

Trends in Medical Services Reimbursement Outcomes in Australia: A Novel and Comprehensive Analysis

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BACKGROUND

Recommendations from Australia’s Medical Services Advisory Committee (MSAC) provide advice to the Minister of Health to inform reimbursement decisions regarding medical services¹. Applicants apply for reimbursement to have their medical services added to the medical benefit service (MBS) list². Safety, clinical effectiveness, & value-for-money are the core attributes of reimbursed services¹.

OBJECTIVES

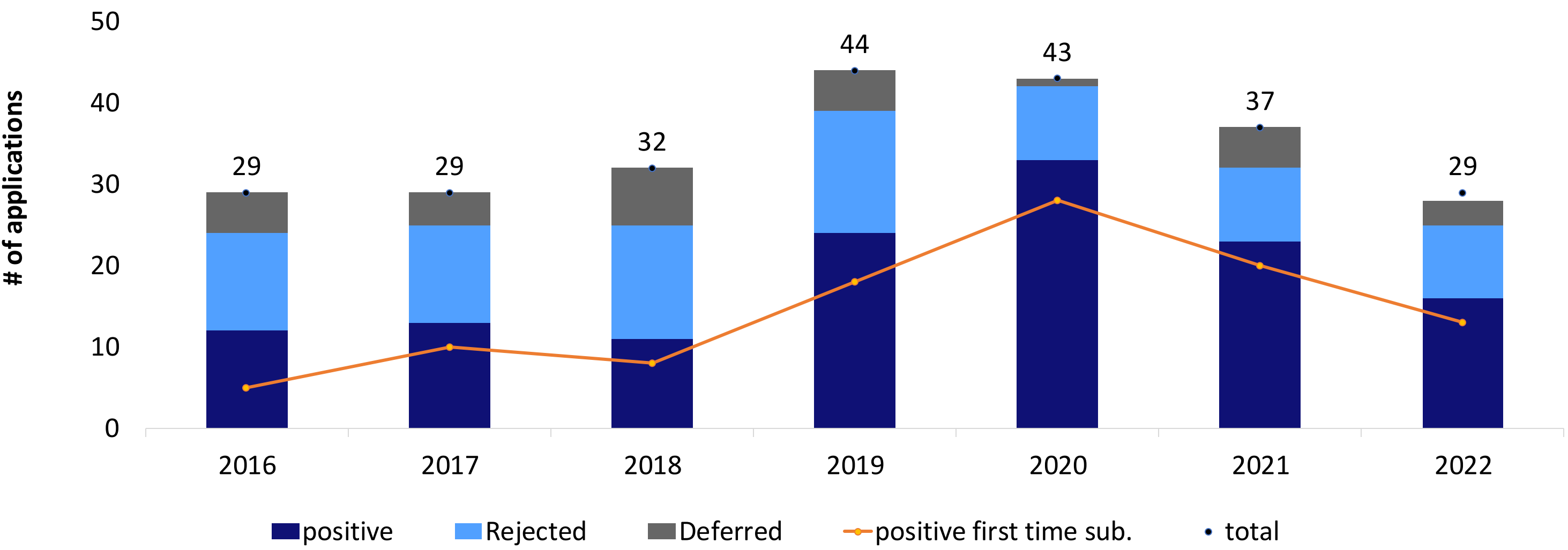
- Address gaps in literature by analyzing recent trends regarding MSAC’s recommendations
- Uncover the key drivers of rejection for rejected applications
- Present noteworthy key factors found in recommended submissions to help improve future submission quality and acceptance rates

