H·CUP
HEALTHCARE COST AND UTILIZATION PROJECT

Highlights

issue 2

Hospital and Ambulatory Surgery Care for Women's Cancers

More than 1 in 3 American women develop cancer at some point in their lives. Over 40 percent[1] of their diagnoses are associated with women-specific cancers—that is, cancers typically unique to females, such as breast cancer and gynecologic cancers of the uterus, cervix, ovaries, and other genital organs. Breast cancer is second only to lung cancer as the leading cause of cancer-related deaths in women,[2] and more women are diagnosed with breast cancer than any other type of cancer. Although gynecologic cancers are less prevalent than breast cancers, they are generally more expensive to treat.

Nationwide, hospital charges for breast and gynecologic cancer treatment totaled more than $3.8 billion in 2003, representing more than 15 percent of the total hospital bill for cancer care in women. Hospital expenses for breast cancer treatment totaled more than $1.6 billion. Gynecologic cancer treatment accounted for more than $2.2 billion.

This Highlight summarizes findings on hospital use, outpatient surgery use, hospital charges, and changing practice patterns for the care of breast and gynecologic cancers. The information is based on inpatient hospital discharge data and outpatient ambulatory surgery data from the Healthcare Cost and Utilization Project (HCUP), a family of databases maintained by the Agency for Healthcare Research and Quality (AHRQ).

KEY FACTS ABOUT WOMEN'S CANCERS:

- Nearly 184,000 hospitalizations for breast and gynecologic cancers occurred in the United States in 2003 (Figure 1), accounting for one-fourth of all hospitalizations for cancer among women.
- From 1993 to 2003, hospitalizations for breast cancer decreased by 40 percent, likely reflecting a shift toward greater outpatient treatment of the disease.
- The hospital bill for treating patients diagnosed with breast cancer averaged $17,200 (Figure 2).
- Women in the 45-64 and 65 and older age groups each accounted for about 43 percent of breast cancer hospitalizations in 2003.
- Approximately 2 out of 3 women hospitalized with breast cancer undergo a mastectomy—the most common procedure performed on women hospitalized for this disease.
- Collectively, 43 percent of hospitalizations for gynecologic cancers occurred in women 45–64. However, for cervical cancer, women under 45 accounted for half of all hospital stays.
- The average hospital bill for gynecologic cancers overall was almost $24,700—25 percent higher than the average U.S. hospital bill of $19,700. For ovarian cancer, the average bill was $35,200—nearly 80 percent higher than the average U.S. hospital bill (Figure 2).

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KEY FINDINGS INCLUDE:

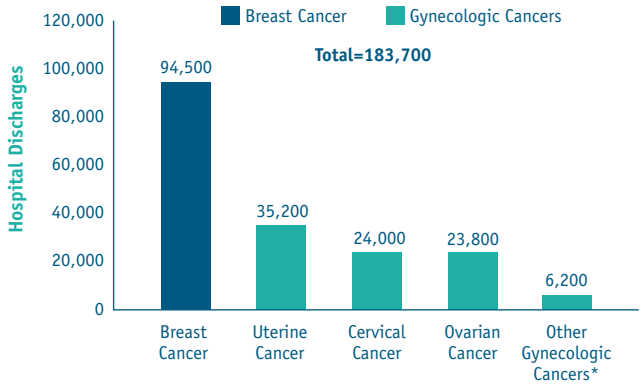
- Hospital use and spending for women's cancers vary according to multiple factors, including patient's age, health insurance coverage, and cancer diagnosis. Medicare and Medicaid are billed for half of these hospitalizations—a finding of particular interest to public policymakers.

- While the number of hospitalizations for breast cancer treatment declined between 2001 and 2003, hospital expenses per admission continued to rise. Expenses rose both for patients without complications and for patients with neutropenia—a common complication of chemotherapy. Neutropenia-related expenses are typically higher than expenses for patients without complications; but over the 3-year period, the gap narrowed.

- Geographic location, health insurance type, and existing health factors (e.g., presence of other diseases) affect patterns of care for breast cancer treatment, particularly outpatient surgeries.

