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Procedures to Treat Benign Uterine Fibroids in Hospital Inpatient and Hospital-Based Ambulatory Surgery Settings, 2013

Marguerite L. Barrett, M.S., Audrey J. Weiss, Ph.D., Carol Stocks, Ph.D., R.N., Claudia A. Steiner, M.D., M.P.H., and Evan R. Myers, M.D., M.P.H.

Highlights

- In 2013, four surgical procedures for benign uterine fibroids were about as common in the hospital-based ambulatory surgery (AS) setting as in the inpatient setting (47.8 vs. 52.2 percent). Compared with inpatient stays, AS visits had a shorter average length of stay (0.6 vs. 2.3 days) and lower average hospital charges ($25,200 vs. $28,000).
- Between 2005 and 2013, the overall rate of hysterectomy decreased by 20 percent, from 210.8 to 168.0 per 100,000 women aged 18–54 years. This change was driven by a 52 percent decrease in the rate of inpatient hysterectomy. The rate of AS hysterectomy increased by over 400 percent during this time period.
- The rate of inpatient myomectomy decreased by 29 percent, and the rate of AS myomectomy remained relatively constant. The rate of both inpatient and AS uterine fibroid embolization increased by approximately 170 percent. The rate of endometrial ablation decreased in both the inpatient and AS settings (40 and 19 percent decrease, respectively).
- To treat benign uterine fibroids, Black and Hispanic women more commonly had inpatient surgery whereas White women more commonly had AS.
- Private insurance was the predominant expected payer for both inpatient stays and AS visits involving procedures to treat benign uterine fibroids. Medicaid paid for more inpatient stays than AS visits.

Introduction

By the age of 50, as many as 70–80 percent of women will develop uterine fibroids (leiomyomas)—typically benign tumors of the uterus.[1,2] For many women, uterine fibroids pose no health risks and women are asymptomatic. For others, uterine fibroids may cause symptoms such as heavy bleeding, pain, and frequent urination, and they are associated with an increased risk of pregnancy complications.[3] Some women are more likely than others to develop uterine fibroids. For instance, uterine fibroids are more common in Black than in White women,[4] and Black women tend to have more severe symptoms.[5] Research also indicates that, compared with White women, Black women develop uterine fibroids at a younger age and have more severe fibroids (e.g., larger size, number, and growth rate).[6,7,8]

For women with symptomatic fibroids, a variety of treatment options are available.[9] Women with mild symptoms may choose medical treatments such as pain relievers and hormonal drugs. Those with moderate to severe symptoms may need surgery to treat uterine fibroids. Common surgical treatment options include hysterectomy (removing the uterus), myomectomy (removing the fibroids), uterine fibroid embolization (blocking the blood supply to

[1] Baird DD, Dunson DB, Hill MC, Cousins D, Schectman JM. High cumulative incidence of uterine leiomyoma in black and white women: ultrasound evidence. American Journal of Obstetrics and Gynecology. 2003;188(1):100–7.
[2] Office on Women's Health. Uterine Fibroids Fact Sheet. January 15, 2015. http://www.womenshealth.gov/publications/our-publications/fact-sheet/uterine-fibroids.html. Accessed July 2, 2015.
[3] Ibid.
[4] Catherino WH, Eltoukhi HM, Al-Hendy A. Racial and ethnic differences in the pathogenesis and clinical manifestations of uterine leiomyoma. Seminars in Reproductive Medicine. 2013;31(5):370–9.
[5] Stewart EA, Nicholson WK, Bradley L, Borah BJ. The burden of uterine fibroids for African-American women: results of a national survey. J Womens Health. 2013;22(10):807-16.
[6] Catherino et al., 2013. Op. cit.
[7] Laughlin SK, Stewart EA. Uterine leiomyomas: individualizing the approach to a heterogeneous condition. Obstet Gynecol. 2011;117(2 Pt 1);396-403.
[8] Moorman PG, Leppert P, Myers ER, Wang F. Comparison of characteristics of fibroids in African American and white women undergoing pre-menopausal hysterectomy. Fertil Sterility. 2013;99(3);768-76.
[9] Office on Women's Health, January 15, 2015. Op. cit.

the fibroids), and endometrial ablation (removing the lining of the uterus, which controls bleeding without directly affecting the fibroids).

This Healthcare Cost and Utilization Project (HCUP) Statistical Brief presents data on four surgical procedures to treat benign uterine fibroids among women aged 18–54 years in two hospital settings: hospital inpatient and hospital-based ambulatory surgery. Our analysis is limited to hospitals within 13 States—representing more than one-fourth of the U.S. population—that included data on surgical treatment of benign uterine fibroids in the inpatient and ambulatory surgery settings. We focus on four common surgical treatments of benign uterine fibroids: hysterectomy, myomectomy, uterine fibroid embolization, and endometrial ablation. An overview of characteristics of women with benign uterine fibroids who underwent one of these surgical treatments in 2013 is provided by hospital setting. We present trends in the four surgical procedures to treat benign uterine fibroids by hospital setting from 2005 through 2013. The distribution of these four procedures by patient race/ethnicity and expected primary payer in each hospital setting is provided for 2013. Only differences of at least 10 percent are noted in the text.

Findings

Characteristics of hospitalizations for benign uterine fibroids, 2013
Table 1 presents characteristics of hospitalizations for benign uterine fibroids treated with four common procedures in the hospital inpatient compared with the hospital-based ambulatory surgery setting in 2013.

Table 1. Characteristics of hospitalization for benign uterine fibroids by setting, in 13 States, 2013

Characteristic	Inpatient surgery	Hospital-based ambulatory surgery
Hospital stay characteristics		
Total number of cases	25,500	23,360
Length of stay, mean days	2.3	0.6
Mean hospital charges,[a] $	28,000	25,200
Patient characteristics		
Mean age, years	43.3	43.4
Age in years, %		
18–24	0.4	0.3
25–34	9.6	9.0
35–44	43.0	42.6
45–54	47.0	48.0
Race/ethnicity, %		
White	33.9	51.4
Black	40.3	27.8
Hispanic	9.8	5.8
Other[b]	9.7	6.8
Missing/Invalid[c]	6.3	8.2
Expected primary payer, %		
Medicaid	17.7	10.6
Private	70.1	80.4
Uninsured	6.3	3.2
Other[d]	5.9	5.2
Missing/Invalid	0.1	0.4
Community-level income, %		
Lowest income quartile	24.8	21.2
All other income quartiles	75.2	78.8
Treatment characteristics		
Procedure type, %		
Hysterectomy	76.5	66.8
Myomectomy	21.9	22.1
Uterine fibroid embolization	1.6	6.7
Endometrial ablation	0.1	4.3

Note: Analysis was limited to cases of benign uterine fibroids treated with one of the four selected surgical procedures.

