Breast Cancer Data Analysis

Mercy and Unity Cancer Program

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Diagnosis:

Breast Cancer cases diagnosed and treated at Mercy and Unity Hospitals have gone from a total of 50 cases in 1981, to around 300 cases in 2004, a 6% increase. This is in contrast to American Cancer Society (ACS) data showing a 1.4% increase during the same time period (Figure 1). It is assumed the increase is as a result of increased utilization of our Breast Diagnostic Center during this period, the increase in population in the Northern suburbs, and the positive reputation of the Diagnostic Center.

Figure 1
Breast Cancer Volume (excl. LCIS)
1981 through 2004

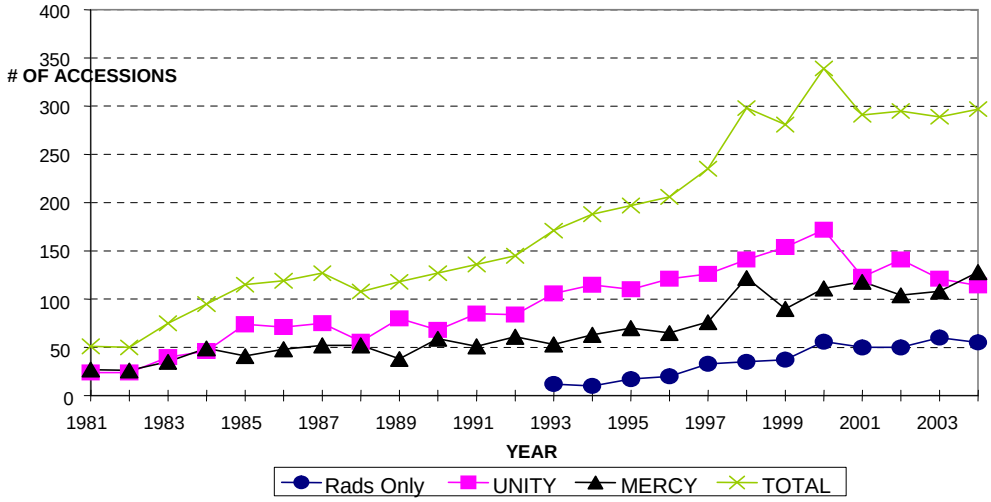


Figure 2 shows the age at diagnosis. The trend is toward diagnosis at a younger age. This likely reflects increased screening in younger women and reinforces the importance of yearly screening starting at age 40.

Figure 3 and 4 show the stage distribution at diagnosis for the past 5 years. More than half of breast cancers diagnosed in 2004, were diagnosed at stages 0 and 1, when breast cancer is highly curable. These cancers were far more likely to be detected by mammography, whereas, advanced stage cancers were detected by palpation. Interestingly, in patients under 50 over 50% of cancers diagnosed presented as a palpable lump found by the patient. This may reflect poor screening in this age group. Early diagnosis is strongly associated with annual screening mammography.

FIGURE 2: 2000-2004 Age at Diagnosis by Accession Year (Excl. LCIS)

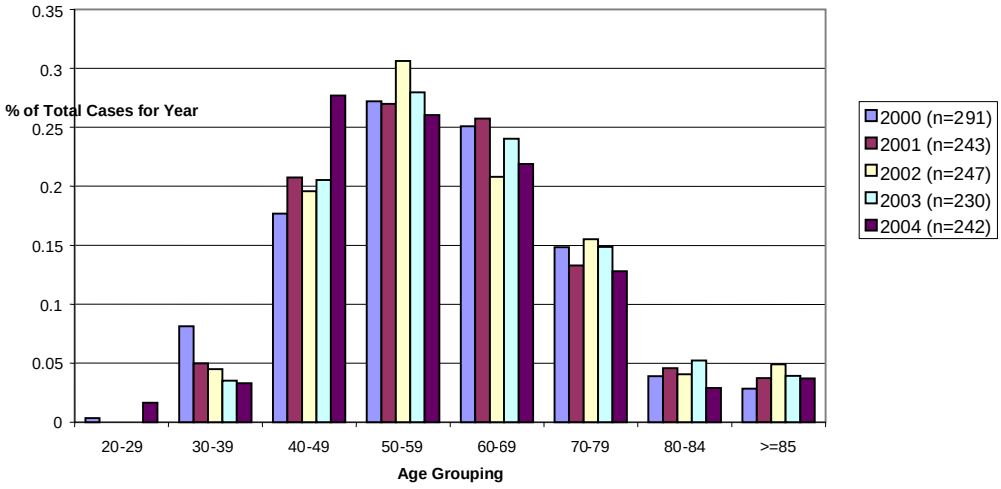


Figure 3: 2000-2004 AJCC SUMMARY STAGE BY ACCESSION YEAR (Excl. LCIS)

