

# Treatment Patterns and Associated Factors in Patients with Uterine Fibroids Without a Claims Diagnosis of Heavy Menstrual Bleeding (HMB)

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## Introduction

- Uterine fibroids (UF) are the most common benign pelvic tumors among women in the United States.<sup>1</sup>
- Most women with UF are diagnosed before 50 years of age, and >60% of cases are in women aged 30–44 years.<sup>2</sup>
- UF may be asymptomatic, but some women experience debilitating symptoms that require treatment;<sup>3</sup> in the US, clinical guidelines for UF were last updated in 2008, and include only limited pharmacologic options.<sup>4</sup>
- Heavy menstrual bleeding (HMB) is one of the most frequently reported symptoms of UF; however, even in the absence of HMB, other symptoms and signs, such as pain, anemia, fatigue, bulk, urinary or bowel dysfunction, and fertility issues can lead to patients seeking medical attention.<sup>1,5</sup>
- The real-world treatment patterns of patients with UF and HMB were recently characterized.<sup>6</sup> Research is limited, however, regarding treatment patterns among women with UF who have sought medical care for symptoms other than HMB.

## Objective

- The objective of this retrospective claims database analysis was to describe the clinical characteristics and treatment patterns (eg, hysterectomy, hormonal therapy, and pain management) of women with medical claims for UF, but no medical claims for HMB. Results for this cohort are presented alongside recent data from a concurrently conducted study of patients with UF and HMB.<sup>6</sup>

## Methods

- Women aged 18–50 years with an incident diagnosis of UF between January 1, 2010 and December 31, 2019 were identified from the IQVIA PharMetrics® Plus database.
- Patients were required to have ≥2 UF claims (International Classification of Diseases ICD-10 D25.X and ICD-9 218.X) ≥30 days apart, and no HMB claims (ICD-10, N92.0–N92.4; N93.8–N93.9; ICD-9 626.2, 626.5–626.9, 627.0).
- The index date was defined as the date of the first UF claim; patients were required to have ≥1 year of continuous pre-index enrollment, and could not have any UF diagnosis claims in the year preceding the index date (ie, women were newly diagnosed).
- Patients were also required to have ≥2 years of continuous post-index date enrollment.
- Also identified were claims for symptoms/signs associated with UF (pain, fatigue, abnormal bleeding, infertility, and anemia), submitted either prior to or on the same day as the first UF diagnosis, and claims for pharmacologic treatments (hormonal or analgesic) in the year preceding the index date.
- Patients were allowed to have one 30-day gap in enrollment coverage each year.
- Treatment patterns were assessed as the proportion of patients prescribed pharmacologic therapy and treated with gynecologic procedures.
- Pharmacologic therapies of interest were hormonal treatments (oral and non-oral contraceptives), including intra-uterine devices (IUDs, except ParaGard®/copper IUD), estrogen, progestin, aromatase inhibitors, elagolix, danazol, leuprolide, or any luteinizing hormone-releasing hormone agonists.
- Also evaluated were the use of tranexamic acid and pain medicines (excluding over-the-counter products), including narcotic (prescribed for ≥30 days) and non-narcotic analgesics.
- Gynecologic procedures of interest were hysterectomy, operative laparoscopy, myomectomy, oophorectomy, ablation of endometrium and/or fibroids, excision, and salpingectomy.
- Descriptive statistics were used to summarize the characteristics of women with UF and no HMB claims; these results are presented alongside comparable data for women with UF and HMB claims, obtained from the previous retrospective analysis.<sup>6</sup>
- Last, logistic regression models were constructed to determine factors associated with specific treatments (hysterectomy and hormonal therapy) in patients with UF and no HMB claims; patients with a claim for endometriosis were excluded from this analysis.

## Results

- Patient attrition is shown in Table 1. A total of 1,513,396 women had a UF claim, and 92,399 met further criteria for analysis. Of these, 26,086 (28.2%) had no HMB claims and 66,313 (71.8%) had an HMB claim.<sup>6</sup>

## Results

**Table 1.** Study patient attrition, patients with UF and no HMB claims, and with UF and HMB claims

Characteristic	No HMB claim	HMB claim <sup>6</sup>
All patients with ≥1 UF diagnostic claim in the database	1,513,396	
Female, aged 18–50 years	1,084,061	
No claims for HMB ever in the dataset (no HMB) or ≥ 2 diagnoses for HMB ever in the dataset (≥ 30 days apart) (with HMB)	385,158	422,558
≥ 2 diagnoses for UF ever in the dataset	117,431	237,060
12-month history without a UF diagnosis prior to index date	47,129	109,825
≥ 2 years continuous follow-up after the index date and included in the study (allowing for one 30-day gap in coverage each year)	26,086	66,313

HMB, heavy menstrual bleeding; UF, uterine fibroids.

