

Kansas



**Trends in Breast Cancer Hospitalizations
and Associated Costs, 2004-2006**

**Research
Summary**

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Our Vision – Healthy Kansans Living in Safe and Sustainable Environments

As the state's environmental protection and public health agency, KDHE promotes responsible choices to protect the health and environment for all Kansans. Through education, direct services, and the assessment of data and trends, coupled with policy development and enforcement, KDHE will improve health and quality of life. We prevent illness, injuries and foster a safe and sustainable environment for the people of Kansas.

Trends in Breast Cancer Hospitalizations and Associated Costs, 2004-2006

Breast Cancer Overview

Breast cancer is the most commonly diagnosed cancer among females in the U.S. [1] and Kansas [2]. However, national and Kansas trends both show that incidence rates for breast cancer have decreased since 1999 [3]. On the other hand, while the number of hospitalizations declined 21 percent between 2001 and 2003, the average hospital bill per admission increased 20 percent for patients without complications and 13 percent for those with adverse effects from chemotherapy. Nationally, hospital expenses for breast cancer treatments totaled more than \$1.6 billion in 2003 alone [4].

The purpose of the current study is to review Kansas trends in breast cancer incidence, hospital discharge and death rates, the distribution of most frequently used breast cancer treatments by payer and costs associated with breast cancer hospitalizations for major payers. Since medical expenses for breast cancer are increasing nationally, a similar trend is expected in Kansas.

Methods

Data were analyzed from the Kansas Cancer Registry 2000-2005 [2], Kansas Discharge data from the Kansas Hospital Association 2000-2006 [5] and Kansas Vital Statistics Mortality Data 2000-2006 [6]. These data were accessed through the Kansas Information for Communities (KIC) system [7]. The breast cancer record case definition is defined as those records with a primary diagnosis code using the International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) = 174 – 174.9. Medicare 2004-2006 cost estimates were based on national Medicare payment averages supplied by Ingenix for Medicare [8]. Medicaid 2004-2006 reimbursement estimates were derived from data provided by the Centers for Medicare and Medicaid Services via permission of the Kansas Health Policy Authority [9]. Medicaid data, for purposes of this analysis, were records based on the Kansas federal-state funding partnership including benefit plans for the HCBS Frail Elderly, Medically Needy, Title XIX, Title XIX Presumptive Eligibility, Qualified Medicare Beneficiary and Sixth Omnibus Bill Reconciliation Act (SOBRA). Private insurance cost estimates for 2004 and 2005 were derived from the Kansas Health Insurance Information System (KHIIS) data provided by the Kansas Insurance Department [10]. Calculation of mean payments excludes data for Health Maintenance Organizations (HMOs) due to bundling issues with charge data. The italicized 2006 private insurance estimates are projections based on the Consumer Price Index (CPI) increases from 2005 [11]. Statistical significance when stated is determined with 95 percent confidence intervals. All statistics are reported for women only.

Breast Cancer Trends and Costs in the U.S. and Kansas

Trend data from 1999 – 2003 indicated that breast cancer incidence for female age-adjusted rates per 100,000 using Year 2000 U.S. standard population both nationally, and in Kansas, showed a decline in incidence rates for breast cancer, although Kansas rates were higher than the national

rates for all years [3]. Incidence rates have declined for breast cancer in Kansas from 2000 through 2005 per 1,000,000 (Figure 1).

In the U.S., women experienced more than 90,000 hospital stays for breast cancer in 2004, representing a 28 percent decrease from 1997 according to data from the Healthcare Cost and Utilization Project (HCUP) using hospital discharge as the unit of analysis. The reduction in hospitalization rate per 100,000 women showed a 34 percent decrease [12].