[a] We report hospital charges rather than costs because Cost-to-Charge Ratios are not available for ambulatory surgery data.

[b] Other race/ethnicity includes Asian, Pacific Islander, and American Indian.

[c] Two of the 13 States included in this analysis did not report race/ethnicity information.

[d] Other expected primary payer includes Medicare.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) and State Ambulatory Surgery and Services Databases (SASD) from 13 States, 2013

- **Four surgical procedures for benign uterine fibroids were about as common in the hospital-based ambulatory surgery setting as in the hospital inpatient setting, but the length of stay and hospital charges were lower in the ambulatory surgery setting.**

  In 2013, 47.8 percent of benign uterine fibroids were treated in the hospital-based ambulatory surgery setting compared with 52.2 percent in the hospital inpatient setting using the four surgical procedures. The outpatient length of stay was substantially shorter than the inpatient length of stay (0.6 vs. 2.3 days), and mean hospital charges were lower in the ambulatory surgery setting ($25,200 vs. $28,000).

- **White women, privately insured patients, and those in higher income quartiles were a larger proportion of patients treated for benign uterine fibroids in the hospital-based ambulatory surgery setting than in the inpatient setting.**

  Black women represented the largest proportion (40.3 percent) of hospital inpatient stays involving the four surgical procedures for benign uterine fibroids in 2013. White women were the largest proportion (51.4 percent) of hospital-based ambulatory surgery visits for these procedures.

  Private insurance was the expected primary payer for the majority of hospitalizations involving the four surgical procedures for benign uterine fibroids. Privately insured women were a higher proportion of ambulatory surgery visits than inpatient stays (80.4 vs. 70.1 percent), whereas women covered by Medicaid and uninsured women were a lower proportion of ambulatory surgery visits than inpatient stays (Medicaid: 10.6 vs. 17.7 percent; uninsured: 3.2 vs. 6.3 percent).

  Patients living in communities in the lowest income quartile were a higher proportion of inpatient stays than ambulatory surgery visits (24.8 vs. 21.2 percent).

  Ninety percent of women with the four surgical procedures for benign uterine fibroids were aged 35–54 years in both the hospital-based ambulatory surgery and inpatient settings.

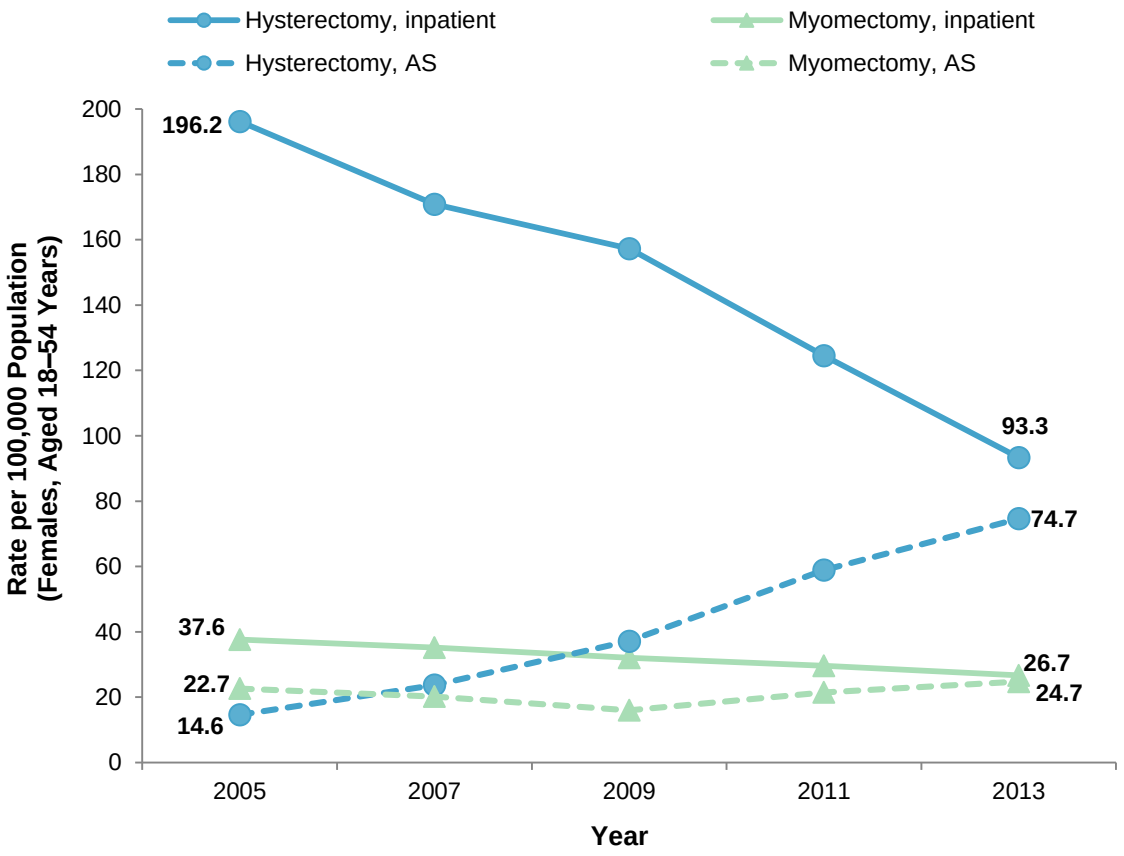
- **A majority of the four surgical procedures for benign uterine fibroids were hysterectomies.**

  In 2013, hysterectomy constituted more than three-fourths of the inpatient surgeries and two-thirds of the hospital-based ambulatory surgery visits for benign uterine fibroids involving the four surgical procedures (76.5 and 66.8 percent, respectively). Myomectomy represented approximately 22 percent of surgeries in both the inpatient and ambulatory surgery settings. Uterine fibroid embolization and endometrial ablation were a higher proportion of the four surgical procedures in the ambulatory surgery setting than in the inpatient setting (uterine fibroid embolization: 6.7 vs. 1.6 percent; endometrial ablation: 4.3 vs. 0.1 percent).

Trends in four surgical procedures to treat benign uterine fibroids in hospital inpatient compared with hospital-based ambulatory surgery settings, 2005–2013

Figures 1 and 2 present the rate of discharges per 100,000 females in the population, aged 18–54 years, who had a hysterectomy, myomectomy, uterine fibroid embolization, or endometrial ablation to treat benign uterine fibroids in the hospital inpatient setting compared with the hospital-based ambulatory surgery setting, from 2005 through 2013.