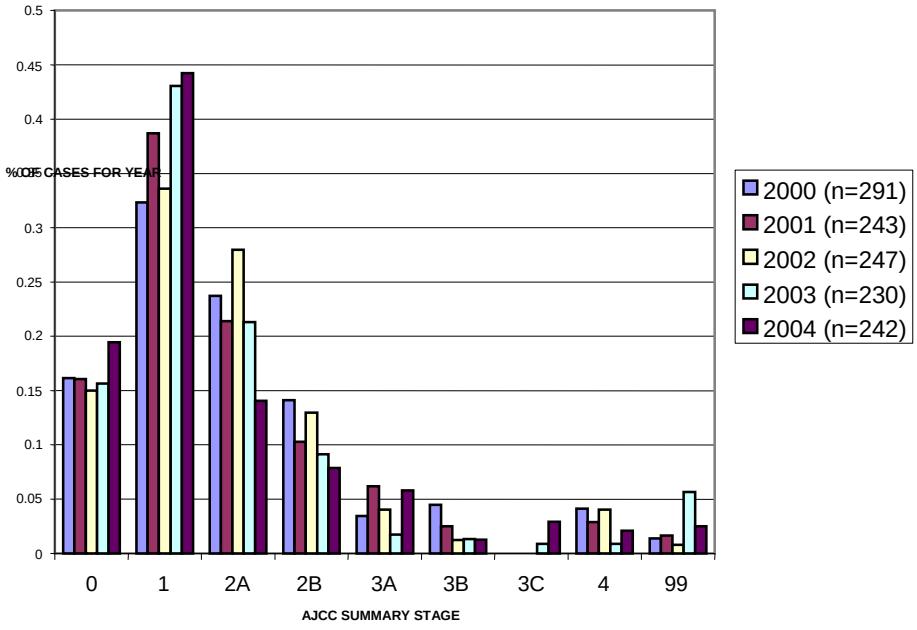
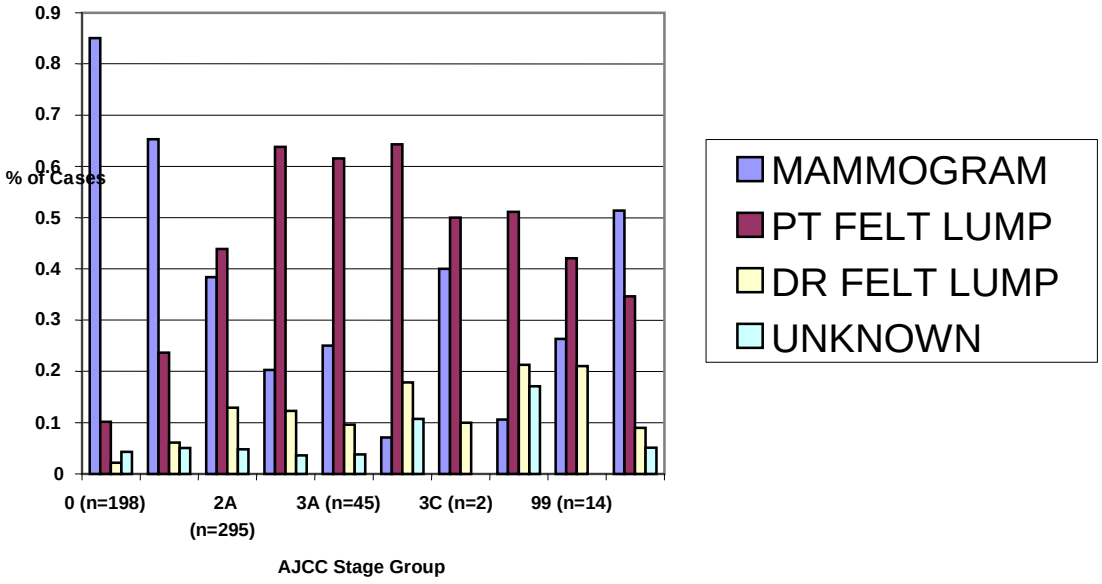


