

# Economic Impact of Hysterectomies and Potential Cost Savings with Hormonal IUD Use in the Management of Abnormal Uterine Bleeding in Brazil

JOSE M. A. JUNIOR, Ph.D; Ana C. F. da Silva, MD; Nathalia M.M. Munhoes; Indyanara I. Barreto, MD; Fatima F. Christoforo, PhD; José E. D. Bueno, PhD  
Unimed Campinas, Campinas, São Paulo, Brasil  
jmalves@unimedcampinas.com.br

## INTRODUCTION

Chronic abnormal uterine bleeding (AUB) is characterized by alterations in the volume, duration, and frequency of menstrual bleeding relative to the expected pattern, affecting up to one-third of women over their lifetime, with higher occurrence during menarche and perimenopause [1,2]. The prevalence of AUB ranges from 3% to 30% [2]. The main structural causes include polyps, adenomyosis, leiomyomas, and malignancy or hyperplasia [3]. The levonorgestrel-releasing intrauterine system (L-IUD), a device containing 52 mg of levonorgestrel, represents an effective option for the management of AUB by reducing menstrual bleeding, while also constituting a less invasive, uterus-preserving alternative to definitive surgical treatment with hysterectomy [4].

## OBJECTIVE

To evaluate utilization trends, costs, and clinical profiles of hysterectomies compared with the use of levonorgestrel-releasing hormonal intrauterine devices (L-IUD 52 mg) among women with Abnormal Uterine Bleeding (AUB) in the Brazilian private healthcare system.

## METHODS

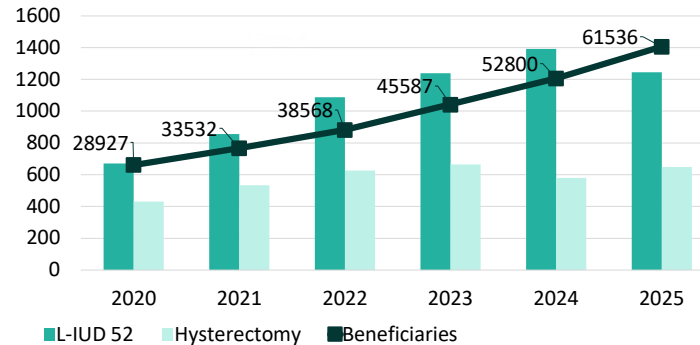
Retrospective cohort including beneficiaries aged 40–50 years who underwent hysterectomy or insertion of a 52 mg L-IUD for AUB treatment between 2020 and October 2025. Administrative data were extracted from a large Brazilian Health Insurance Company (Unimed Campinas). Hysterectomy costs were analyzed according to surgical type. Budget impact models assessed scenarios of 30% and 50% reductions in hysterectomies when L-IUDs are used as the initial intervention.

## RESULTS

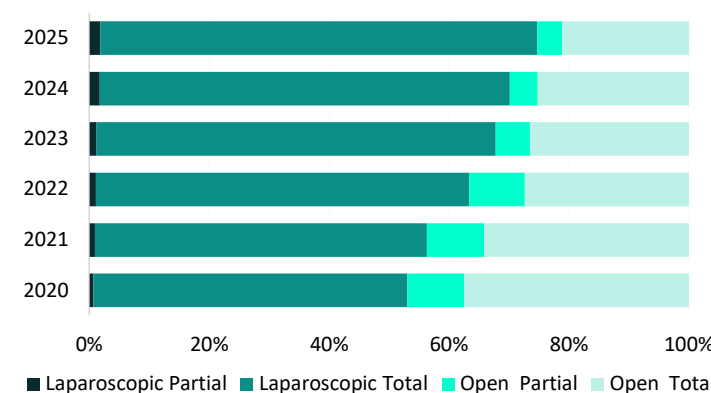
The cohort included 260,950 women, with 3,479 hysterectomies (1.3%) and 6,489 L-IUD insertions (2.5%). Among L-IUD users, 77% had insertions performed in outpatient settings. Insertions increased through 2024 (108%), while hysterectomies increased by 50.7% during the period. The main diagnoses associated with hysterectomies were leiomyoma, endometriosis, and excessive menstruation.