Figure 1. Rate of hysterectomy and myomectomy to treat benign uterine fibroids by hospital setting, in 13 States, 2005–2013



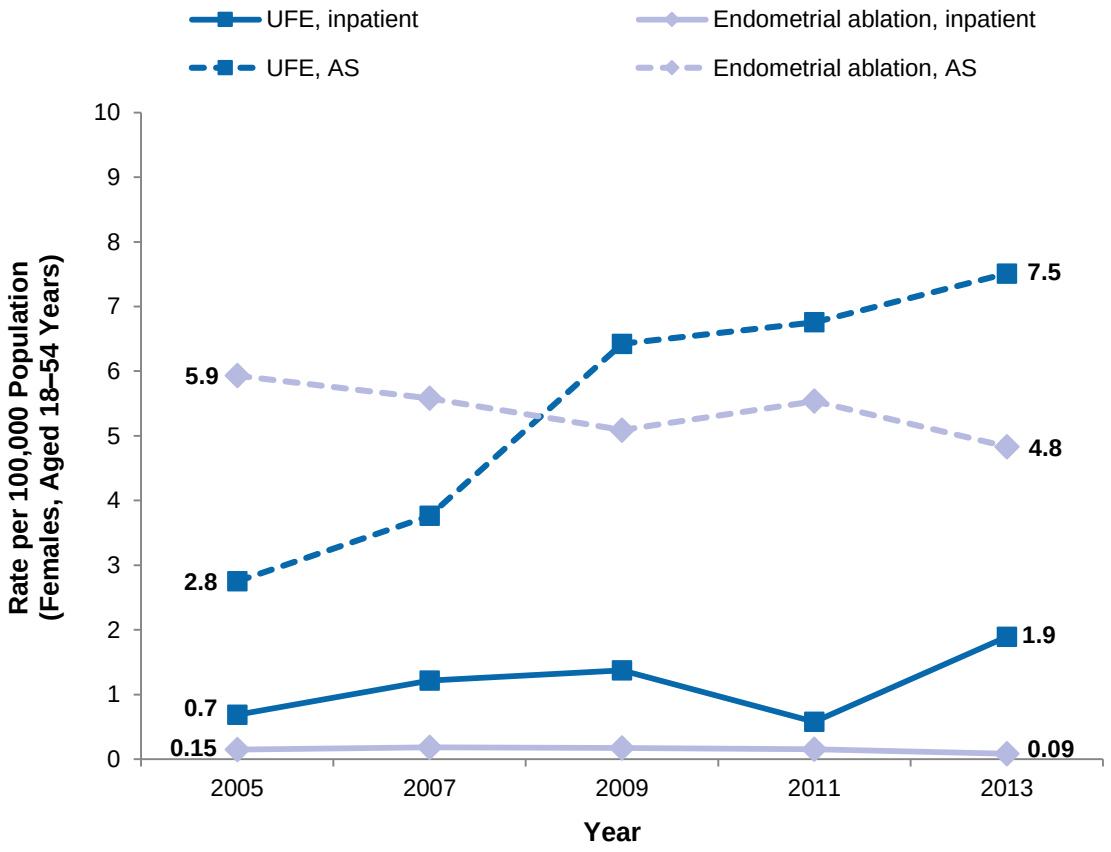
Abbreviations: AS, ambulatory surgery

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) and State Ambulatory Surgery and Services Databases (SASD) from 13 States, 2005, 2007, 2009, 2011, 2013

- **Between 2005 and 2013, the rates of hysterectomy and myomectomy decreased in the hospital inpatient setting; the rate of hysterectomy increased in the hospital-based ambulatory surgery setting.**

  Overall, the population rate of hysterectomy for benign uterine fibroids decreased 20 percent between 2005 and 2013, from 210.8 to 168.0 per 100,000 women aged 18–54 years. This decrease was driven by a 52 percent decrease in the rate of hysterectomy in the hospital inpatient setting, from 196.2 to 93.3 per 100,000 women in 2013. At the same time, the rate of hysterectomy increased 410 percent in the hospital-based ambulatory surgery setting, from 14.6 to 74.7 per 100,000 women. The rate of myomectomy also decreased 29 percent in the inpatient setting (from 37.6 to 26.7 per 100,000 women) but remained relatively constant in the hospital-based ambulatory surgery setting.

Figure 2. Rate of uterine fibroid embolization and endometrial ablation to treat benign uterine fibroids by hospital setting, in 13 States, 2005–2013



Abbreviations: AS, ambulatory surgery; UFE, uterine fibroid embolization

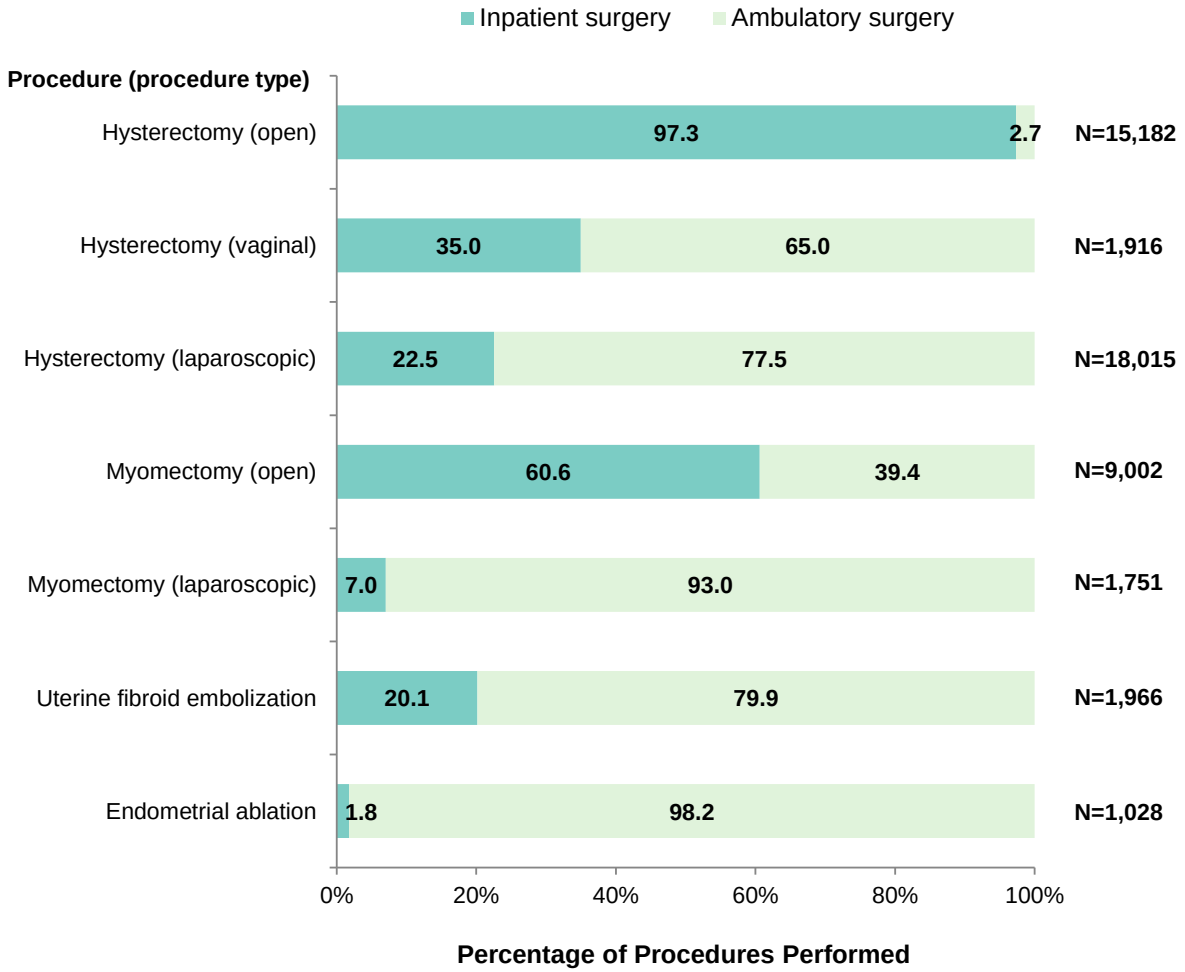
Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) and State Ambulatory Surgery and Services Databases (SASD) from 13 States, 2005, 2007, 2009, 2011, 2013

