

# Usage of Topical Calcineurin Inhibitors in the Medicare Population from 2013 to 2018

Christine Learned BA, Sara Alsukait MBBS, David Rosmarin MD

Tufts Medical Center Department of Dermatology, Boston, MA

## INTRODUCTION

Topical calcineurin inhibitors are a family of drugs that have been touted for having high efficacy without the risks of cutaneous atrophy and systemic absorption seen with topical corticosteroids.<sup>1</sup> They may play an important role in the elderly population, where preexisting cutaneous atrophy increases susceptibility to these adverse effects.<sup>1-3</sup> Until 2014, the topical calcineurin inhibitors were only available as branded medications; however, in 2014, generic tacrolimus ointment entered the United States' prescription drug market. There is currently little information regarding usage trends in the elderly, and how usage and costs were impacted by generic availability of tacrolimus.<sup>2,4</sup> We aim to systematically analyze prescription claims and costs for calcineurin inhibitors in the Medicare population.

We compiled data using Medicare's Part D Prescriber Public Use File (PUF). We report prescription totals and costs for branded pimecrolimus, branded tacrolimus, and generic tacrolimus from the years 2013-2018 that were prescribed by dermatologists.

Claims for tacrolimus increased by an average of 43.9% from 2013 to 2018, with the largest increases happening after 2015 (Table 1, Figure 1A). As expected, once tacrolimus became generic, branded tacrolimus use declined. Claims for pimecrolimus remained relatively stable (Table 1, Figure 1A). With the increased claims for calcineurin inhibitors, overall spending on calcineurin inhibitors increased, while cost-per-claim decreased from \$370 in 2013 to \$345 in 2018 (Table 1, Figure 1B).

**FIGURE 1.** Annual Medicare claims (1A) and annual spending (1B) for calcineurin inhibitors among dermatologists from 2013 to 2018.

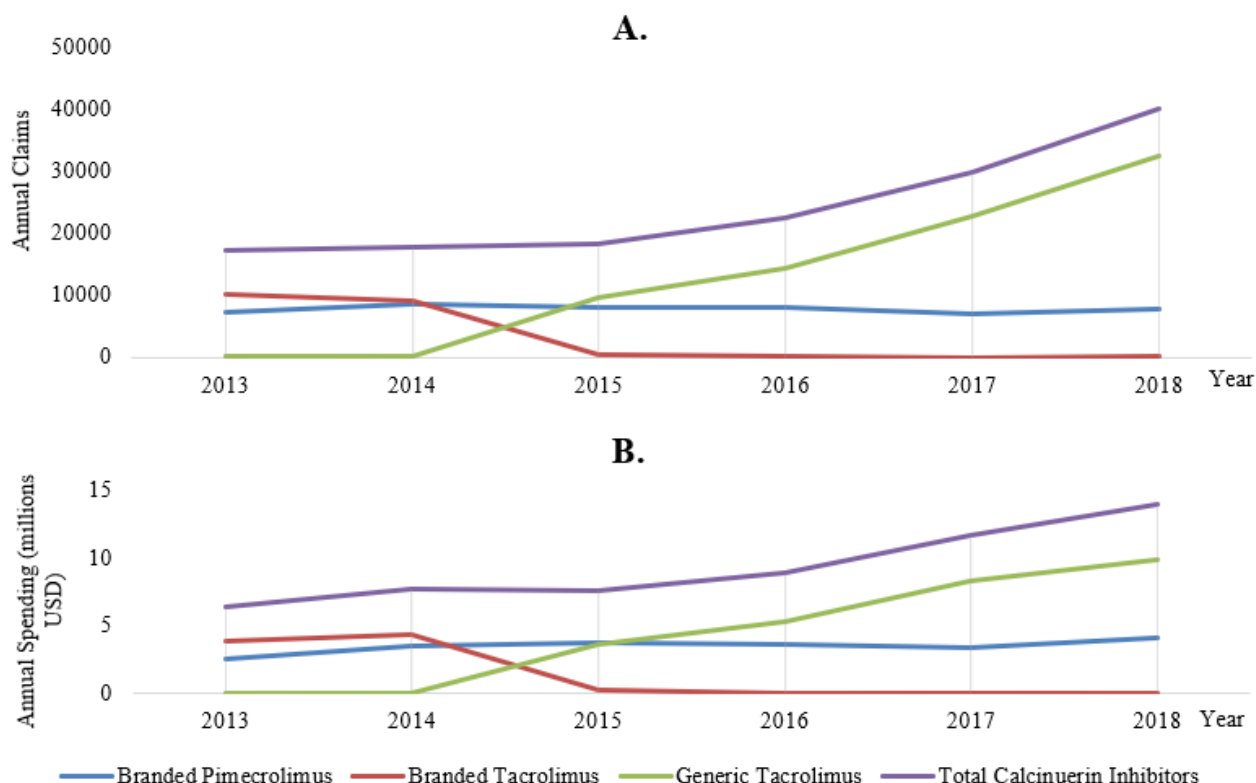


TABLE 1.

Annual Medicare Claims and Spending on Calcineurin Inhibitors Among Dermatologists								
	Branded Pimecrolimus		Branded Tacrolimus		Generic Tacrolimus		Total Calcineurin Inhibitors	
	Annual Claims	Annual Spending (millions USD)	Annual Claims	Annual Spending (millions USD)	Annual Claims	Annual Spending (millions USD)	Annual Claims	Annual Spending (millions USD)
2013	7161	2.51	10101	3.89	47	0.01	17309	6.40
2014	8554	3.42	9119	4.27	79	0.00	17752	7.69
2015	8157	3.71	477	0.25	9621	3.65	18255	7.61
2016	8078	3.60	83	0.04	14313	5.28	22474	8.92
2017	6977	3.33	12	0.01	22796	8.25	29785	11.59
2018	7772	4.04	34	0.03	32392	9.81	40198	13.88

It is possible that this rise in Medicare claims reflects the utility of tacrolimus in this population, and that the sustained upward trend is predictive of a growing role for topical calcineurin inhibitors with elderly patients.<sup>5</sup> Additionally, the increase in claims following generic availability may underscore how brand name drug cost acts as a barrier to prescriptions. Of note, this study is limited by a lack of causality. We were also limited by an inability to filter data based on formulation, and by the fact that the Medicare population is heterogenous and does not include all elderly in the US. Further analysis of these trends will be necessary to fully understand the factors that underlie the use of topical calcineurin inhibitors and their role in the Medicare population.

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#### AUTHOR CORRESPONDENCE

**David Rosmarin MD**

E-mail: ..... drosmarin@tuftsmedicalcenter.org

#### DISCLOSURES

David Rosmarin MD has received honoraria as a consultant for AbbVie, Abcuro, AltruBio, Boehringer-Ingelheim, Bristol Meyers Squibb, Celgene, Concert, Dermavant, Dermira, Incyte, Janssen, Kyowa Kirin, Lilly, Novartis, Pfizer, Regeneron, Sanofi, Sun Pharmaceuticals, UCB, VielaBio; has received research support from AbbVie, Amgen, Bristol Meyers Squibb, Celgene, Dermira, Galderma, Incyte, Janssen, Lilly, Merck, Novartis, Pfizer, and Regeneron Pharmaceuticals Inc; and has served as a paid speaker for AbbVie, Amgen, Celgene, Janssen, Lilly, Novartis, Pfizer, Regeneron Pharmaceuticals Inc., and Sanofi. The other authors have no conflicts of interest to declare. IRB approval status: exempt.

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