BUDGET IMPACT ANALYSIS FOR THE USE OF DUPILUMAB IN PATIENTS WITH SEVERE ASTHMA IN COLOMBIA

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Objective

- Determine the budget impact of financing dupilumab as a treatment of patients with severe asthma in Colombia from the healthcare system perspective.

Methods

- A five-year projective Budget Impact Model was developed from the healthcare system perspective including only direct medical costs for the treatment of severe asthma.
- The target population[1,2,3], clinical data for healthcare resources required, exacerbations rates[4], discontinuation rates[5] for the alternatives and costs for the analysis (Table 1.) were obtained from national public databases and published literature.
- Market share of treatments projected for the five-year time frame in current scenario and new scenario (introduction of dupilumab) are based upon local market evolution analysis as seen in Table 2.

Table 1. Costs Summary

Costs	Value ($USD)	Annual Cost ($USD) Year 1 – Year2+	Source
Omalizumab (150mg)	$ 246,43	$10.842.9	National Drug Price information system (SISMED) 2020
Mepolizumab (100mg)	$ 816,52	$10.614,8	
Benralizumab (30mg)	$ 1.772,95	$14.183,6 - $10.637,7	
Dupilumab (200mg)	$ 374,29	$10.105,8 - $9.731,5	
Dupilumab (300mg)	$ 561,43	$15.158,61 - $14.597,2	
Administration of biologics	$ 35,47	-	National Healthcare tariff manuals
Exacerbation management*	$ 701,53	-	

*Based on clinical expert panel

1 $USD = 3826 $COP

Table 2. Scenarios Market Share

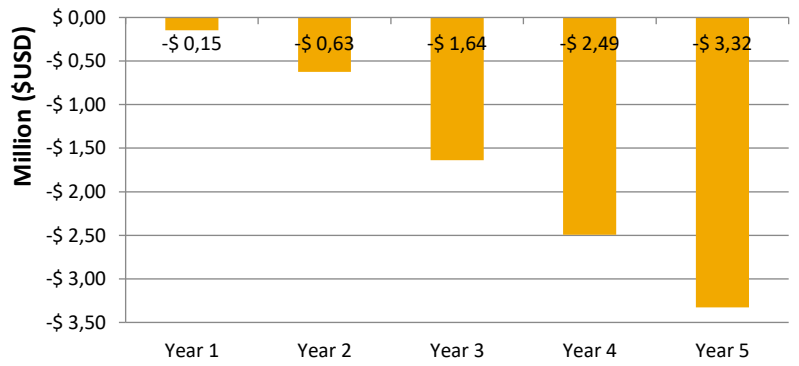
	Year 1	Year 2	Year 3	Year 4	Year 5
Number of patients	34334	34701	35072	35447	35826
Current Scenario Market Mix					
	Year 1	Year 2	Year 3	Year 4	Year 5
Non biological therapies	84,1%	76,2%	73,5%	72,6%	71,9%
Omalizumab	11,6%	15,1%	13,7%	12,3%	11,6%
Mepolizumab	1,8%	4,1%	6,6%	8,2%	9,0%
Benralizumab	2,5%	4,7%	6,2%	7,0%	7,5%
New Scenario Market Mix					
	Year 1	Year 2	Year 3	Year 4	Year 5
Non biological therapies	84,1%	76,2%	73,5%	72,6%	71,9%
Omalizumab	11,2%	14,4%	12,0%	9,5%	7,8%
Mepolizumab	1,4%	3,4%	4,9%	5,4%	5,1%
Benralizumab	2,1%	4,0%	4,5%	4,2%	3,7%
Dupilumab*	1,2%	2,1%	5,2%	8,4%	11,6%

*200mg & 300mg in a 70/30 proportion

Table 3. Budget Impact Results

Total annual costs	Year 1	Year 2	Year 3	Year 4	Year 5
Current Scenario	$ 111.962.357	$ 145.237.570	$ 156.346.817	$ 160.597.000	$ 164.938.528
New Scenario	$ 111.813.317	$ 144.612.481	$ 154.707.541	$ 158.103.338	$ 161.613.823
Difference	-$ 149.040	-$ 625.089	-$ 1.639.276	-$ 2.493.662	-$ 3.324.705
% Difference	-0,13%	-0,43%	-1,05%	-1,55%	-2,02%

Figure 1. Budget Impact (Difference New vs. Current Scenario



Results

- The adoption of dupilumab into the Colombian healthcare system resulted in the following cost reductions USD $149,040, to $3.324 million for years 1 to 5 (Table 3. & Figure 1.).
- The lower annual treatment cost for dupilumab compared to other alternatives has the greatest impact on the observed results.

Conclusion

- The use of Dupilumab to treat patients with severe asthma results in cost-savings to the healthcare system.
- From a financing perspective Dupilumab represents the best alternative to reduce costs.

References

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