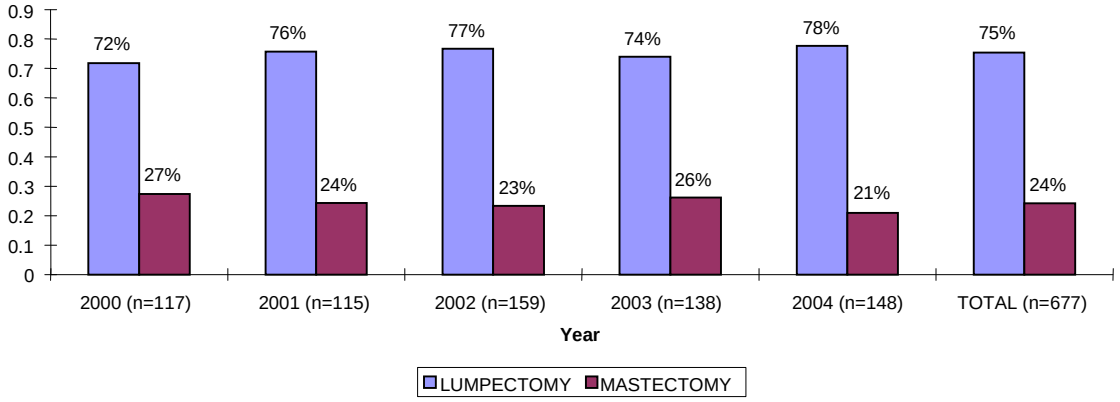
Figure 4: 2000-2004 Mercy and Unity Breast Pts
AJCC Stage Group by How Cancer Was Found



Treatment:

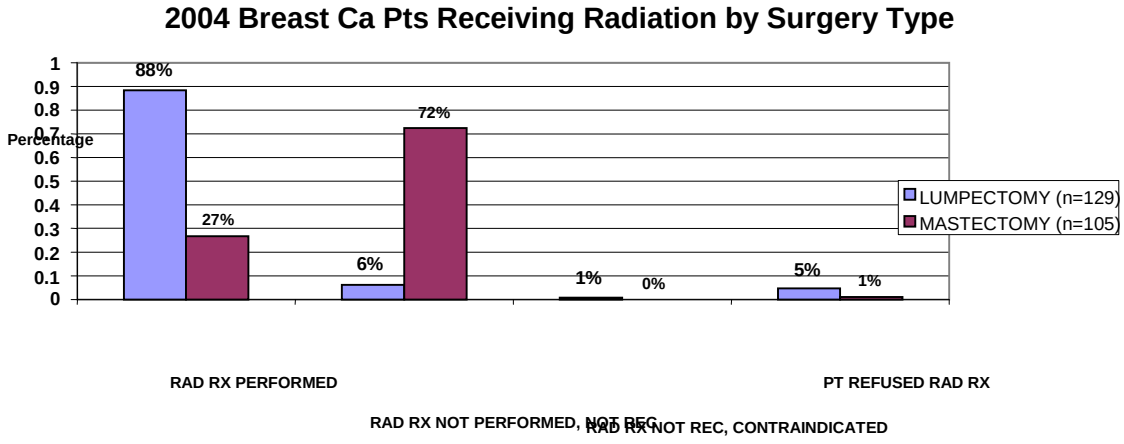
Surgical treatment for breast cancer requires partial or total mastectomy for complete excision of the tumor. Survival rates for partial mastectomy with radiation and for total mastectomy are similar, leading to recommendations based on patient choice. Several factors such as size of tumor and other contraindications to radiation do affect patient choice, so rates of lumpectomy (partial mastectomy) vs. mastectomy have been tracked only on patients with a known choice. Figure 4 reflects that patient choice has remained stable in the past few years.