METHODS

- Data was collected from the meeting agendas' public summary documents (PSDs) between the years 2016 to 2022 posted on the MSAC website
- Submissions were evaluated thoroughly and categorized based on the service, intended use or item description, and applicant’s name or associated company. The type of the application was also noted as diagnostic services, treatment or therapeutic services, or programs. Disease areas were also identified to analyze trends of which disease areas received the highest number of applications per year. submission attempt and outcome of applications were also noted, which varied between recommended, rejected, or deferred
- Graphical representations over the period, trends in submission rates, as well as positive recommendation, rejection, and deferment rates were created. The mean of first attempt submissions that received a positive recommendation was calculated
- Rejected and deferred applications between 2016 and 2022 were investigated for the main remarks MSAC noted in their section “MSAC’s advice to the Minister”
- The primary reasons for rejection were categorized into clinical, cost-related, economic model-related, budget impact related, inaccurate population description, pending other regulatory HTA body’s approval, and others
- The clinical reasons were further subcategorized into unclear/lack of clinical evidence, unclear safety, and insufficient/uncertain comparative studies
- Cost-related reasons were separated into high costs and uncertainty regarding costs
- Economic model-related reasons were subcategorized into uncertainty regarding the calculated incremental cost-effectiveness ration (ICER), ICER value above the set threshold, or use of incorrect economic model
- Budget impact was separated into high budget impact & uncertainty regarding the budget impact
- Positive recommendation from first attempt were evaluated for key drivers that led to their success. Factors included the value of knowing, equity of access, and evidence from clinical trials with long follow-up durations (e.g., 2 to 5 years)
- The above-mentioned data was categorized by 1 author (YK). To reinforce the reliability of the data, an independent researcher (CK) reviewed the collected data and categorization of the reasons for rejection. If a recommendation was made by the reviewer which the first author did not agree with, a third researcher (DC), was consulted to determine the outcome
- Counts for the reasons of rejection and key drivers for positive recommendations were calculated
- Data collection, visualization, & the respective calculations were conducted using Microsoft Excel

RESULTS

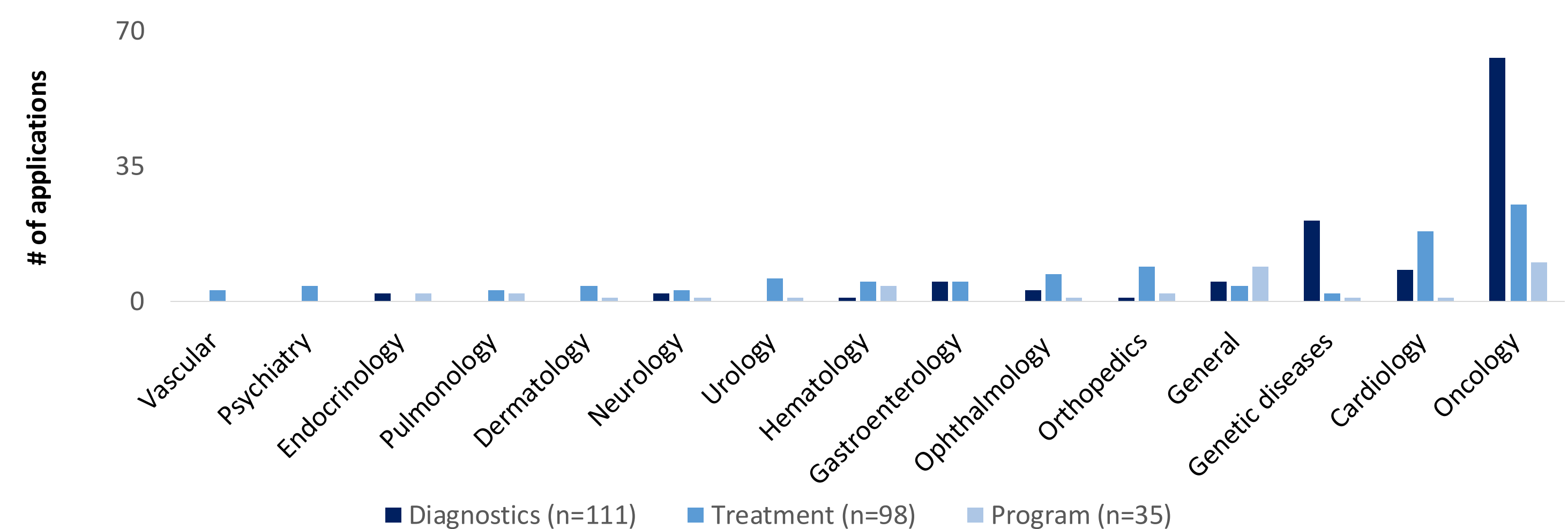
Figure 1. Decision outcome trends between 2016-2022