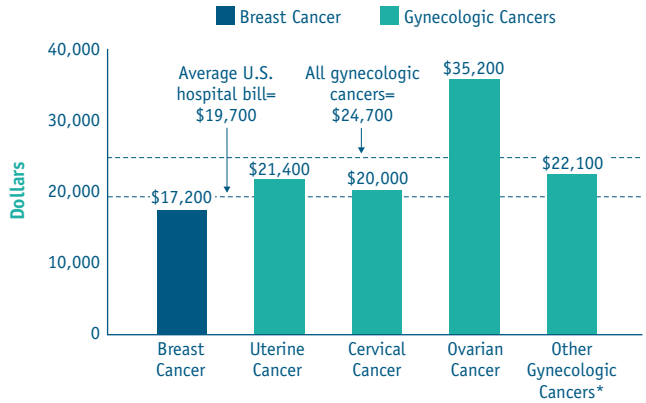
This HCUP Highlight demonstrates the importance of improving prevention, early identification, and treatment for female cancers because of the large health and economic burdens these cancers place on women and society.

FIGURE 1
NUMBER OF WOMEN-SPECIFIC CANCER HOSPITALIZATIONS BY CANCER DIAGNOSIS, 2003



*Includes cancer of the vulva, vagina, fallopian tubes, and other female genital organs.
Source: Nationwide Inpatient Sample (NIS), 2003.

FIGURE 2
AVERAGE HOSPITAL BILL BY CANCER DIAGNOSIS, 2003

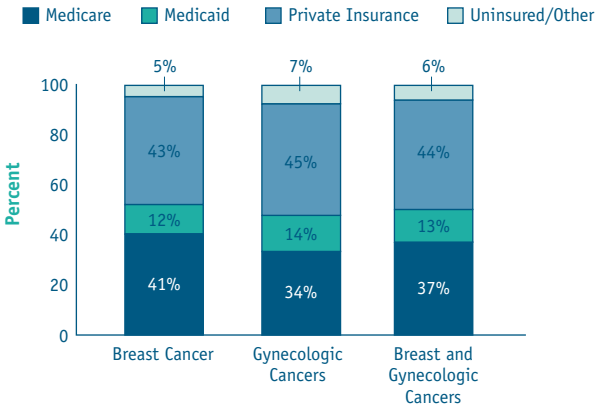


*Includes cancer of the vulva, vagina, fallopian tubes, and other female genital organs.
Source: Nationwide Inpatient Sample (NIS), 2003.

A WORD ABOUT NEUTROPENIA

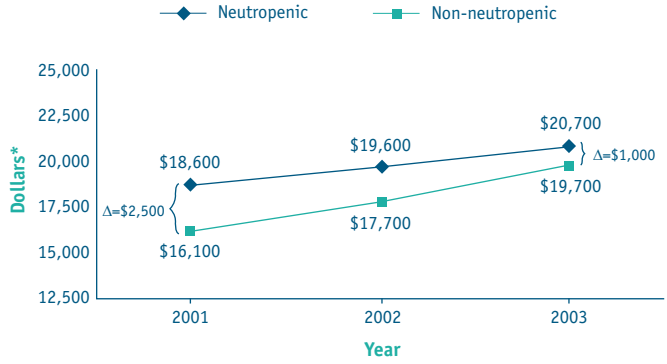
One of the most common side effects of chemotherapy is neutropenia, which occurs when white blood cells are destroyed by chemotherapy, thus weakening the ability of the immune system to fight infection. Neutropenia can lead to other complications, which in turn may cause treatment delays or dose reductions that can impede the benefits of treatment.

FIGURE 3
PERCENT OF HOSPITALIZATIONS BILLED TO PAYER, 2003



Source: Nationwide Inpatient Sample (NIS), 2003.

FIGURE 4
COMPARISON OF AVERAGE HOSPITAL BILLS FOR NEUTROPENIC AND NON-NEUTROPENIC BREAST CANCERS, 2001–2003



*Adjusted to 2003 dollars.
Source: Nationwide Inpatient Sample (NIS), 2003.