Figure 5: 2000-2004 Lumpectomy Rates
(patients known to have a choice;
5-year trend and cumulative; excl LCIS)

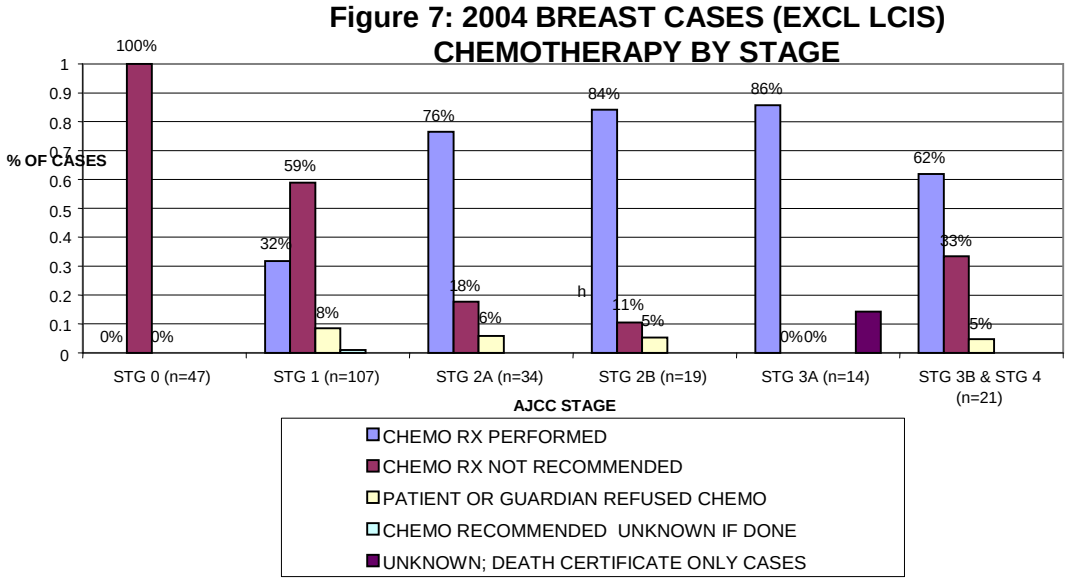


Radiation is a local-regional treatment. Recommendation for radiation is common for patients with breast cancer having lumpectomy, and for those with several positive nodes. Rates for radiation in 2004 are presented in figure 6. Of those not receiving radiation therapy, 2 had phyllodes tumors, 3 had a mixed DCIS, one was diagnosed at stage IV, and one eventually had radiation as a follow-up treatment.

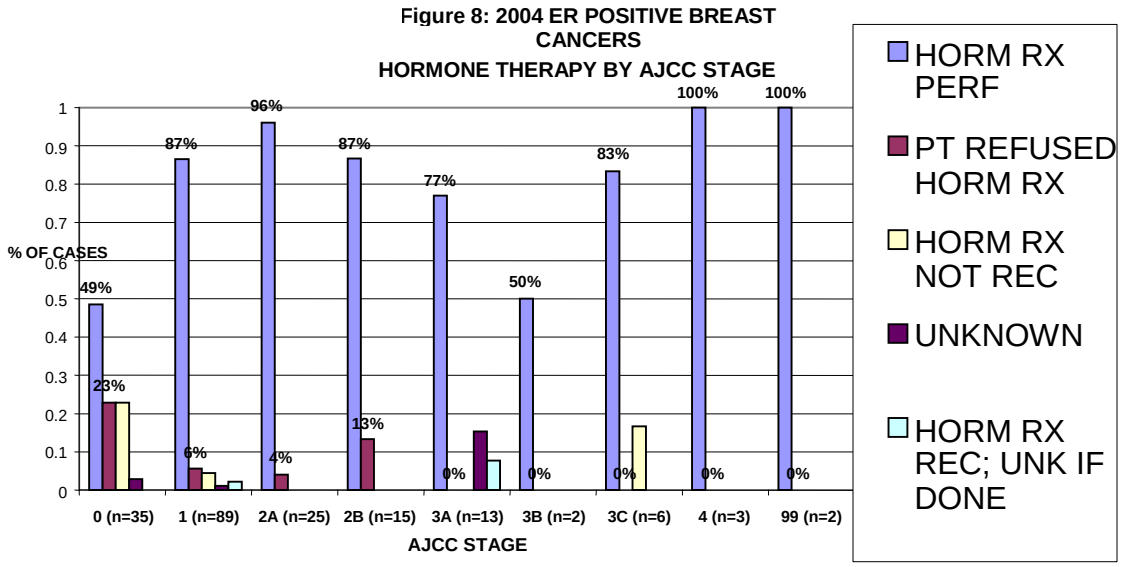
Figure 6:



In most cases, systemic treatment is the standard for the treatment of breast cancer. Chemotherapy was performed for the majority of patients diagnosed with an invasive cancer. Figure 7 shows the status of chemotherapy by stage.