- The majority of patients with no HMB claims (96.0%) had commercial health insurance coverage, and most (84.8%) were aged 35–50 years; a similar distribution existed for patients with an HMB claim (Table 2).<sup>6</sup>
- Among patients with no HMB claims, mean patient age (standard deviation) was 41.8 (6.3) years, and median time from index date to last claim was 1407 days (3.9 years); similar results were observed for patients with an HMB claim.

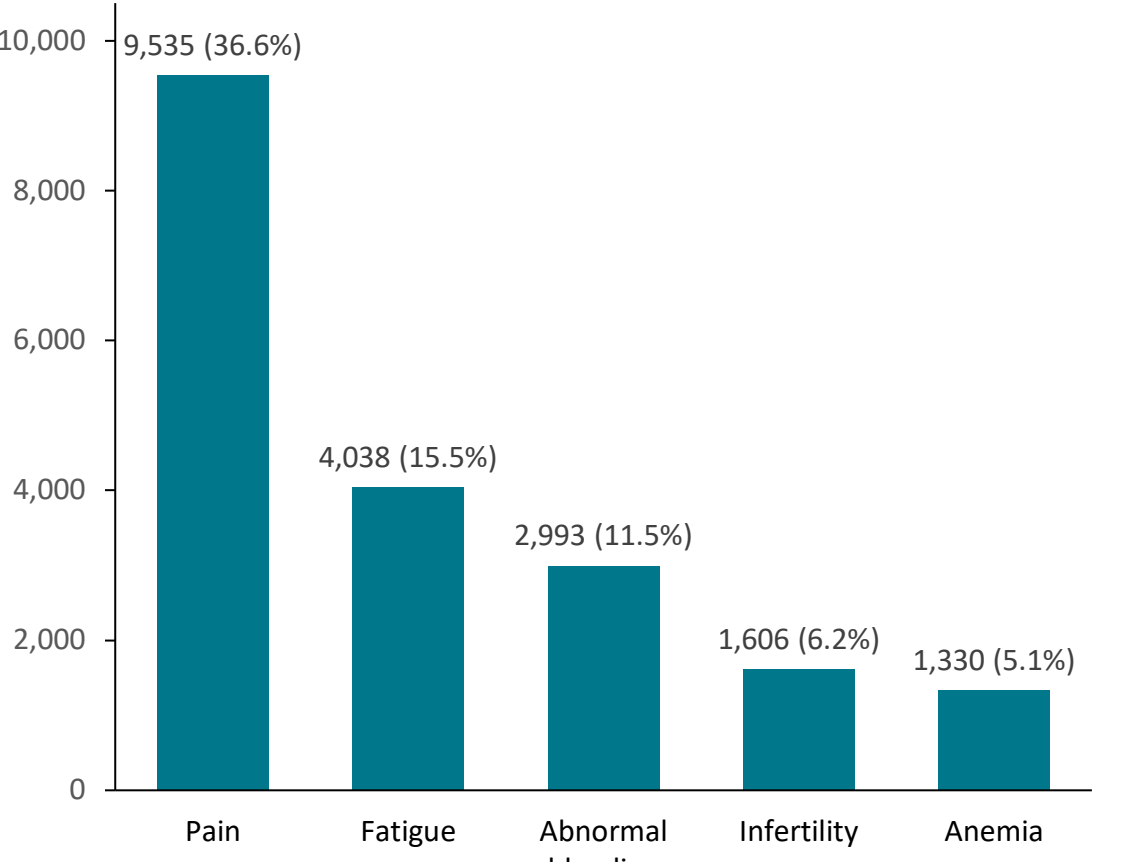
**Table 2.** Health insurance and age groups, patients with UF and no HMB claims, and with UF and HMB claims

Group	No HMB claim (N = 26,068)	HMB claim (N = 66,313) <sup>6</sup>
<b>Health insurance type, n (%)</b>		
Commercial*	25,031 (96.0)	63,050 (95.1)
Government-sponsored plan†	871 (3.3)	2882 (4.3)
Unknown	166 (0.6)	381 (0.6)
<b>Age group, n (%)</b>		
18–24 years	181 (0.7)	280 (0.4)
25–34 years	3,777 (14.5)	5517 (8.3)
35–44 years	11,185 (42.9)	31,955 (48.2)
45–50 years	10,925 (41.9)	28,561 (43.1)
<b>Median time from index date to last claim, years</b>		
	3.9	4.1

