Cost-Consequence Analysis of Upadacitinib for the Treatment of Moderate-to-Severe Atopic Dermatitis in Colombia

Felipe Afanador,[1] Adolfo Torres[2] Jazmin Pinzon,[3] Domenico Ruocco,[4] Daisy San Martin [5]

Affiliations: [1,2,3,4]AbbVie SAS Cluster North, Bogotá, Colombia; University of Antioquia, Medellin, Colombia.

OBJECTIVE

To evaluate the clinical and economic impact of upadacitinib (15 mg and 30 mg) compared with dupilumab (300 mg), abrocitinib (100 mg and 200 mg), baricitinib (2 mg and 4 mg) and lebrikizumab (250 mg) in Colombia.

CONCLUSIONS

Increasing upadacitinib use in moderate-to-severe atopic dermatitis (AD) improves patient outcomes and safety, albeit with higher total costs

Lebrikizumab is associated with a lower response rate and higher costs.

Upadacitinib provides greater clinical benefit at a higher budgetary impact, whereas the inclusion of lebrikizumab moderates costs and improves safety outcomes but offers lower relative efficacy

The results show the clinical potential of upadacitinib and the need to continue generating evidence to support future evaluations and negotiation processes in the Colombian healthcare system

AbbVie and the authors thank the participants, study sites, and investigators who participated in this Medical Impact Health study.

AbbVie funded this trial and participated in the trial design, research, analysis, data collection, interpretation of data, and the review and approval of the publication. All authors had access to relevant data and participated in the drafting, review, and approval of this publication. No honoraria or payments were made for authorship. The authors thank for acknowledgements for [add brief statement of contribution. Medical writing support was provided by Sapyens-Bogotá, Colombia.

Financial arrangements of the authors with companies whose products may be related to the present report are listed as declared by all authors.

These data were previously presented at ISPOR Congress, Philadelphia EEUU. May 17-20 2026.

To submit a medical question, please visit www.abbviemedinfo.com

INTRODUCTION

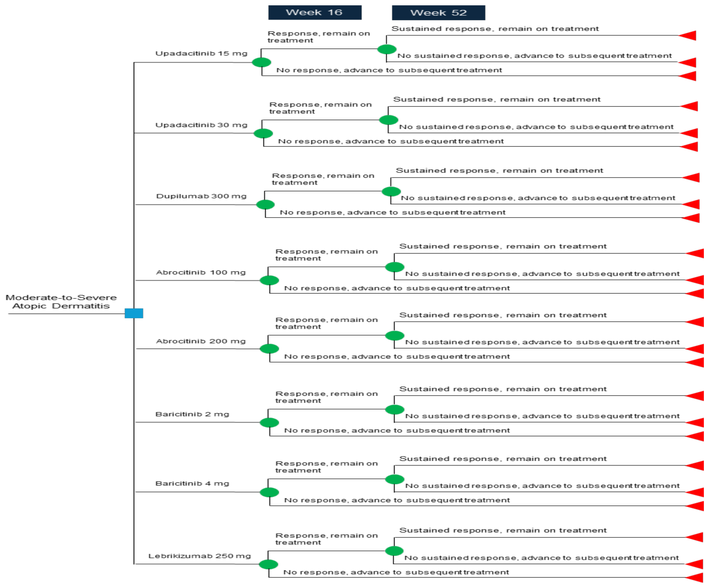
- Atopic dermatitis is a chronic inflammatory skin disease marked by dry, inflamed and intensely itchy skin that appears persistently or recurrently anywhere on the body[1]
- Conventional systemic therapies like cyclosporine treat moderate-to-severe AD, but some patients respond poorly or cannot tolerate them. New targeted drugs such as dupilumab and baricitinib, and more recently abrocitinib, tralokinumab, and upadacitinib, offer improved options for these patients[2-8]
- In Colombia, AD affects up to 24.6% of some groups and 1–3% of adults, with rising rates since 2018, underscoring the need for a cost-consequence analysis to assess treatment outcomes and healthcare costs for moderate-to-severe AD in the Colombian health system[9]

METHODS

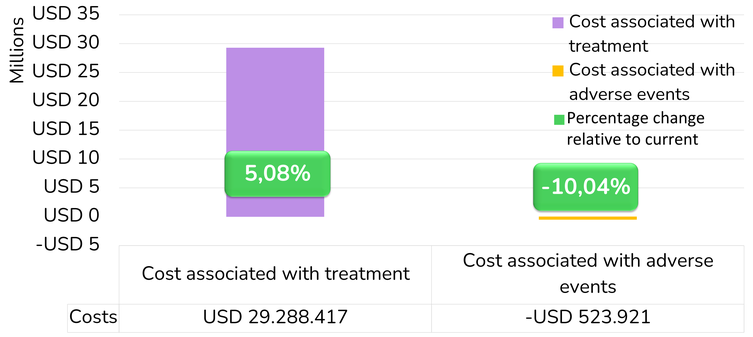
- A cost-consequence model based on a decision tree was developed from the perspective of the Colombian health system over a one-year time horizon[11-16]
- The model included direct medical costs of drugs, administration, adverse events, and subsequent treatments[12-16]
- Clinical outcomes were derived from pivotal trials, considering EASI75 (16 weeks) and EASI90 (52 weeks) response rates[12-16]