- **Between 2005 and 2013, the rate of uterine fibroid embolization increased in the hospital inpatient and ambulatory surgery settings; the rate of endometrial ablation decreased in both settings.**

  Overall, the rates of uterine fibroid embolization and endometrial ablation were much lower than the rates of hysterectomy and myomectomy (Figure 1). Between 2005 and 2013, the rate of uterine fibroid embolization increased approximately 170 percent in both the hospital inpatient and ambulatory surgery settings (inpatient: from 0.7 to 1.9 per 100,000 women; AS: from 2.8 to 7.5 per 100,000 women). The rate of endometrial ablation decreased in both settings during this same time period (inpatient: 40 percent decrease, from 0.15 to 0.09 per 100,000 women; AS: 19 percent decrease, from 5.9 to 4.8 per 100,000 women).

Figure 3 presents the distribution of hospital inpatient stays compared with hospital-based ambulatory surgery visits for four surgical procedures (and procedures types)—hysterectomy (open, vaginal, and laparoscopic), myomectomy (open and laparoscopic), uterine fibroid embolization, and endometrial ablation—to treat benign uterine fibroids in 2013.

Figure 3. Distribution of surgical procedures to treat benign uterine fibroids by hospital setting, in 13 States, 2013



Notes: *Open* hysterectomy and myomectomy involve removing the uterus or fibroids through an abdominal incision. *Laparoscopic* hysterectomy and myomectomy utilize a telescopic camera and surgical tools inserted through small abdominal incisions. *Vaginal* hysterectomy is performed through the vagina.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) and State Ambulatory Surgery and Services Databases (SASD) from 13 States, 2013

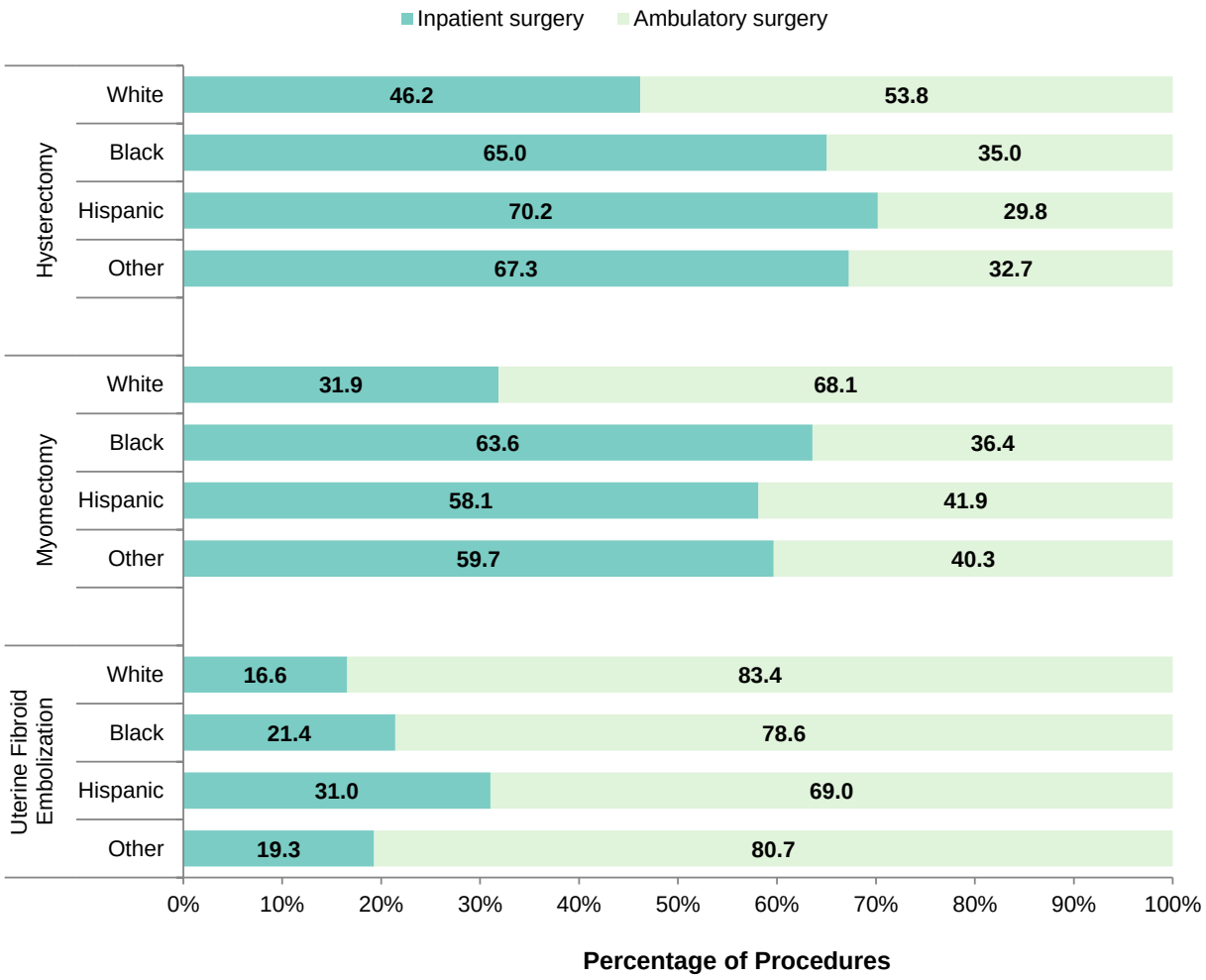
- **Most open hysterectomy and myomectomy procedures were performed in the hospital inpatient setting, whereas most laparoscopic hysterectomy and myomectomy procedures were performed in the hospital-based ambulatory surgery setting.**

  In 2013, nearly all open hysterectomies (97.3 percent) and the majority of open myomectomies (60.6 percent) were performed in the hospital inpatient setting. In contrast, laparoscopic or vaginal procedures occurred more commonly in the hospital-based ambulatory surgery setting (laparoscopic hysterectomy: 77.5 percent; vaginal hysterectomy: 65.0 percent; laparoscopic myomectomy: 93.0 percent). Uterine fibroid embolization and endometrial ablation were performed primarily in the hospital-based ambulatory surgery setting (79.9 and 98.2 percent, respectively).