HOSPITAL USE AND SPENDING FOR WOMEN'S CANCERS VARY BY AGE, CANCER DIAGNOSIS, AND HEALTH INSURANCE

For women 45 and older with breast and gynecologic cancers, hospital inpatient care is the single largest source of health care spending, compared with outpatient, emergency department, nursing home, and home or hospice care.[3] However, hospital use and spending vary by patient age, cancer diagnosis, and health insurance coverage. Women 45 to 64 account for the majority of hospital stays for gynecologic cancers, while women 45 to 64 and 65 and older have equally high numbers of hospital stays for breast cancer. Length of stay for hospitalizations for gynecologic cancer treatment is almost twice as long as for breast cancer treatment. The average hospital bill for gynecologic cancer treatment is 44 percent higher than the bill for breast cancer treatment. Together, Medicare and Medicaid are billed for more hospitalizations for all women's cancers than private insurance (Figure 3).

HOSPITAL EXPENSES FOR BREAST CANCER TREATMENT HAVE INCREASED, BUT THE ADDITIONAL EXPENSES FOR CHEMOTHERAPY-RELATED COMPLICATIONS HAVE DECREASED

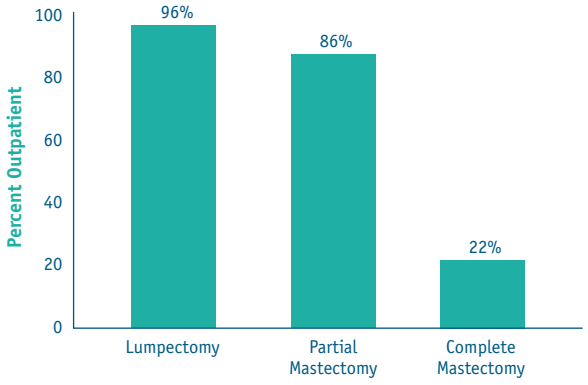
While the number of hospitalizations for breast cancer decreased 21 percent between 2001 and 2003 (likely due to increases in outpatient treatment), the average hospital bill per admission increased 20 percent.* During this same time period, hospitalizations among women with breast cancer and neutropenia, an adverse side effect of chemotherapy, increased 13 percent.

Typically, hospitalizations for breast cancer patients who experience treatment complications such as neutropenia are significantly longer and more costly than hospitalizations without complications.[4] However, between 2001 and 2003, the difference between hospital charges for neutropenic and non-neutropenic breast cancers decreased from $2,500 to $1,000—a 60 percent reduction (Figure 4). Furthermore, hospital expenses for patients with neutropenia increased at a lower rate than similar expenses for patients without neutropenia—11 percent vs. 22 percent, respectively.

*Hospital charges were adjusted to 2003 dollars.

For further information about this Highlight, please contact ***hcup@ahrq.gov***

FIGURE 5
LUMPECTOMIES AND MASTECTOMIES PERFORMED IN AN OUTPATIENT HOSPITAL SETTING IN 17 STATES, 2003



Source: State Inpatient Databases (SID) and State Ambulatory Surgery Databases (SASD) for CO, CT, GA, IN, KY, MN, MO, NC, NE, NH, NJ, NY, SC, TN, UT, VT, and WI, 2003.

OUTPATIENT SURGERY FOR BREAST CANCER VARIES BY STATE, PAYER, AND HEALTH FACTORS

Many women with breast cancer undergo a lumpectomy or a partial or complete mastectomy as part of their course of treatment. Advances in breast cancer surgery, including the use of more breast-conserving procedures, have resulted in fewer surgeries that require hospitalization. Lumpectomies and partial mastectomies are typically performed as outpatient procedures. In some States, complete mastectomies are increasingly being conducted on an outpatient basis.

A comparison of 2003 HCUP inpatient and outpatient hospital surgical data in 17 States revealed that 96 percent of lumpectomies (ranging from 92 to 99 percent) and 86 percent of partial mastectomies (ranging from 76 to 95 percent) were performed as outpatient surgeries (Figure 5). Nearly 22 percent of complete mastectomies performed in the 17 States occurred in an outpatient hospital setting (ranging from 4 to 48 percent).