RESULTS

Model structure diagram



Base case results



- In this scenario, a 30% increase in the use of the 15 mg formulation and a 40% increase in the 30 mg formulation were assumed, with proportional redistribution among the other currently available therapies
- The analysis was based on the projected Colombian population for 2024 and the estimated number of patients eligible for treatment according to the prevalence of moderate-to-severe atopic dermatitis[9,16-20]

Clinical Impact **[9,16-20]**

- The number of patients achieving treatment response at 52 weeks increased from 36,983 in the current scenario to 40,926 in the new scenario, representing a 10.66% increase
- This corresponds to 3,943 additional responders attributable to the change in market distribution
- Regarding safety, the number of patients experiencing adverse events decreased from 49,557 to 45,069, equivalent to 4,489 fewer patients affected, representing a 9.06% relative reduction

Economic Impact **[21-27]**

- Treatment costs increased by USD 29,288,417, representing a 5.08% rise compared with the current scenario Adverse event costs decreased by USD 523,921, a 10.04% reduction
- Overall, the system would assume a net annual increase of USD 28,764,496, corresponding to an overall 4.95% rise in total costs compared with the current scenario

These results demonstrate that increased adoption of upadacitinib is associated with improved clinical outcomes and incremental cost to the healthcare system

Results of the analysis scenario

- An additional scenario was evaluated incorporating lebrikizumab with an 8% market share, while maintaining the increased adoption of upadacitinib (30% for the 15 mg formulation and 40% for the 30 mg formulation)
- The remaining market share of the other therapies were proportionally adjusted
- The following outcomes were observed under this scenario:
  - The number of patients achieving clinical response was lower than in the base-case scenario (7.83% vs. 10.66%), indicating a smaller incremental benefit in treatment effectiveness
  - The proportion of patients not experiencing adverse events increased by 2.25%, compared with the 9.06% reduction observed in the base-case scenario
  - The costs associated with adverse events increased by 1.36%, in contrast to the 10.04% reduction observed in the base-case analysis
  - Treatment costs rose by 3.27%, a smaller relative increase than the 5.08% observed in the base-case scenario
  - The total economic impact was lower than in the base-case scenario, indicating that although treatment and adverse event costs both increased, the net budgetary effect was smaller than that of the upadacitinib-only adoption scenario

