

# Cost-minimization analysis of damoctocog alfa pegol versus emicizumab prophylaxis in patients with severe hemophilia A without inhibitors in Colombia, Peru and Costa Rica

Claudia A. López-Cabra, MD, MSc., Viviana Londoño, MD, Hematologist, Oscar Andres Peñuela, MD, MSc, Laura Milena Ramirez, Abg., MSc. Bayer, Bogota, Colombia

## Introduction

Hemophilia A is a rare, usually congenital, condition associated with a deficiency or reduced production of clotting factor VIII (1). To prevent bleeding, patients are continuously administering medications that prevent episodes of acute bleeding in the joints and the progression to serious physical disability that affects their quality of life (2). Selecting a treatment that offers the best cost-benefit ratio will allow more patients to benefit from prophylactic therapy. This will provide policymakers with the necessary information to define public policies related to the procurement of medications for this clinical condition (3). This study compares the costs of extended-half-life FVIII prophylaxis versus a non-replacement therapy to inform health system decisions that balance optimal outcomes, fiscal sustainability, and universal access for eligible non-inhibitor patients with Hemophilia A (4). From a clinical perspective, the Annualized Bleeding Rate (ABR) results are not different between the two therapies (.

## Objectives

To estimate annual treatment acquisition costs and conduct a cost minimization comparison of drug consumption between damoctocog alfa pegol and emicizumab for prophylaxis in patients with severe hemophilia A without inhibitors in Colombia, Peru, and Costa Rica. In Costa Rica and Peru, damoctocog alfa pegol does not have regulatory approval, and in Colombia, it does not yet have the indication for patients under 12 years old. The approved label from the EMA and FDA is used in the analysis

## Methods



- ✓ An economic evaluation of the cost-minimization type (CMA) was conducted.
- ✓ The analysis was conducted from the third-party payer perspective for the countries involved
- ✓ Time horizon of the first and second year.
- ✓ Emicizumab prices were taken from the public database of prices reported in public market SISMED for Colombia, SEACE for Peru and Costaricense Social Security Database report for Costa Rica. In case of damoctocog alfa pegol, the prices were taken of SISMED for Colombia and for Perú and Costa Rica does not have regulatory approval, so the prices were estimated using international referring analysis of Central America and Andean region prices.

## Population



- ✓ The target population consists of patients with hemophilia A without inhibitors, focusing on severe hemophilia A
- ✓ Number of patients for severe hemophilia A without inhibitors were sourced from prevalence reported in World Federation of Hemophilia (WFH) report and the High-Cost Account Hemophilia 2024 Report for Colombia was using for stratified by age into four groups are modeled: 0–9 years, 10–14 years, 15–19 years, and ≥20 years.
- ✓ Mean body weights were obtained from nutrition surveys for each country, and dosing inputs were derived from the PROTECT VIII and HAVEN 3 clinical programs

## Comparisons & Model



- ✓ Compare the annual costs year 1 & year 2 of prophylactic treatment with damoctocog alfa pegol, rFVIII EHL versus emicizumab in patients with severe hemophilia A without inhibitors.
- ✓ Damoctocog alfa pegol (Prophylaxis): The model incorporates schemes with different frequencies and doses (IU/kg), with a distribution of patients derived from the clinical trial scheme
  - Twice a week, "low bleeding": 31,5 IU/kg; 6.25%
  - Twice a week, "high bleeding": 38,9 IU/kg; 18.75%
  - Every 5 days (~1.4/week): 45,3 IU/kg; 46%
  - Every 7 days (1/week): 56,8 IU/kg; 29%