Four surgical procedures to treat benign uterine fibroids by demographic characteristics and setting, 2013
Figures 4 and 5 present the distribution of hospital inpatient stays and hospital-based ambulatory surgery visits for three of the four procedures—hysterectomy, myomectomy, and uterine fibroid embolization—to treat benign uterine fibroids in 2013. Endometrial ablation is not presented because very few of these procedures overall were performed in the inpatient setting.

Figure 4 presents the distribution of hospital inpatient stays compared with hospital-based ambulatory surgery visits by patient race/ethnicity for three surgical procedures to treat benign uterine fibroids in 2013.

Figure 4. Distribution of hospital setting for three surgical procedures to treat benign uterine fibroids by patient race/ethnicity, in 13 States, 2013



Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) and State Ambulatory Surgery and Services Databases (SASD) from 13 States, 2013

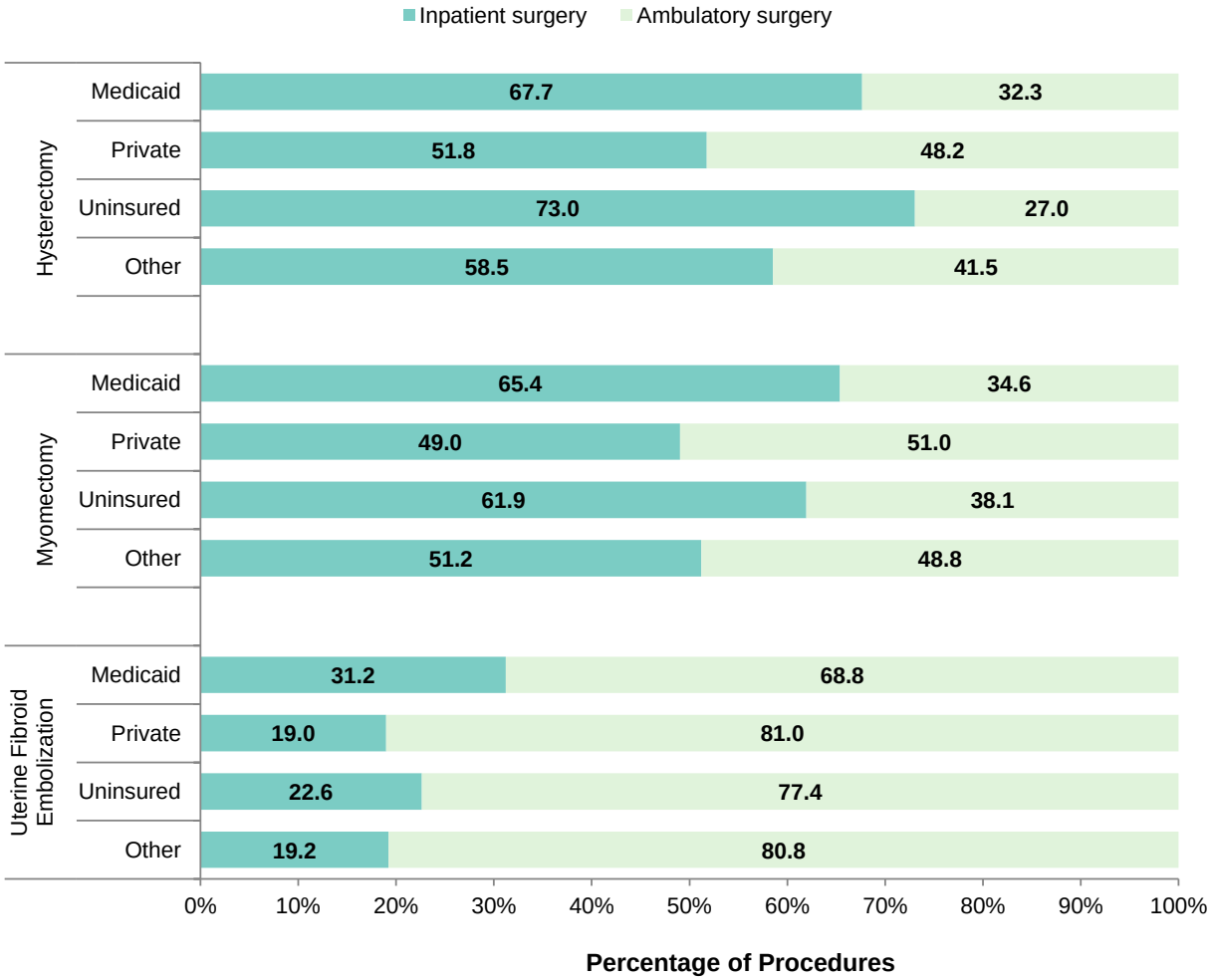
- **White women more commonly had hysterectomy and myomectomy in the hospital-based ambulatory surgery setting, whereas Black and Hispanic women more commonly had inpatient surgery for these procedures.**

  In 2013, White women more commonly had hysterectomy and myomectomy for benign uterine fibroids in the hospital-based ambulatory surgery setting than in the inpatient setting (hysterectomy: 53.8 percent; myomectomy: 68.1 percent). In contrast, it was more common for Black and Hispanic women to have these procedures performed in the hospital inpatient setting. Although all women

more commonly had uterine fibroid embolization performed in the ambulatory surgery setting, regardless of race/ethnicity, having this procedure performed in the ambulatory surgery setting was somewhat more common among White women (83.4 percent) than among Black (78.6 percent) and Hispanic (69.0 percent) women.

Figure 5 presents the distribution of hospital inpatient stays compared with hospital-based ambulatory surgery visits by expected primary payer for three surgical procedures to treat benign uterine fibroids in 2013.

Figure 5. Distribution of hospital setting for three surgical procedures to treat benign uterine fibroids by expected primary payer, in 13 States, 2013



Note: Other expected primary payer includes Medicare.

