (T) Pharmion®	?/2005	1	2/2006	RRMM Cost utility vs salvage treatment mix
Bortezomib (B) Velcade®	2/2006	4	11/2007	RRMM third-line Cost utility vs salvage treatment mix
Lenalidomide (L) Revlimid®	12/2007	2	11/2009	RRMM 1 prior therapy not T or B Cost utility Pd vs d (high dose)
Pomalidomide (P) Pomalyst®	7/2014	2	8/2015	RRMM failed both L and B Cost utility Pd vs d (high dose)
Elotuzumab (E) Empliciti®	9/2016	2	1/05/2023	RRMM at least 1 prior therapy Cost minimised ELd vs Cd
Ixazomib (I) Ninlaro®	11/2016	2	Not listed	Not recommended for cost utility in RRMM failed one (ILd vs Cd/Ld/DBd) or two (ILd vs Ld/Cd) prior lines
Carfilzomib (C) Kyprolis®	12/2016	2	1/2018	RRMM at least 1 prior therapy Cost utility Cd vs Bd
Daratumumab (D) Darzalex®	7/2017	4	1/2021	RRMM at least 1 prior therapy rejected twice, recommended for Second-line MM only Cost utility DBd vs Bd (or Cd)

Results

PBS/RPBS claims data was available by ATC for the 31-year period 1992/93 to 2022/23. Changes in the number of services provided and benefit paid by the Federal Government (excluding patient co-payments) for ATC groups contributing over 5% are shown in Figures 1 and 2. Table 1 provides cost breakdowns by ATC, including patient out of pocket contributions.

All ATC groups grew over time mirroring societal demographic changes. The higher growth of Cardiovascular, Nervous System and Alimentary groups reflect treatment innovations with statins, anti-depressants and proton-pump inhibitors, respectively.

The introduction of Section 100 High-Cost Drugs to reimburse States for in-hospital usage of certain therapies, and agreements between the Commonwealth and all States/Territories, except NSW/ACT, to permit PBS out-patient dispensing have also added service volume to the scheme. Increased costs have been offset by pricing policy changes, mostly directed at manufacturers, such as splitting into Formularies by molecule patent status, Price Disclosure and Efficient Funding of Chemotherapies (EFC).

While the proportion of total services for cancer treatments grew over time, the ATC group represented only 2.3% of PBS/RPBS activity in 2021/22. However, in the same year, the group represented 41.5% of total Government expenditure on the PBS/RPBS program and continuing to grow.

Table 2 lists new medicines requesting PBS listing for a NSCLC indication, and Table 3 for Multiple Myeloma from PBAC Meeting outcome documents available from December 1999. Public Summary Documents were introduced from July 2005. The number of PBAC considerations and date of TGA approval and PBS listing are noted.

Table 1. PBS/RPBS costs by ATC codes in 2021/22

ATC group	Proportion of subsidised services	Proportion total Government spend	Avg Cost per service to Govt	Patient contribution to total cost
Oncology	2.3 %	41.7 %	$ 1,203.33	1.4 %
Nervous system	21.4 %	9.2 %	$ 28.46	18.5 %
Alimentary	16.7 %	8.3 %	$ 33.31	20.2 %
Cardiovascular	32.2 %	7.9 %	$ 16.31	24.4 %
Respiratory	5.5 %	6.4 %	$ 78.96	13.4 %
Blood	5.1 %	6.1 %	$ 78.33	12.5 %
Sensory	3.5 %	5.9 %	$ 109.23	4.9 %
Anti-infectives	4.6 %	5.5 %	$ 82.15	8.2 %
Other	8.7 %	9.0%	-	-

Results

Table 4 summarises the time taken for innovative medicines for NSCLC and MM to navigate the necessary regulatory and reimbursement processes for a PBS listing.

Over the period covered, on average, new treatments for NSCLC were available to clinicians and patients 13 months earlier than those for the treatment of MM, 17 vs 30 months.

This difference was influenced by variability at each milestone. For example, the 10-month difference between submission lodgment for PBAC consideration between MM and NSCLC, 15 vs 5 months.

Table 4. Time to PBS listing for NSCLC and MM drugs (1999-2023)

Time between milestones	NSCLC (n=22) months (range)	MM (n=8) months (range)
TGA approval to first PBAC consideration	**5** (0-29)	**15** (0-50)
TGA approval to PBAC +ve recommendation	**10** (0-27)	**21** (4-58)
PBAC +ve recommendation to PBS listing	**7†** **(3-12)**	**9** (4-22)
TGA approval to PBS listing	**17†** (3-31)	**30** (13-80)

†Excludes afatinib as an outlier at 58 months due to global pricing policy

Discussion

Innovative medicines are now considered by the PBAC at similar times to TGA approval due to policies such as Parallel Processing and TGA Provisional pathways. Streamlining of PBS processes in the past 5 years see clinically effective drugs navigating the process usually within two PBAC considerations. Beyond this, intractable issues can introduce a significant lag between local treatment practices and internationally accepted standards of care.

The finding that there was an average 13-month difference in time to access new treatments for MM and NSCLC on the PBS over the period supports ongoing policy reform to accelerate access.

Conclusions

- Although variable time to access, the PBS/RPBS is serving patients with cancer, and their clinicians by subsidising innovative treatments.
- Treatments for cancer account for an increasing proportion of total Government expenditure on the scheme. Currently, over 40% and growing.
- Although the proportion of patient out-of-pocket costs are comparatively low, the actual amount can be significant and inequitable relative to other therapeutic areas.

Contact

Sharon.Leadbitter@tacshealthcare.com.au
www.tacshealthcare.com.au
0407 032 359

Notes

- RPBS services represented ~2% of the total PBS/RPBS activity in 2021/22 and are included in figures presented.
- In 2021/22, ~70% of total PBS/RPBS Govt expenditure was paid to manufacturers, 26% to pharmacies and 5% to wholesalers.
- However, published costs do not include rebates paid by manufacturers as part of pricing agreements with the Government to secure a PBS listing. These represent ~23% of the total cost of the PBS/RPBS per year.
- In 2021/22, 32% of the 316 million services provided were under co-payment thresholds ($42.50 for General and $6.80 for Concessional patients) i.e., patient out of pocket. Of the services with a cost to Government, 90.3% were in the Concessional patient category.

References

1. AIHW. Deaths in Australia. Table S3.1
2. Services Australia PBS item reports.
3. PBS Expenditure and Prescriptions Report 2021-22.
4. PBAC Meeting Outcomes & Public Summary Documents.
5. Australia Register of Therapeutic Goods.