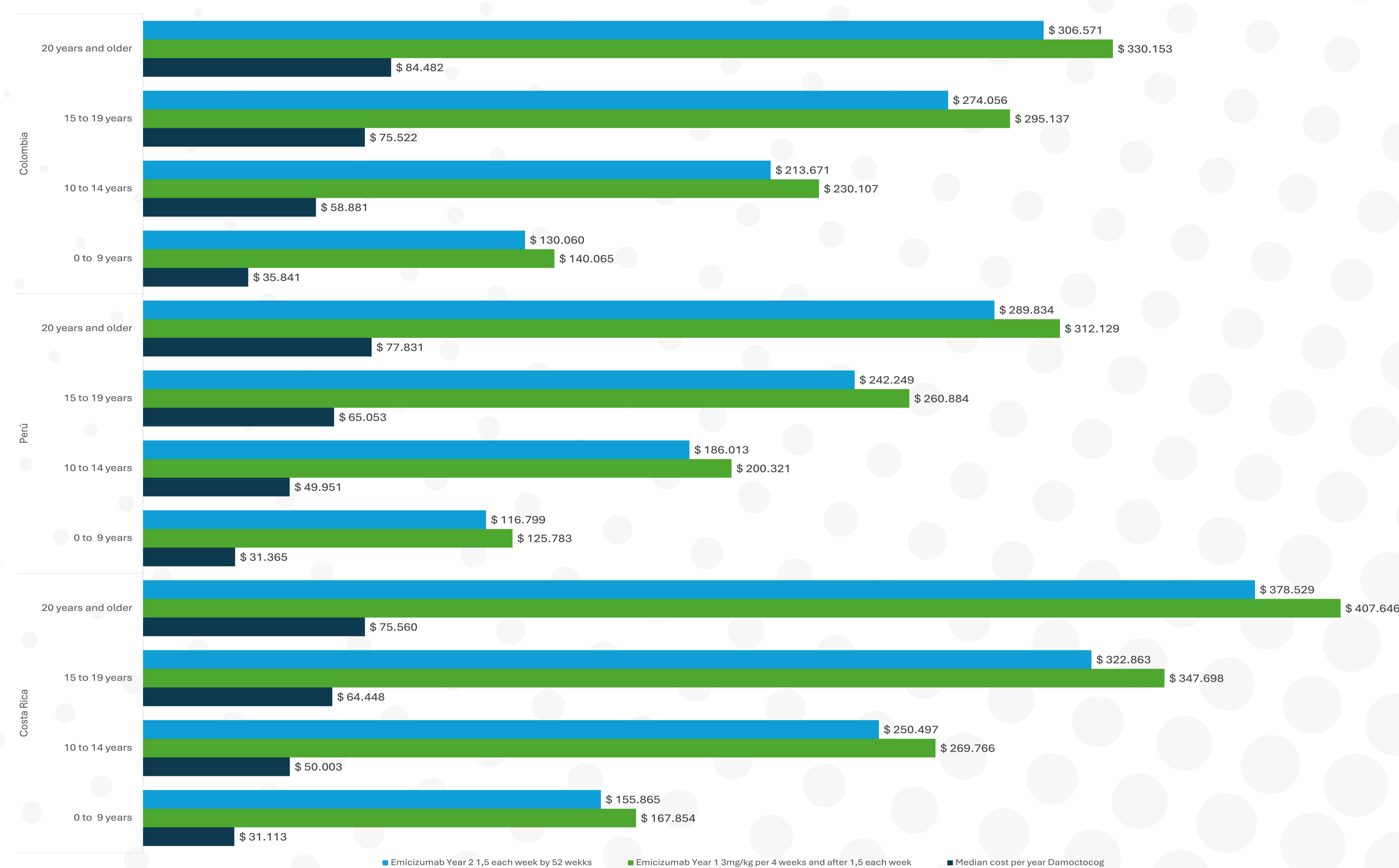
$$IU_{g, regimen} = Dose (IU/kg) \times W_g \times Frequency (doses/week) \times 52$$

- Where:
- IU<sub>g</sub>, regimen: Annual factor VIII consumption (international units) for age/weight group g under a specific dosing regimen
  - Dose (IU/kg): Prescribed dose per kilogram of body weight
  - W<sub>g</sub>: Mean body weight (kg) of patients in age group g
  - Frequency (doses/week): Number of administrations per week
  - 52: Number of weeks per year
  - ✓ Emicizumab (Prophylaxis): The model incorporates schemes from the clinical trial:
    - Loading dose: 3 mg/kg/week for 4 weeks (Year 1)
    - Maintenance dose: 1.5 mg/kg/week for 48 weeks (Year 1)
    - Year 2: 1.5 mg/kg/week for 52 weeks

## Results

The analysis provides a comparison of annual drug acquisition costs (USD) per patient and at the population level for damoctocog alfa pegol versus emicizumab. Sensitivity and scenario analyses address uncertainties related to key inputs, such as patient weight and factor VIII or emicizumab consumption. The results show that damoctocog alfa pegol leads to savings of 74% to 81% in Year 1 compared to emicizumab. In Year 2, savings range from 72% to 80% in the countries studied

**Figure 1.** Cost patient per year Minimization Analysis Year 1 Damoctocog alfa pegol versus Emicizumab and Year 2 Damoctocog alfa pegol versus Emicizumab



$$\Delta = \text{Cost (damoctocog alfa pegol)} - \text{Cost (emicizumab)}$$

The average cost result for damoctocog is determined by the average factor consumption according to the bleeding profile of patients with severe hemophilia A reported in studies distributed across the following categories: Twice a week, "low bleeding"; Twice a week, "high bleeding"; Every 5 days; and Every 7 days. This is also adjusted for the average weight of each weight category and the weight of each category across the entire population for the country under analysis.

## Conclusions

Cost minimization analysis presented indicates that damoctocog alfa pegol is a cost-saving alternative, offering over 70% annual cost savings compared to emicizumab in Costa Rica, Colombia, and Peru

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