Source: Agency for Healthcare Research and Quality (AHRQ), Center for Delivery, Organization, and Markets, Healthcare Cost and Utilization Project (HCUP), State Inpatient Databases (SID) and State Ambulatory Surgery and Services Databases (SASD) from 13 States, 2013

- **Women covered by Medicaid and uninsured women more commonly had hysterectomy and myomectomy in the hospital inpatient setting, whereas privately insured women had outpatient surgery about as often as inpatient surgery for these two procedures.**

  In 2013, it was more common for women covered by Medicaid to have hysterectomy and myomectomy for benign uterine fibroids in the hospital inpatient setting than in the ambulatory surgery setting (hysterectomy: 67.7 percent; myomectomy: 65.4 percent). Uninsured women also more commonly had inpatient stays than ambulatory surgery visits for hysterectomy (73.0 percent) and myomectomy (61.9 percent). In contrast, privately insured women had these two procedures

performed in the ambulatory surgery setting about as often as in the inpatient setting. Although uterine fibroid embolization was more commonly performed in the ambulatory surgery setting across payers, it was less common among women covered by Medicaid (68.8 percent) than among privately insured (81.0 percent) and uninsured (77.4 percent) women.

Data Source

The volumes and rates in this Statistical Brief are based upon data from the Healthcare Cost and Utilization Project (HCUP) 2013 State Inpatient Databases (SID) and State Ambulatory Surgery and Services Databases (SASD). We used a subset of 13 inpatient and ambulatory surgery State datasets that had complete outpatient procedure coding, via International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) procedure codes and/or Current Procedural Terminology (CPT®) procedure codes that included CPT modifiers: Connecticut, Indiana, Kansas, Maryland, Minnesota, Nebraska, New Jersey, New York, Ohio, South Carolina, Tennessee, Vermont, and Wisconsin. Historical data were drawn from the same 13 States in the 2005, 2007, 2009, and 2011 SID and SASD. Analysis was limited to hospitals within the 13 States that had cases of benign uterine fibroids involving four surgical procedures in the inpatient and ambulatory surgery settings in each data year.

Supplemental sources included population denominator data for use with HCUP databases, derived from information available from the Nielsen Company.[10]

Definitions

Diagnoses, procedures, ICD-9-CM, CPT®
The *principal diagnosis* is that condition established after study to be chiefly responsible for the patient's hospital inpatient stay or outpatient visit. *Secondary diagnoses* are concomitant conditions that coexist at the time of the visit or admission or that develop during the stay.

All-listed procedures include all procedures performed during the hospital inpatient stay or outpatient visit, whether for definitive treatment or for diagnostic or exploratory purposes. The *first-listed procedure* is the procedure that is listed first on the discharge record. Inpatient data define this as the *principal procedure*—the procedure that is performed for definitive treatment rather than for diagnostic or exploratory purposes (i.e., the procedure that was necessary to take care of a complication).

Procedures on inpatient hospitalization records are coded using the ICD-9-CM; procedures on ambulatory surgery and services records can be coded using either ICD-9-CM or the CPT.

ICD-9-CM assigns numeric codes to diagnoses and procedures. There are approximately 14,000 ICD-9-CM diagnosis codes and 4,000 ICD-9-CM procedure codes. CPT assigns numeric codes to procedures. There are approximately 9,600 CPT procedure codes.

Case definition
Hospital discharge and ambulatory surgery visit records with uterine fibroids were identified based on any of the following principal ICD-9-CM diagnosis codes:

- 218.0: Submucous leiomyoma of uterus
- 218.1: Intramural leiomyoma of uterus
- 218.2: Subserous leiomyoma of uterus
- 218.9: Leiomyoma of uterus, unspecified

Discharges with a secondary diagnosis of female genital cancer were excluded from the analysis (see Table 2 for coding).

[10] Barrett M, Lopez-Gonzalez L, Coffey R, Levit K. Population Denominator Data for Use with the HCUP Databases (Updated with 2013 Population Data). HCUP Methods Series Report #2014-02. August 18, 2014. U.S. Agency for Healthcare Research and Quality. http://www.hcup-us.ahrq.gov/reports/methods/2014-02.pdf. Accessed January 7, 2015.

Table 2. ICD-9-CM diagnosis codes for identifying female genital cancer

ICD-9-CM diagnosis code	Description
179.	Malignant neoplasm of uterus, part unspecified
180.0	Malignant neoplasm of endocervix
180.1	Malignant neoplasm of exocervix
180.8	Malignant neoplasm of other specified sites of cervix
180.9	Malignant neoplasm of cervix uteri, unspecified site
181.	Malignant neoplasm of placenta
182.0	Malignant neoplasm of corpus uteri, except isthmus
182.1	Malignant neoplasm of isthmus
182.8	Malignant neoplasm of other specified sites of body of uterus
183.0	Malignant neoplasm of ovary
183.2	Malignant neoplasm of fallopian tube
183.3	Malignant neoplasm of broad ligament of uterus
183.4	Malignant neoplasm of parametrium
183.5	Malignant neoplasm of round ligament of uterus
183.8	Malignant neoplasm of other specified sites of uterine adnexa
183.9	Malignant neoplasm of uterine adnexa, unspecified site
184.0	Malignant neoplasm of vagina
184.1	Malignant neoplasm of labia majora
184.2	Malignant neoplasm of labia minora
184.3	Malignant neoplasm of clitoris
184.4	Malignant neoplasm of vulva, unspecified site
184.8	Malignant neoplasm of other specified sites of female genital organs
184.9	Malignant neoplasm of female genital organ, site unspecified
233.1	Carcinoma in situ of cervix uteri
233.2	Carcinoma in situ of other and unspecified parts of uterus
233.3	Carcinoma in situ, unspecified female genital, not elsewhere classified
233.30	Carcinoma in situ, unspecified female genital organ
233.31	Carcinoma in situ, vagina
233.32	Carcinoma in situ, vulva
233.39	Carcinoma in situ, other female genital organ
236.0	Neoplasm of uncertain behavior of uterus
236.1	Neoplasm of uncertain behavior of placenta
236.2	Neoplasm of uncertain behavior of ovary
236.3	Neoplasm of uncertain behavior of other and unspecified female genital organs

The population used in this Statistical Brief was females aged 18–54 years. Uterine fibroids become more common as women age but shrink after menopause; they are most common among women in their 40s and early 50s.[11] Analysis was limited to hospital discharge or ambulatory surgery visit records with (1) a principal diagnosis of uterine fibroids, (2) no secondary diagnosis of female genital cancer, and (3)

[11] Office on Women's Health. Uterine Fibroids Fact Sheet. January 15, 2015. http://www.womenshealth.gov/publications/our-publications/fact-sheet/uterine-fibroids.html. Accessed July 2, 2015.

one of four primary surgical procedures to treat uterine fibroids: hysterectomy, myomectomy, uterine fibroid embolization, and endometrial ablation. These surgical procedures are the most common surgical treatments for benign uterine fibroids. These procedures were defined based on all-listed procedure codes as identified using the ICD-9-CM and CPT procedure codes in Table 3. Procedures were ranked hierarchically, as shown in Table 3, so that each hospital discharge or ambulatory surgery visit record was identified with only one type of procedure.