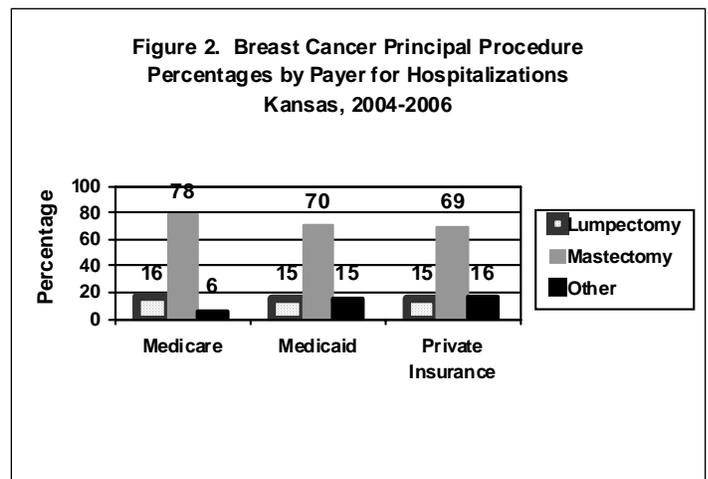
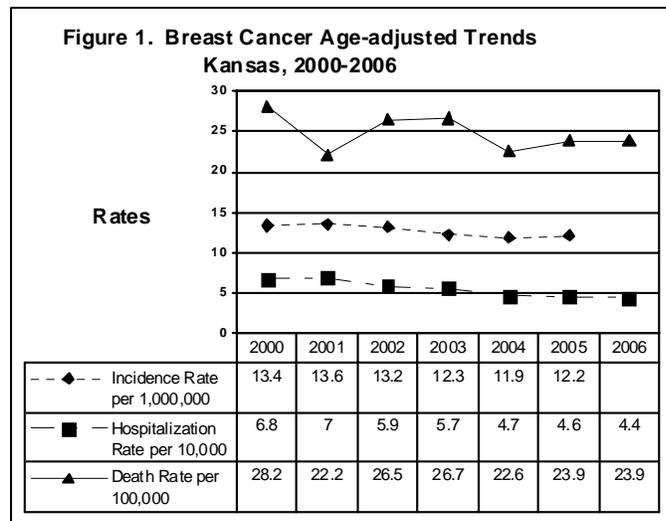
A similar downward trend is seen in Kansas hospital discharge rates per 10,000 from 2000 to 2006 (Figure 1). While national breast cancer death rates have been stable from 1999-2003 [3], Figure 1 shows a slight decline in Kansas breast cancer death rates per 100,000, although the rates are significantly lower in years 2001 and 2004 only from the year 2000 rate, $p < .05$ [7].

Research has shown that approximately 2 out of 3 women hospitalized with breast cancer undergo a mastectomy which is the most common procedure performed on women hospitalized for the disease. Medicare and Medicaid are billed for half of these hospitalizations.

However, many women with breast cancer undergo a lumpectomy or a partial or complete mastectomy as part of their treatment. Advances in breast cancer surgery, including the use of more breast conserving procedures have resulted in fewer surgeries that require hospitalization [4]. The decreasing number of breast cancer hospitalizations are likely due to the use of outpatient treatments. Additional analysis is needed to explore outpatient costs and treatments.

Nationally, as the hospitalization rates for breast cancer decreased, the use of the two most

frequent principal procedures i.e., mastectomies and lumpectomies, performed in the inpatient hospital setting decreased by 32 percent and 45 percent, respectively. The majority of lumpectomies and an increasing number of mastectomies are now performed in outpatient settings, primarily because of advances in early diagnosis of breast cancer and surgical technologies [12]. Figure 2 shows the two procedures performed in Kansas hospitals by payer source. Among the major payers, Medicare recipients had the highest percentage of mastectomies followed by Medicaid recipients and individuals with private insurance. There were relatively no differences in percentage of lumpectomies across major payer sources.



