# Economic Burden of Fabry Disease in Colombia

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## INTRODUCTION

Fabry disease (FD) is a severe multisystemic orphan disease. The clinical spectrum is wide, ranging from a severe phenotype, the classical male, to a mild phenotype in females.

## OBJECTIVE

This study aims to estimate the annual economic burden of FD in Colombia from the healthcare system perspective.

## METHODS

- Diagnosed cases were identified from national registries.
- Unidentified cases were estimated using diagnosed cases and a 53% literature under-reporting rate.
- Diagnosed cases were distributed according to disease classification (classical and non-classical) and treatment status (newly diagnosed, first year and two or more years of treatment)[1,2,3,4].
- Cost of care per patient per year including treatment, routinary follow-up and disease-related events, was estimated from HMO's administrative records (RWD) consisting of 3 consecutive years of care for 7 million members, representative for the disease and national population.
- The disease-related events occurrence was obtained from scientific literature and validated with clinical experts[5,6].
- Costs are expressed in 2023 USD.

**POSTER HIGHLIGHT:** Given the severe underdiagnosis of Fabry disease, it is critical to develop strategies that improve diagnosis rates, allowing patients to receive timely treatment, and avoiding major events/complications.

**Figure 1: Distribution of FD cases**

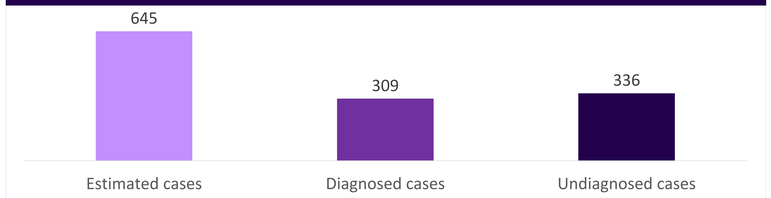


**Figure 2. Total costs of FD**

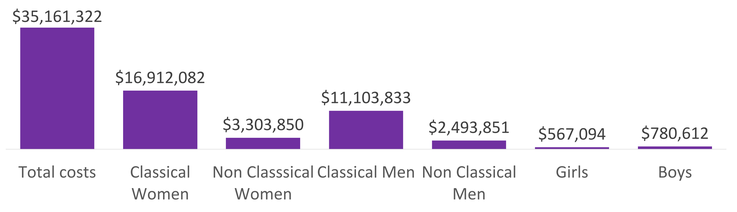


**Table 1. Total event costs by treatment time**

| Event | New diagnosis | 1st year of treatment | 2nd+ years of treatment | Overall reduction |
|---|---|---|---|---|
| Cardiac | $1,371 | $356 | $219 | 84.00% |
| Follow-up | $727 | $727 | $727 | 0.00% |
| Kidney | $369 | $231 | $242 | 34.40% |
| Neuropathic pain | $401 | $158 | $112 | 72.10% |
| Others | $0 | $0 | $0 | 100.00% |
| Total | $2,868 | $1,473 | $1,300 | 54.66% |

## RESULTS

- Based on the under-reporting rate, 645 patients with FD are estimated of whom 309 are diagnosed. On the other hand, 336 patients remain undiagnosed and hence, have increased probability of developing disease event/complications (Fig. 1).
- For the cost estimation, 58 patients/year were identified in the administrative records database analyzed.
- The annual economic burden for diagnosed patients is $35,161,322 representing 0.23% of the total national Basic Benefits Plan (Fig. 2).
- The classical type accounts for 79.68% of costs, of which women account for 60.4%.
- Early diagnosis reduces the cost of event care per patient from $2,868 for the untreated/newly diagnosed patient to $1,473 (48.6% reduction) in the first year of treatment and $1,300 (55.0% reduction) in the following years (Table 1).

## CONCLUSIONS

FD is a highly disabling disease with a major impact on quality of life and healthcare resources. Under-diagnosis may be as high as 70%, increasing healthcare resources for untreated patients. Early diagnosis can improve patients' quality of life and reduce the cost of complications.

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