Table 3. ICD-9-CM and CPT procedure codes for defining procedures to treat uterine fibroids

Procedure		ICD-9-CM procedure codes	CPT codes
Hysterectomy[a]	Open (abdominal)	• 68.39 • 68.49 (new as of 10/1/06) • Exclude: 68.31 or 68.41 (laparoscopic) • 68.4 (prior to 10/1/06)[b] AND exclude if with 54.21 (laparoscopic)	• 58150–58200
	Vaginal	• 68.59 • Exclude: 68.51 (laparoscopic)	• 58260–58270 • 58275–58280 • 58290–58294
	Laparoscopic[c]	• 68.31 • 68.41 (new as of 10/1/06) • 68.51 • 68.4 (prior to 10/1/06)[b] AND concurrent 54.21 (laparoscopic)	• 58541–58544 (new as of 1/1/07) • 58550–58554 • 58570–58573 (new as of 1/1/08) • 58578[d] (prior to 1/1/08)
Myomectomy	Open[e]	• 68.29 • 69.19 • Exclude: 54.21 (laparoscopic)	• 58140 • 58145 • 58146
	Laparoscopic[c]	• 68.29 • 69.19 • Concurrent: 54.21 (laparoscopic)	• 58545 • 58546
Uterine fibroid embolization		• 38.80 (prior to 10/1/10) • 39.79 (prior to 10/1/10) • 99.29 (prior to 10/1/10) • 68.24 (new as of 10/1/10) • 68.25 (new as of 10/1/10)	• 37204[d] (prior to 1/1/07) • 37210 (new as of 1/1/07)
Endometrial ablation		• 68.23	• 58353 • 58356 • 58563

[a] Radical hysterectomy (ICD-9-CM 68.61, 68.69, 68.71, and 68.79, and CPT 58210, 58285, 58548) and unspecified hysterectomy (ICD-9-CM 68.9) were not included in this analysis.

[b] ICD-9-CM code 68.4 was used prior to 10/1/06 and does not directly allow the distinction of open versus laparoscopic hysterectomy. The code was invalid after 10/1/06 when 68.41 and 68.49 came into use.

[c] Laparoscopic includes both abdominal and vaginal approaches.

[d] CPT codes 58578 and 37204 are not specific to hysterectomy or uterine fibroid embolization; these require the uterine fibroid diagnosis in order to link them to these procedures.

[e] Open myomectomy includes CPT 58145 for vaginal myomectomy.

Types of hospitals included in HCUP State Inpatient Databases

This analysis used State Inpatient Databases (SID) limited to data from community hospitals, which are defined as short-term, non-Federal, general, and other hospitals, excluding hospital units of other institutions (e.g., prisons). Community hospitals include obstetrics and gynecology, otolaryngology, orthopedic, cancer, pediatric, public, and academic medical hospitals. Excluded for this analysis are long-term care facilities such as rehabilitation, psychiatric, and alcoholism and chemical dependency hospitals. However, if a patient received long-term care, rehabilitation, or treatment for psychiatric or

chemical dependency conditions in a community hospital, the discharge record for that stay was included in the analysis. The analysis was limited to hospitals that had at least one uterine fibroid procedure performed in both the SID and SASD in each data year.

Types of hospitals included in HCUP State Ambulatory Surgery and Services Databases
This analysis used State Ambulatory Surgery and Services Databases (SASD) limited to data from hospital-owned ambulatory surgery facilities. Although some SASD include data from facilities not owned by a hospital, those facilities were excluded from this analysis. The designation of a facility as hospital-owned is specific to its financial relationship with a hospital that provides inpatient care and is not related to its physical location. Ambulatory surgery performed in hospital-owned facilities may be performed within the hospital, in a facility attached to the hospital, or in a facility physically separated from the hospital. The analysis was further limited to ambulatory surgeries performed at facilities owned by community hospitals. Community hospitals are defined as short-term, non-Federal, general, and other specialty hospitals, excluding hospital units of other institutions (e.g., prisons). The analysis was limited to hospitals that had at least one uterine fibroid procedure performed in both the SID and SASD in each data year.

Unit of analysis
The unit of analysis is the hospital discharge (i.e., the hospital stay) for an inpatient stay or ambulatory surgery visit, not a person or patient. This means that a person who is admitted to the hospital to have surgery multiple times in 1 year will be counted each time as a separate discharge from the hospital or visit.

Charges
Charges represent what the hospital billed for the discharge. Hospital charges reflect the amount the hospital charged for the entire hospital stay and do not include professional (physician) fees. We report hospital charges rather than costs because Cost-to-Charge Ratios are not available for ambulatory surgery data.

Median community-level income
Median community-level income is the median household income of the patient's ZIP Code of residence. Income levels are separated into population-based quartiles with cut-offs determined using ZIP Code demographic data obtained from the Nielsen Company. Patients in the first quartile are designated as having *low* income, and patients in the upper three quartiles are designated as having *not low* income. The income quartile is missing for patients who are homeless or foreign.

Payer
Payer is the expected payer for the hospital stay. To make coding uniform across all HCUP data sources, payer combines detailed categories into general groups:

- Medicare: includes patients covered by fee-for-service and managed care Medicare
- Medicaid: includes patients covered by fee-for-service and managed care Medicaid
- Private Insurance: includes Blue Cross, commercial carriers, and private health maintenance organizations (HMOs) and preferred provider organizations (PPOs)
- Uninsured: includes an insurance status of *self-pay* and *no charge*
- Other: includes Workers' Compensation, TRICARE/CHAMPUS, CHAMPVA, Title V, and other government programs.

This Statistical Brief was limited to adult females aged 18–54 years. When more than one payer was listed for a hospital discharge, the first-listed payer was used. Medicare was combined with the Other group for reporting.

Reporting of race and ethnicity
Data on Hispanic ethnicity are collected differently among the States and also can differ from the Census methodology of collecting information on race (White, Black, Asian/Pacific Islander, American Indian/Alaska Native, Other (including mixed race)) separately from ethnicity (Hispanic, non-Hispanic). State data organizations often collect Hispanic ethnicity as one of several categories that include race.