Average costs ranged from US\$ 792,9 (partial open) to US\$ 1.597,9 (partial laparoscopy). Cumulative spending was US\$ 4.4 million on hysterectomies and US\$ 1.5 million on L-IUDs. Only 6% of women undergoing hysterectomy had previously used an L-IUD, suggesting underutilization as a conservative therapy. In scenarios of 30%–50% reduction in surgeries through broader adoption of L-IUD, projected savings ranged from US\$ 1 million to US\$ 1.7 million over five years.

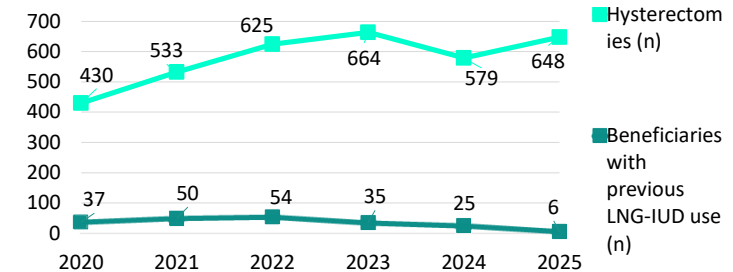
**FIGURE 1. TRENDS IN LNG-IUD USE AND HYSTERECTOMY AMONG BENEFICIARIES AGED 40–50**



**FIGURE 2. DISTRIBUTION OF HYSTERECTOMY SURGICAL APPROACHES AMONG BENEFICIARIES AGED 40–50**



**FIGURE 3. TOTAL OF BENEFICIARIES OF UNDERGOING HYSTERECTOMY HAD PREVIOUSLY USED AN L-IUD**



**TABLE 1. FIVE-YEAR BUDGET IMPACT OF MIGRATING WOMEN WITH AUB FROM HYSTERECTOMY TO LNG-IUD**

Scenario (AUB management)	Hysterectomies (n)	LNG-IUD insertions (n)	Total cost, 2020–2025 (USD)	Savings vs. current (USD)
<i>Current scenario (100% hysterectomy)</i>	3,479	0	USD 4,466,110	—
<i>Migration scenario (30%)</i>	2,436	1,044	USD 3,420,463	USD 1,045,646
<i>Migration scenario (50%)</i>	1,740	1,741	USD 2,723,788	USD 1,742,321

Note: Costs were originally calculated in Brazilian reais (BRL) and converted to U.S. dollars (USD) using an exchange rate of USD 1 = BRL 5.42 (December 12, 2025)

## CONCLUSION

The L-IUD represents a less invasive, cost-effective therapeutic alternative with substantial potential to prevent high-cost surgical procedures. Expanding its use as a first-line therapy for AUB may support resource optimization and better alignment with value-based care models.

## REFERENCES

- Mikes BA, Vadakekut ES, Sparzak PB. Abnormal Uterine Bleeding. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2025. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK532913/>
- Munro MG, Critchley HOD, Fraser IS. FIGO Menstrual Disorders Committee. The two FIGO systems for normal and abnormal uterine bleeding symptoms and classification of causes of abnormal uterine bleeding in the reproductive years: 2018 revisions. Int J Gynaecol Obstet. 2018 Dec;143(3):393-408. Doi: <https://doi.org/10.1002/ijgo.12666>
- Jain V, Munro MG, Critchley HOD. Contemporary evaluation of women and girls with abnormal uterine bleeding: FIGO Systems 1 and 2. Int J Gynaecol Obstet. 2023 Aug;162 Suppl 2(Suppl 2):29-42. doi: [10.1002/ijgo.14946](https://doi.org/10.1002/ijgo.14946). PMID: 37538019; PMCID: PMC10952771. Doi: [10.1002/ijgo.14946](https://doi.org/10.1002/ijgo.14946)
- U.S. Food and Drug Administration (FDA). Mirena (levonorgestrel-releasing intrauterine system): prescribing information. Silver Spring (MD): FDA; 2022. Available from: [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2022/021225s0431bl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2022/021225s0431bl.pdf)