\* Employer-sponsored or individual coverage plans.  
† Medicare or Medicaid.  
HMB, heavy menstrual bleeding; UF, uterine fibroids

- Patients with no HMB claims had claims associated with the following symptoms/signs prior to or on the same day as their first UF diagnosis (Figure 1): Pain (9,535, 36.6%), fatigue (4,038, 15.5%), abnormal bleeding (2,993, 11.5%), infertility (1,606, 6.2%), and anemia (1,330, 5.1%).

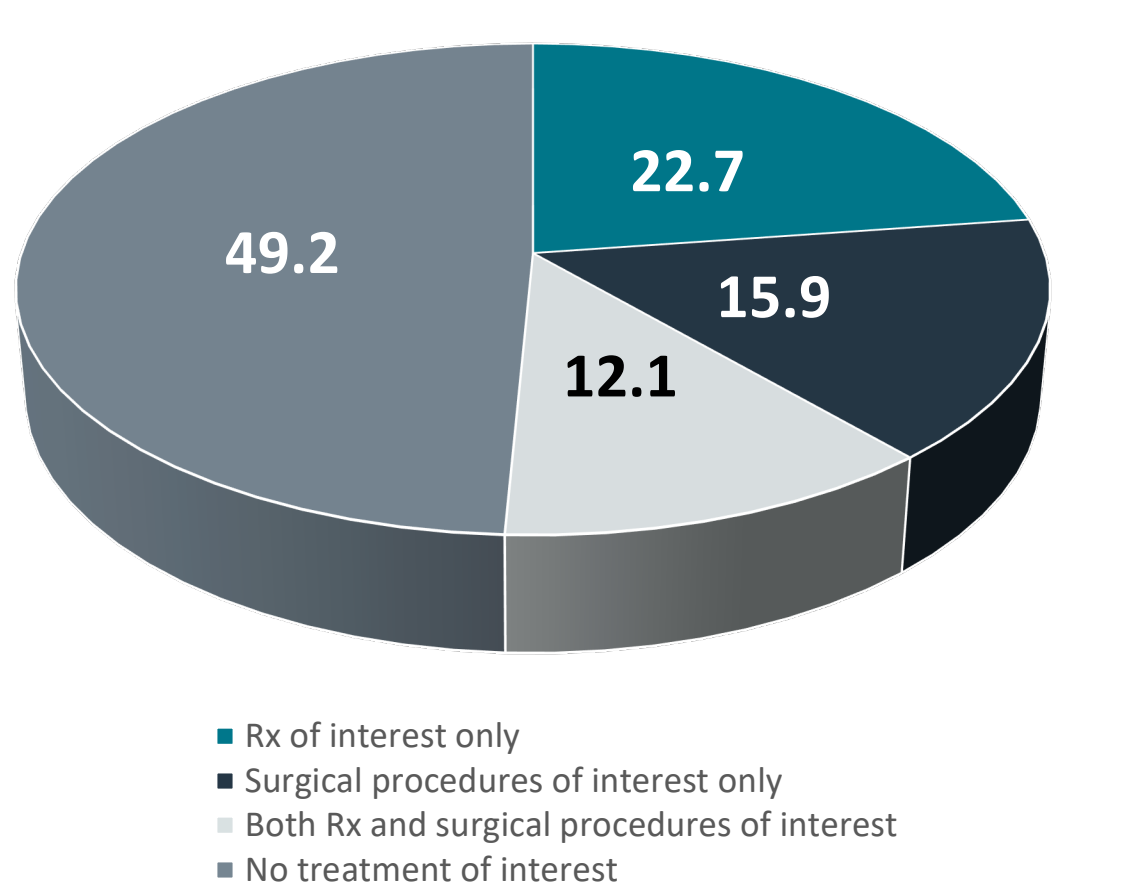
**Figure 1.** Symptom-specific claims filed prior to or on same day as UF diagnosis for patients with UF and no HMB claims