Therefore, for multistate analyses, HCUP creates the combined categorization of race and ethnicity for data from States that report ethnicity separately. When a State data organization collects Hispanic ethnicity separately from race, HCUP uses Hispanic ethnicity to override any other race category to create a Hispanic category for the uniformly coded race/ethnicity data element, while also retaining the original race and ethnicity data. All of the States included in the analyses for this Statistical Brief report Hispanic ethnicity. This Statistical Brief reports race/ethnicity for the following categories: Hispanic, non-Hispanic White, non-Hispanic Black, non-Hispanic Other (includes Asian/Pacific Islander, American Indian/Alaska Native, and Other).

About HCUP

The Healthcare Cost and Utilization Project (HCUP, pronounced "H-Cup") is a family of health care databases and related software tools and products developed through a Federal-State-Industry partnership and sponsored by the Agency for Healthcare Research and Quality (AHRQ). HCUP databases bring together the data collection efforts of State data organizations, hospital associations, and private data organizations (HCUP Partners) and the Federal government to create a national information resource of encounter-level health care data. HCUP includes the largest collection of longitudinal hospital care data in the United States, with all-payer, encounter-level information beginning in 1988. These databases enable research on a broad range of health policy issues, including cost and quality of health services, medical practice patterns, access to health care programs, and outcomes of treatments at the national, State, and local market levels.

HCUP would not be possible without the contributions of the following data collection Partners from across the United States:

Alaska State Hospital and Nursing Home Association
Arizona Department of Health Services
Arkansas Department of Health
California Office of Statewide Health Planning and Development
Colorado Hospital Association
Connecticut Hospital Association
District of Columbia Hospital Association
Florida Agency for Health Care Administration
Georgia Hospital Association
Hawaii Health Information Corporation
Illinois Department of Public Health
Indiana Hospital Association
Iowa Hospital Association
Kansas Hospital Association
Kentucky Cabinet for Health and Family Services
Louisiana Department of Health and Hospitals
Maine Health Data Organization
Maryland Health Services Cost Review Commission
Massachusetts Center for Health Information and Analysis
Michigan Health & Hospital Association
Minnesota Hospital Association
Mississippi Department of Health
Missouri Hospital Industry Data Institute
Montana MHA - An Association of Montana Health Care Providers
Nebraska Hospital Association
Nevada Department of Health and Human Services
New Hampshire Department of Health & Human Services
New Jersey Department of Health
New Mexico Department of Health
New York State Department of Health
North Carolina Department of Health and Human Services
North Dakota (data provided by the Minnesota Hospital Association)

Ohio Hospital Association
Oklahoma State Department of Health
Oregon Association of Hospitals and Health Systems
Oregon Office of Health Analytics
Pennsylvania Health Care Cost Containment Council
Rhode Island Department of Health
South Carolina Revenue and Fiscal Affairs Office
South Dakota Association of Healthcare Organizations
Tennessee Hospital Association
Texas Department of State Health Services
Utah Department of Health
Vermont Association of Hospitals and Health Systems
Virginia Health Information
Washington State Department of Health
West Virginia Health Care Authority
Wisconsin Department of Health Services
Wyoming Hospital Association

About Statistical Briefs

HCUP Statistical Briefs are descriptive summary reports presenting statistics on hospital inpatient and emergency department use and costs, quality of care, access to care, medical conditions, procedures, patient populations, and other topics. The reports use HCUP administrative health care data.

About the SID

The HCUP State Inpatient Databases (SID) are hospital inpatient databases from data organizations participating in HCUP. The SID contain the universe of the inpatient discharge abstracts in the participating HCUP States, translated into a uniform format to facilitate multistate comparisons and analyses. Together, the SID encompass more than 95 percent of all U.S. community hospital discharges. The SID can be used to investigate questions unique to one State, to compare data from two or more States, to conduct market-area variation analyses, and to identify State-specific trends in inpatient care utilization, access, charges, and outcomes.

About the SASD

The HCUP State Ambulatory Surgery and Services Databases (SASD) include encounter-level data for ambulatory surgeries and may also include various types of outpatient services such as observation stays, lithotripsy, radiation therapy, imaging, chemotherapy, and labor and delivery. The specific types of ambulatory surgery and outpatient services included in each SASD vary by State and data year. All SASD include data from hospital-owned ambulatory surgery facilities. In addition, some States include data from facilities not owned by a hospital. The designation of a facility as hospital-owned is specific to its financial relationship with a hospital that provides inpatient care and is not related to its physical location. Hospital-owned ambulatory surgery and other outpatient care facilities may be contained within the hospital, physically attached to the hospital, or located in a different geographic area. This analysis was restricted to hospital-owned ambulatory surgery facilities.

For More Information

For more information about HCUP, visit http://www.hcup-us.ahrq.gov/.

For additional HCUP statistics, visit HCUPnet, our interactive query system, at http://hcupnet.ahrq.gov/.

For information on other hospitalizations in the United States, refer to the following HCUP Statistical Briefs located at http://www.hcup-us.ahrq.gov/reports/statbriefs/statbriefs.jsp:

- Statistical Brief #180, Overview of Hospital Stays in the United States, 2012
- Statistical Brief #181, Costs for Hospital Stays in the United States, 2012
- Statistical Brief #186, Most Frequent Operating Room Procedures Performed in U.S. Hospitals, 2003–2012
- Statistical Brief #162, Most Frequent Conditions in U.S. Hospitals, 2011

For a detailed description of HCUP and more information on the design of the State Inpatient Databases (SID) and State Ambulatory Surgery and Services Databases (SASD), please refer to the following database documentation:

Agency for Healthcare Research and Quality. Overview of the State Inpatient Databases (SID). Healthcare Cost and Utilization Project (HCUP). Rockville, MD: Agency for Healthcare Research and Quality. Updated November 2014. http://www.hcup-us.ahrq.gov/sidoverview.jsp. Accessed January 7, 2015.

Agency for Healthcare Research and Quality. Overview of the State Ambulatory Surgery and Services Databases (SASD). Healthcare Cost and Utilization Project (HCUP). Rockville, MD: Agency for Healthcare Research and Quality. Updated November 2014. http://www.hcup-us.ahrq.gov/sasdoverview.jsp. Accessed January 7, 2015.

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AHRQ welcomes questions and comments from readers of this publication who are interested in obtaining more information about access, cost, use, financing, and quality of health care in the United States. We also invite you to tell us how you are using this Statistical Brief and other HCUP data and tools, and to share suggestions on how HCUP products might be enhanced to further meet your needs. Please e-mail us at hcup@ahrq.gov or send a letter to the address below:

Virginia Mackay-Smith, Acting Director
Center for Delivery, Organization, and Markets
Agency for Healthcare Research and Quality
5600 Fishers Lane
Rockville, MD 20857