1.Boguniewicz M, Fonacier L, Guttman-Yassky E, Ong PY, Silverberg J, Farrar JR. Atopic dermatitis yardstick: Practical recommendations for an evolving therapeutic landscape. Ann Allergy Asthma Immunol. 2018;120(1):10-22.e2. doi:10.1016/j.anai.2017.10.039
2.Edwards SJ, Karner C, Jhita T, et al. Abrocitinib, tralokinumab and upadacitinib for treating moderate-to-severe atopic dermatitis. Health Technol Assess. 2024;28(4):1-113. doi:10.3310/LEXB9006
3.Bieber T, Simpson EL, Silverberg JI, et al. Abrocitinib versus Placebo or Dupilumab for Atopic Dermatitis. New England Journal of Medicine. 2021;384(12):1101-1112. doi:10.1056/NEJMoa2019380
4.Silverberg JI, de Bruin-Weller M, Bieber T, et al. Upadacitinib plus topical corticosteroids in atopic dermatitis: Week 52 AD Up study results. J Allergy Clin Immunol. 2022;149(3):977-987.e14. doi:10.1016/j.jaci.2021.07.036
5.Ariëns LFM, van der Schaft J, Spekhorst LS, et al. Dupilumab shows long-term effectiveness in a large cohort of treatment-refractory atopic dermatitis patients in daily practice: 52-Week results from the Dutch BioDay registry. Journal of the American Academy of Dermatology. 2021;84(4):1000-1009. doi:10.1016/j.jaad.2020.08.127
6.Simpson EL, Lacour JP, Spelman L, et al. Baricitinib in patients with moderate-to-severe atopic dermatitis and inadequate response to topical corticosteroids: results from two randomized monotherapy phase III trials. Br J Dermatol. 2020;183(2):242-255. doi:10.1111/bjd.18898
7.Paller AS, Flohr C, Eichenfield LF, et al. Safety and Efficacy of Lebrikizumab in Adolescent Patients with Moderate-to-Severe Atopic Dermatitis: A 52-Week, Open-Label, Phase 3 Study. Dermatol Ther (Heidelb). 2023;13(7):1517-1534. doi:10.1007/s13555-023-00942-y
8.Reich K, Thyssen JP, Blauvelt A, et al. Efficacy and safety of abrocitinib versus dupilumab in adults with moderate-to-severe atopic dermatitis: a randomised, double-blind, multicentre phase 3 trial. The Lancet. 2022;400(10348):273-282. doi:10.1016/S0140-6736(22)01199-0
9.Londoño AM, Castro-Ayarza JR, Kronfly A, Buitrago DC, Samacá DF. Epidemiology and healthcare resource utilization in atopic dermatitis in Colombia: A retrospective analysis of data from the National Health Registry from 2015 to 2020. Biomedica. 2023;43(1):107-120. doi:10.7705/biomedica.6666
10.Manual metodológico para la elaboración de análisis de impacto presupuestal de tecnologías en salud en Colombia (segunda edición) – IETS. Accessed October 14, 2025.
11.Ständer S. Atopic Dermatitis. N Engl J Med. 2021;384(12):1136-1143. doi:10.1056/NEJMra2023911
12.ARCHER CB. Atopic dermatitis—an obvious diagnosis? Clin Exp Dermatol. 1986;11(6):560-563. doi:10.1111/j.1365-2230.1986.tb00508.x
13.Cuervo MM, Sanclemente G, Barrera LM. Caracterización clínica, sociodemográfica y determinación del impacto en la calidad de vida de pacientes con dermatitis atópica de la ciudad de Medellín y su área metropolitana. Biomédica. 2021;41(4):676-691. doi:10.7705/biomedica.5978
14.Skayem C, Richard MA, Saint Aroman M, et al. Epidemiology of atopic dermatitis: a global worldwide study. Clin Exp Dermatol. 2025;50(10):2054-2056. doi:10.1093/ced/llaf233
15.Sanclemente G, Hernandez N, Chaparro D, Tamayo L, Lopez A. Epidemiologic features and burden of atopic dermatitis in adolescent and adult patients: A cross-sectional multicenter study. World Allergy Organ J. 2021;14(12):100611. doi:10.1016/j.waojou.2021.100611
16.Drucker AM, Wang AR, Li WQ, Sevetson E, Block JK, Qureshi AA. The Burden of Atopic Dermatitis: Summary of a Report for the National Eczema Association. J Invest Dermatol. 2017;137(1):26-30. doi:10.1016/j.jid.2016.07.012
17.Londoño J, Perez L, Moreno S, et al. Effectiveness and safety of dupilumab in adults with moderate and severe atopic dermatitis in Colombia: Real-life experience. World Allergy Organ J. 2023;16(4):100763. doi:10.1016/j.waojou.2023.100763
18.Resolución 586 de 2021 Ministerio de Salud y Protección Social. Accessed October 14, 2025. https://www.alcaldiabogota.gov.co/sisjur//normas/Norma1.jsp?i=164719
19.Chu AWL, Wong MM, Rayner DG, et al. Systemic treatments for atopic dermatitis (eczema): Systematic review and network meta-analysis of randomized trials. J Allergy Clin Immunol. 2023;152(6):1470-1492. doi:10.1016/j.jaci.2023.08.029
20.Sistema de Información de Prestaciones de Salud - RIPS. Accessed October 14, 2025. https://www.minsalud.gov.co/proteccionsocial/paginas/rips.aspx
21.Pages - SISMED - Sistema de Información de Precios de Medicamentos. Accessed October 14, 2025. https://www.sispro.gov.co/central-prestadores-de-servicios/Pages/SISMED-Sistema-de-Informacion-de-Precios-de-Medicamentos.aspx
22.Compilación Jurídica del Invima - Compilación normativa del Invima. Accessed October 14, 2025. https://normograma.invima.gov.co/compilacion/cndic_comision_nacional_precios_medicamentos_dispositivos_medicos.html
23.Páginas - Unidad de pago por capitación (UPC). Accessed October 14, 2025. https://www.minsalud.gov.co/salud/POS/paginas/unidad-de-pago-por-capitacion-upc.aspx
24.DANE - Índice de Precios al Consumidor (IPC). Accessed October 14, 2025. https://www.dane.gov.co/index.php/estadisticas-por-tema/precios-y-costos/indice-de-precios-al-consumidor-ipc
25.Consulta contenido de una tabla de referencia. Accessed October 14, 2025. https://web.sispro.gov.co/WebPublico/Consultas/ConsultarDetalleReferenciaBasica.aspx?Code=CUPS
26.Tasa de cambio o tasa de cambio representativa del mercado (TRM) | Banco de la República. Accessed October 14, 2025. https://www.banrep.gov.co/es/glosario/tasa-cambio-trm
27.CIRCULAR 19. Accessed October 14, 2025. https://www.suin-juriscol.gov.co/clp/contenidos.dll/Circular/30051691?fn=document-frame.htm$f=templates$3.0