The number of Kansas hospitalizations with a primary diagnosis of breast cancer are shown in Table 1. The estimated total costs for Medicare, Medicaid and private insurance hospitalizations are increasing even though the hospitalization rate is stable or declining. The number of Medicare hospitalizations declined slightly from 2004 to 2006, while the total and average costs increased slightly in 2006. Conversely, the number of hospitalizations reimbursed by Medicaid is relatively constant from 2004 to 2006, while the average cost declined annually. For private insurance, the number of hospitalizations has been relatively stable with a slight decline in 2006 from the previous two years. However, the total and average cost to private insurance has increased between 2004 and 2005 and is estimated to increase in 2006. Nationally, the average cost for breast cancer hospitalizations was \$6,900 in 2004 [12]. Kansas breast cancer costs appear somewhat lower than the national average. Further research is needed to assess differences.

Total Number *	2004	2005	2006
Medicare	369	357	356
Medicaid	27	33	28
Private Insurance	347	353	332
Total	743	743	716
Total Allowed Dollars			
Medicare **	\$1,435,765	\$1,435,504	\$1,606,693
Medicaid ***	\$136,567	\$152,300	\$110,420
Private Insurance ****	\$2,350,562	\$2,736,727	\$2,787,664
Total	\$3,922,894	\$4,324,531	\$4,504,777
Average Allowed Dollars			
Medicare **	\$3,891	\$4,021	\$4,513
Medicaid ***	\$5,058	\$4,615	\$3,944
Private Insurance ****	\$6,774	\$7,753	\$8,397
Average	\$5,280	\$5,820	\$6,292

Sources:

*The total number of hospital discharges by payer source and years are derived from Kansas Hospital Discharge Data provided by the Kansas Hospital Association.

** Based on national Medicare payment averages.

*** Reimbursement Estimates are derived from Medicaid data provided by the Centers for Medicare and Medicaid Services via permission of the Kansas Health Policy Authority.

**** Reimbursement estimates for 2004 and 2005 are derived for Kansas Health Insurance Information System (KHIS) data provided by the Kansas Insurance Department. Reimbursement estimates for 2006 are projections derived from KHIS data and based on the Consumer Price Index (CPI).

Data Limitations

Costs, for purposes of this report, are based on the number of hospitalizations as reported in the Kansas hospital discharge data only, i.e., federal, private and other hospitalizations are not available. Estimates are conservative since there are many other costs associated with breast cancer treatment and care. For example, professional and pharmaceutical costs connected with hospitalization are not

included here. Payments and reimbursements made for Workers Compensation, privately paid patient costs and a number of other payer sources are not included.

Kansas community hospital discharge data does not contain cost data within the dataset. Cost estimates are derived based on averages from other healthcare reimbursement datasets like KHIIS, Medicaid and Medicare average cost reports. These datasets cannot be merged due to the lack of a unique record identifier, thus impacting ability to conduct statistical analysis. Additionally, the absence of a unique identifier is problematic in the community hospital discharge dataset because individuals admitted multiple times in a single year may be counted as unique patients producing inflated counts which can affect statistical reliability. KHIIS data consists of the experience of the top 20 Kansas private health insurers only, thus not all private insurance experience is represented in the data. Further analysis is needed for a more comprehensive view of trends in this arena.

Summary and Conclusion

On one hand, current research shows the incidence of breast cancer appears to be declining both nationally and in Kansas. Kansas trends in breast cancer incidence, hospital discharge and death rates are declining, while average costs for hospitalizations have increased. Furthermore, private insurers consistently pay more than Medicare and Medicaid for breast cancer hospitalizations with similar primary diagnoses and principal procedures.

On the other hand, while hospitalization rates are declining and expenses are increasing, hospitals do not charge every patient the same price for medical care. Uninsured patients and those who pay with their own funds are charged 2.5 times more for hospital care than those covered by health insurance and more than three times the allowable amount paid by Medicare. Patients who self pay for hospital care, such as the uninsured and foreign visitors, do not benefit from discounted rates negotiated on the patient's behalf by insurance companies and Medicare. Furthermore, the gap between the amount self pay patients are charged and what Medicare pays has more than doubled in the past 20 years [13]. Future research should address cost burdens for the uninsured.

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