Trends:

- Over the course of 7 years, a total of 244 applications were retrieved
- The number of submissions per year and a quantification of the outcomes is presented in Figure 1. There was a modest variation in the number of applications submitted per year between 2016 and 2018 with a sharp rise in 2019, reaching the highest recorded number of submissions in that year (n=44). However, a gradual drop in the number of submissions was observed from 2019 to 2022 (n=44 in 2019 to n=29 in 2022)
- Overall, applications that received a positive recommendation were the most prevalent (53%), followed by rejected and deferred applications (34% and 13% respectively). It was noteworthy to see that a vast majority of the recommended applications were first time submissions (74%)

Figure 2. Application count by type and disease areas



Application type and disease areas

- Submissions pertaining to diagnostic services were the highest (n=111; 45%), followed by treatment services (n=98; 40%), and programs (n=35; 15%). Applications also varied based on the therapeutic area and 14 different therapeutic areas were identified, with an additional category containing medicinal areas with 1 relevant submission over the set duration, labeled “general”
- Services related to oncology were the most prevalent (40%), followed by cardiology (11%) and genetic diseases (9%)

Table 1: (sub-)Categories for rejection counts and percentage

Category	Subcategory	#	Total (n=236/100%)
Clinical reasons	Unclear/lack of clinical effectiveness	57	43.6%
	Unclear safety	15	
	Insufficient/uncertain comparative evidence	31	
Cost-related reasons	High costs	4	4.7%
	Uncertain cost	7	
Economic model-related reasons	Uncertainty regarding the ICER	37	29.7%
	Economic model (or part of it) is wrong	18	
	ICER is (too) high	15	
Inaccurate population description	-	7	3.0%
Other	-	12	5.1%
Budget impact	High budget impact	5	8.5%
	Uncertainty regarding budget impact	15	
Pending PBAC/TGA (other HTA body) approval	-	13	5.5%

Drivers for rejection

A total of 110 rejected and deferred applications were uncovered in the search. The analysis showed that the most common reasons were around the clinical information (44%). Under this category “unclear or lack of clinical effectiveness” was the most cited reason for rejection. Moreover, issues with the economic model represented 30% of the causes for rejection, with uncertainty around ICER as the major one. This was followed by a high budget impact associated with the service (8%), pending other regulatory bodies’ approval (6%), high costs of the services (5%) and inaccurate population description (3%).

Table 2: Key drivers for acceptance between 2021 & 2022

Year	Value of knowing	Increase Equity of Access	Reduces future costs	Reference trials with long follow-up period	Strong evidence of clinical efficacy	Approved in another country	Services targets an unmet need	Precisely defined target population
2021	3	4	4	5	1	2	2	0
2022	3	7	0	4	0	0	0	2
Total	6	11	4	9	1	2	2	2

Drivers for acceptance

Between 2021-2022, applications with a positive recommendation at the 1st attempt showed several unique drivers for acceptance. A total of 33 applications were first time submissions that received recommendation for reimbursement. As present in Table 2, eight key drivers for acceptance were identified and are presented. These included value of knowing, equity of access, reduced future costs, trials with long follow-up period, strong clinical evidence of efficacy, service approved and/or reimbursed in another country, serving an unmet clinical need, and precisely defined target population. Increased equity of access was the most common driver, found in 11 out of the 33 PSDs, followed by trials with long follow-up period that was observed in 9 out of 33 PSDs. Value of knowing was described in 6 out of the 33 PSDs, while reduction of future costs was found in 4 out of the 33 PSDs.

CONCLUSION

This analysis shows that MSAC has a high rate of recommending first time submissions for reimbursement. Findings provide unprecedented evidence on most common reasons for rejection and potential drivers for acceptance. The inclusion of Value of Knowing (non-health outcomes) in several submissions indicates MSACs recognition that the value of a medical technology often extends beyond standard clinical and economic criteria.

REFERENCES

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