HMB, heavy menstrual bleeding; ICD, International Classification of Disease; UF, uterine fibroids; ICD codes for symptoms: Pain (ICD-10: R10.0; R10.2–R10.3; R10.30–R10.32; R10.8; R10.81; R10.811–R10.814; R10.84; R10.9; N94.1; N94.10–N94.12; N94.19; N-94.4; N94.6; ICD-9: 789.0x; 789.6x; 625.0; 625.3); fatigue (ICD-10: R53.0–R53.1; R53.8; R53.81; R53.83; ICD-9: 780.0x; 789.6x; 625.0; 625.3); abnormal bleeding (ICD-10: N92.3; N92.5–N92.6; N93.8–N93.9; ICD-9: 626.1; 626.4–626.5; 626.8–626.9); infertility (ICD-10: N97.2; N97.8–N97.9; ICD-9: 628.3, 628.8–628.9); anemia (ICD-10: D50.0; D50.8–D50.9; D64.8; D64.89; D64.9; ICD-9: 280.0; 280.8–280.9; 281.9; 285.8).

- Within 1 year of the index date, among patients with no HMB claim (Figure 2 and Table 3):
  - 49.2% received no treatment of interest;
  - 28.0% underwent a gynecologic procedure, most frequently hysterectomy (16.6%);
  - 65.1% received no pharmacologic therapy of interest.

**Figure 2.** Overall treatment status within 1 year of index date, patients with UF and no HMB claim



HMB, heavy menstrual bleeding; Rx, pharmacologic therapy; UF, uterine fibroids.

**Table 3.** Treatment status by prescription or gynecologic procedure within 1-year post-index date, patients with UF and no HMB claims, and with UF and HMB claims

Treatment, n (%)	Patients with no HMB claim (N = 26,068)	Patients with HMB claim (N = 66,313) <sup>6</sup>
<b>Any Rx of interest</b>		
Hormonal <sup>a</sup> Rx only	7,606 (29.2)	24,526 (37.0)
<b>No Rx of interest</b>		
No hormonal <sup>a</sup> Rx	18,462 (70.8)	41,787 (63.0)
<b>Any gynecologic procedure of interest</b>		
Hysterectomy	4,326 (16.6)	20,499 (30.9)
Other procedures	3,562 (13.7)	16,029 (24.2)

HMB, heavy menstrual bleeding; Rx, pharmacologic therapy; UF, uterine fibroids.

<sup>a</sup>Hormonal treatment includes aromatase inhibitors, leuprolide, other luteinizing hormone-releasing hormone agonists, elagolix, estrogen, progestin, non-oral hormonal contraceptives (except for ParaGard® copper intrauterine device [J73000, NDC 51285020401, 51285020402], and oral hormonal contraceptives.

- A large proportion of patients with no HMB claim also received no hormonal therapy: 70.8% at 1 year, 65.2% at 2 years, and 58.7% at any time.
- The proportion of patients with no HMB claim receiving no pharmacologic therapy of interest decreased over time: 65.1% at 1 year, 57.8% at 2 years, and 49.2% at any time during follow-up.
- Table 4 summarizes hysterectomies at 1-year post-index date, by age group. In women with no HMB claims, the probability of having a hysterectomy increased over time: 16.6% at 1 year, 19.7% at 2 years, and 23.9% at any time.
- Hysterectomies were more common in older women (45–50 years) than younger women (≤44 years).<sup>6</sup>

**Table 4.** Hysterectomies 1 year after the index date in patients with UF, by age group, patients with UF and no HMB claims, and with UF and HMB claims