TYPES OF BREAST CANCER SURGERIES

- Lumpectomy: Removal of the tumor only.
- Partial mastectomy: Removal of the part of the breast that contains cancer.
- Complete mastectomy (includes simple, modified radical, and radical): Removal of the entire breast that contains cancer.

Low rates of outpatient complete mastectomies have been associated with State policies mandating inpatient hospitalization for this procedure. Other factors that decreased a woman's likelihood of receiving an outpatient mastectomy included the presence of other diseases, metastases, simultaneous breast reconstruction, and extent of the procedure (i.e., simple, modified radical, or radical). A previous study found that patients in a health maintenance organization were more likely to receive an outpatient mastectomy than patients covered by Medicare, Medicaid, or other private insurance.[5]

CONSIDERATIONS FOR PUBLIC POLICY

Patterns of health care delivery and costs for women's breast and gynecologic cancers appear to be changing and may reflect advances in care for women's cancers. The decreasing gap between the hospital expenses associated with breast cancer cases with and without neutropenia complications may reveal improvements in the prevention, treatment, and outpatient management of the side effects of chemotherapy. Differences in surgical venue by location, payer, and health factors might indicate variations in outpatient breast cancer treatment options. These venue differences may also reflect women's preferences and opinions about outpatient care.

The complications and treatments associated with women's cancers result in significant costs to women and the health care system. The hospital charges related to breast and gynecologic cancers are considerable, and public health insurance programs bear a substantial burden of these expenses. More effective strategies to advance treatment and reduce hospitalizations for breast and gynecologic cancers may help reduce health care costs. Better strategies could also improve both the quality of care and quality of life for the thousands of women diagnosed with these diseases each year.

SUGGESTED CITATION

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For more information on women's health and cancers, please visit: http://www.ahrq.gov/research/womenix.htm

THE ESTIMATES IN THIS HIGHLIGHT ARE BASED ON STATISTICS FROM HCUPNET* AND MATERIAL INCLUDED IN THE FOLLOWING PUBLICATIONS:

1. *U.S. Cancer Statistics Working Group. United States Cancer Statistics: 2002 Incidence and Mortality [online version]. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention and National Cancer Institute, 2005. www.cdc.gov/cancer/npcr/uscs. (Accessed April 3, 2006.)*
2. *National Cancer Institute. A Snapshot of Breast Cancer. August 2005. http://searchosp1.nci.nih.gov/disease/Breast-Snapshot.pdf. (Accessed April 3, 2006.)*
3. *Hoerger TJ, Downs KE, Lakshmanan MC, et al. Healthcare use among U.S. women aged 45 and older: total costs and costs for selected postmenopausal health risks. Journal of Women's Health and Gender-Based Medicine, 8(8): 1077–1089, 1999.*
4. *Gandhi SK, Arguelles L, Boyer JG. Economic impact of neutropenia and febrile neutropenia in breast cancer: estimates from two national databases. Pharmacotherapy, 21(6): 684–690, 2001.*
5. *Case C, Johantgen M, Steiner C. Outpatient mastectomy: clinical, payer, and geographical influences. Health Services Research, 36(5): 869–884, 2001.*

THE FOLLOWING STATES CONTRIBUTED 2003 DATA TO HCUP: AZ, CA, CO, CT, FL, GA, HI, IL, IN, IA, KS, KY, MA, MD, ME, MI, MN, MO, NC, NE, NH, NJ, NY, NV, OH, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, and WV.

*HCUPnet is HCUP's free interactive query system available at http://hcup.ahrq.gov/hcupnet.asp

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For more information about HCUP, including detailed descriptions of the HCUP databases, visit the HCUP Web site at:

http://www.hcup-us.ahrq.gov

HCUP Highlights

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ABOUT HCUP

The Healthcare Cost and Utilization Project (HCUP) 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, private data organizations, and the Federal Government to create a national information resource of discharge-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.

What's Inside—This Highlight summarizes findings on hospital use, outpatient surgery, hospital charges, and changing practice patterns for women's cancers using data derived from the HCUP Nationwide Inpatient Sample (NIS), State Inpatient Databases (SID), and State Ambulatory Surgery Databases (SASD).