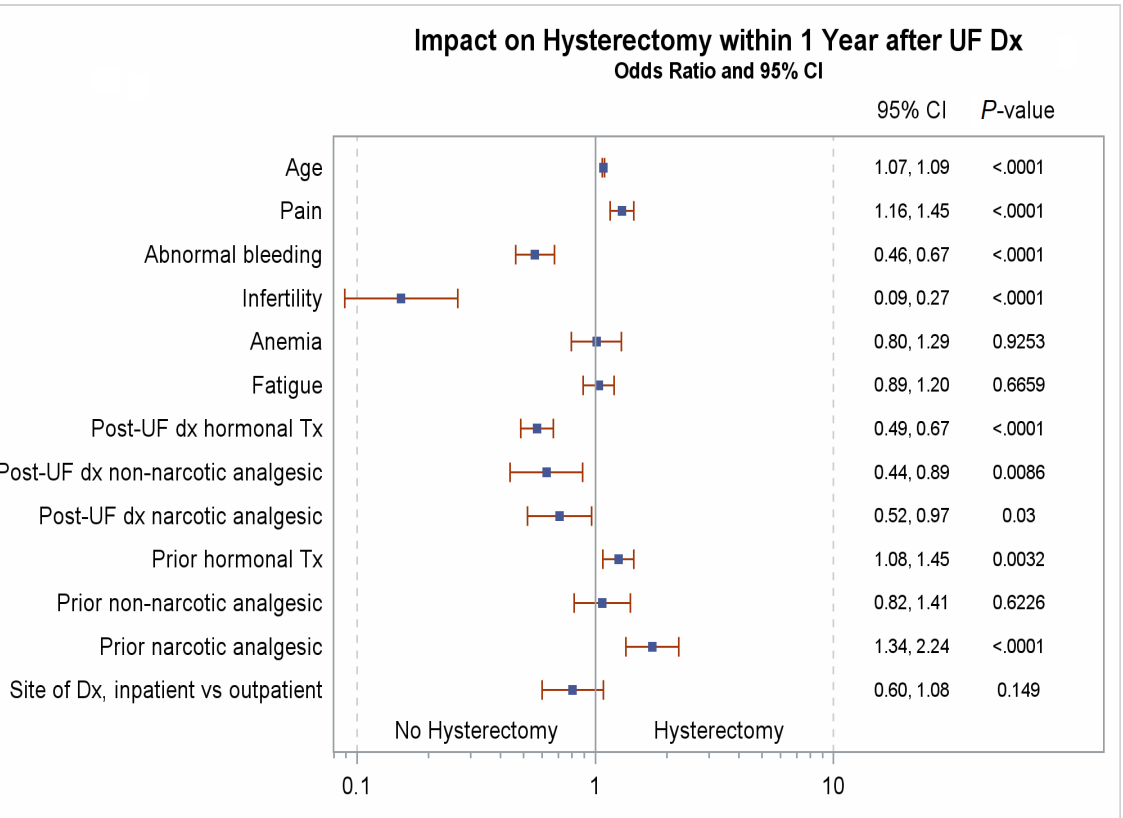
Age group	Count (%) of patients with a hysterectomy	
	Patients with no HMB claims (N = 26,068)	Patients with HMB claims (N = 66,313) <sup>6</sup>
18–24 years (%)	2 (1.1), n = 181	7 (2.5), n = 280
25–34 years (%)	150 (4.0), n = 3777	651 (11.8), n = 5517
35–44 years (%)	1,783 (15.9), n = 11,185	9636 (30.2), n = 31,955
45–50 years (%)	2,391 (21.9), n = 10,925	10,205 (35.7), n = 28,561
<b>Total hysterectomies</b>		
	4,326 (16.6)	20,499 (30.9)

HMB, heavy menstrual bleeding; UF, uterine fibroids.

## Results

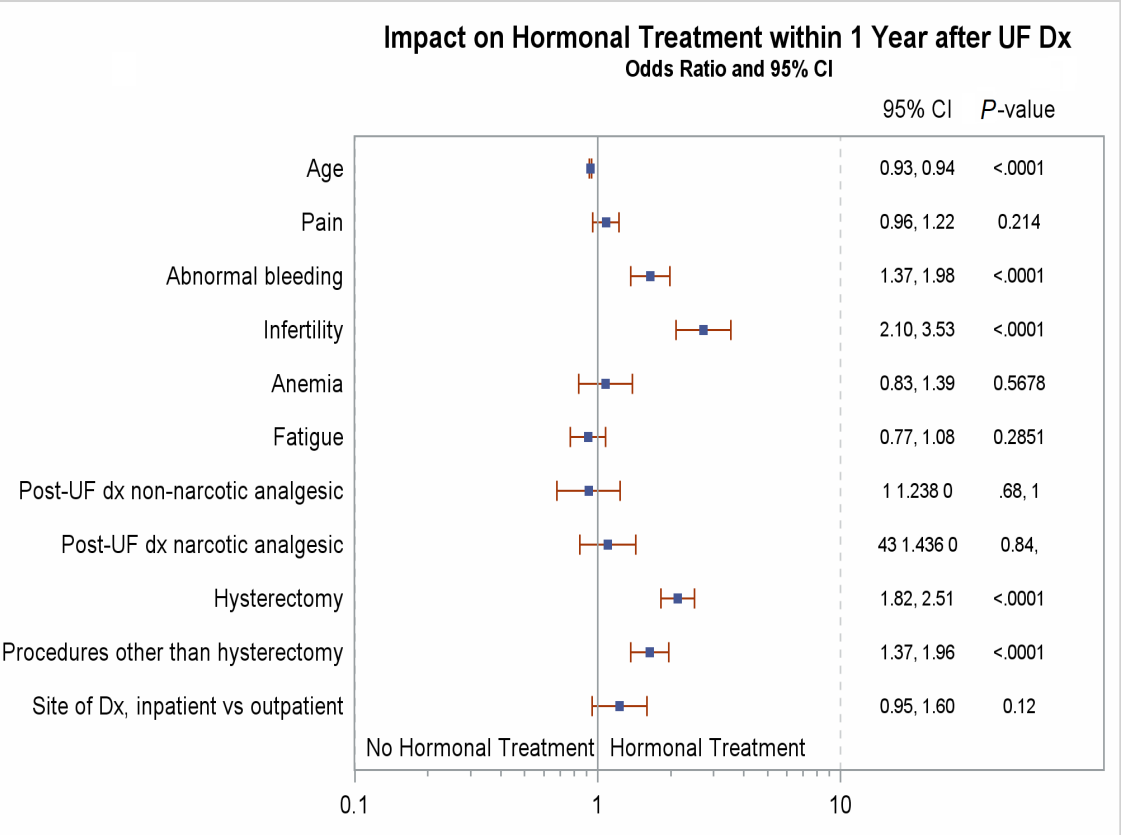
- Based on logistic regression conducted in women with no HMB claim, the following factors were significantly associated with a greater probability of hysterectomy within 1 year of UF diagnosis (Figure 3): Increased age, pain, prior hormonal pharmacologic use, and prior (pre-UF diagnosis) narcotic analgesic use.
- Factors associated with a lower rate of hysterectomy were infertility, abnormal bleeding, post-diagnosis analgesic use (narcotic and non-narcotic), and post-diagnosis hormonal treatment.
- Factors significantly associated with a greater probability of women with no HMB claims receiving hormonal treatment within a year of UF diagnosis were abnormal bleeding, infertility, hysterectomy, and other surgical procedures; older age was associated with a lower likelihood (Figure 4).

**Figure 3.** Impact of symptoms and prior treatment on hysterectomy within 1 year of UF diagnosis in patients with UF and no HMB claim



CI, confidence interval; dx, diagnosis; HMB, heavy menstrual bleeding; Tx, treatment; UF, uterine fibroids.

**Figure 4.** Impact of symptoms and prior treatment on hormonal treatment within 1 year of UF diagnosis in patients with UF and no HMB claim



CI, confidence interval; dx, diagnosis; HMB, heavy menstrual bleeding; UF, uterine fibroids.

## Limitations

- This study was observational and descriptive in nature, which limits the ability to make conclusions regarding causality; additionally, claims data may be subject to reporting errors.

## Limitations

- Although data were reported for both women with UF with HMB and with no HMB, these patient subgroups are heterogenous and cannot be directly compared.
- Despite efforts to limit the patient population to women with recently diagnosed UF and no HMB claims, patients could have been diagnosed with UF or incurred claims for HMB in the >1 year prior to the index date.
- Pre-menopausal women aged >50 years were not included in the analysis and the PharMetrics® Plus database does not include patients with Medicaid; these factors may limit the generalizability of these findings.
- Since National Drug Code drug claims are not associated with a diagnosis, patients may have been administered study drugs for reasons other than UF; this could lead to an overestimation of the drug treatment rate.
- Finally, it was not possible to ensure that symptom claims were related to UF; patients may have experienced these symptoms for reasons other than UF.

## Conclusions

- This analysis indicates that HMB is not the only symptom that drives the need for UF treatment.
- Among women with recently diagnosed UF and no claim for HMB, only a limited proportion were treated with pharmacotherapy or surgical procedures within 1 year of diagnosis:
  - The majority (65.1%) did not receive any hormonal or analgesic drugs, while fewer than one-third (28.0%) received a surgical procedure.
  - Over a median 3.9 years from the first UF diagnostic claim, the majority of women with UF and no HMB did not receive any hormonal drugs.
- In a complementary analysis, women with UF and HMB had a 45.3% likelihood of receiving a pharmacologic treatment of interest, and 49.5% received a surgical procedure.
  - Regardless of age, patients with HMB claims were more likely to have a hysterectomy than those with no HMB claim.<sup>6</sup>
- Pain was the most common symptom reported by patients with recently diagnosed UF but no claim for HMB.
  - The presence of pain was associated with subsequent hysterectomy, but not the use of hormonal treatment.

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## Disclosure

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