Hormone therapy is recommended for women with breast cancer who have positive estrogen receptors. Figure 8 indicates the hormone treatment status of women who are ER positive by AJCC stage.



In order to assist patients in making decisions concerning systemic therapy, the program established the goal that 90% of patients with breast cancer should see a medical oncologist. Figure 9 indicates that in 2004, this goal was exceeded, with 98% of patients with breast cancer seeing a medical oncologist. 90% saw an oncologist at the Hubert Humphrey Cancer Center. Over the 5 year period a significant number of patients saw oncologists outside of HHHCC. The trend however seems to be decreasing, with more patients staying within the Mercy/Unity system.

Figure 9: Breast Cancer Patients seeing Medical Oncologists
2000-2004 Trend Data (excl. LCIS)

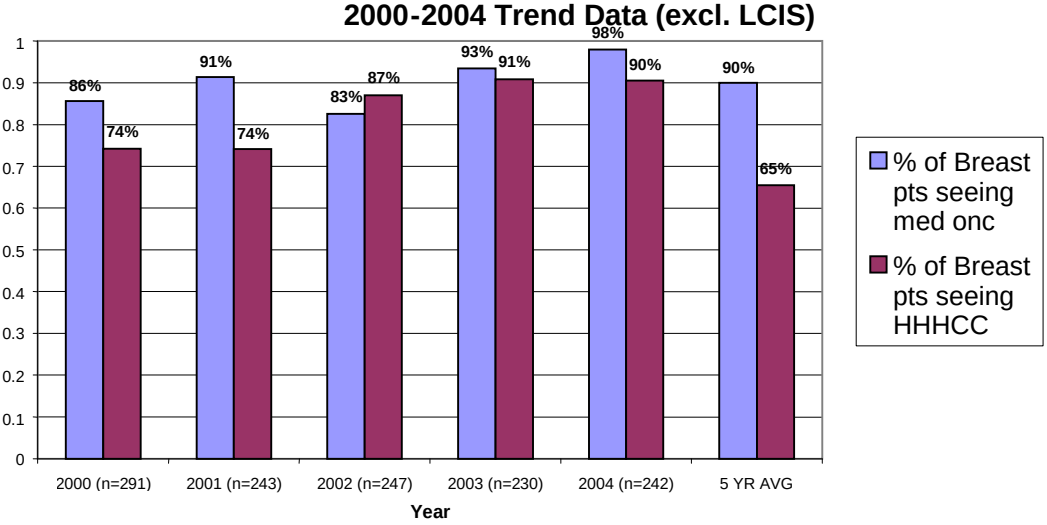
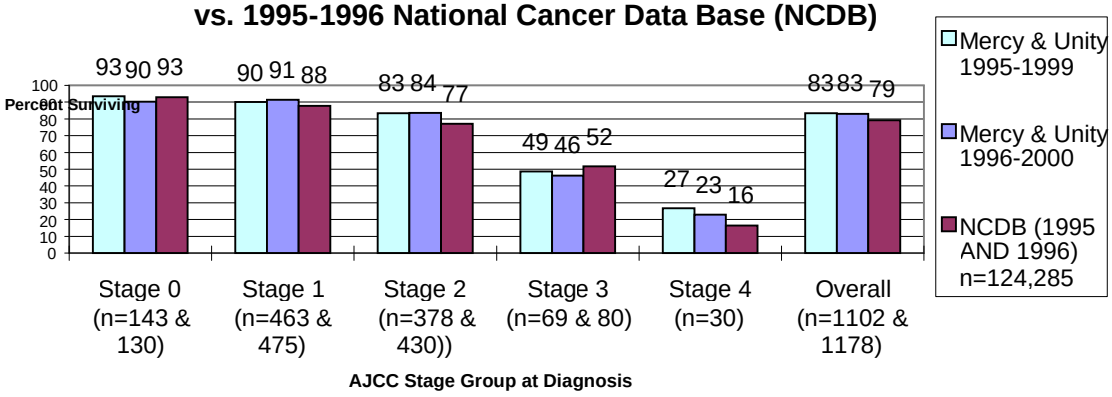


Figure 10 shows five year survival data for patients in our program as compared with national (NCDB) data. Program overall survival data compares favorably, and in most cases exceeds the national data. Ten year recurrence rates by stage are presented in figure10. We were unable to find national 10 year recurrence rates for comparison.

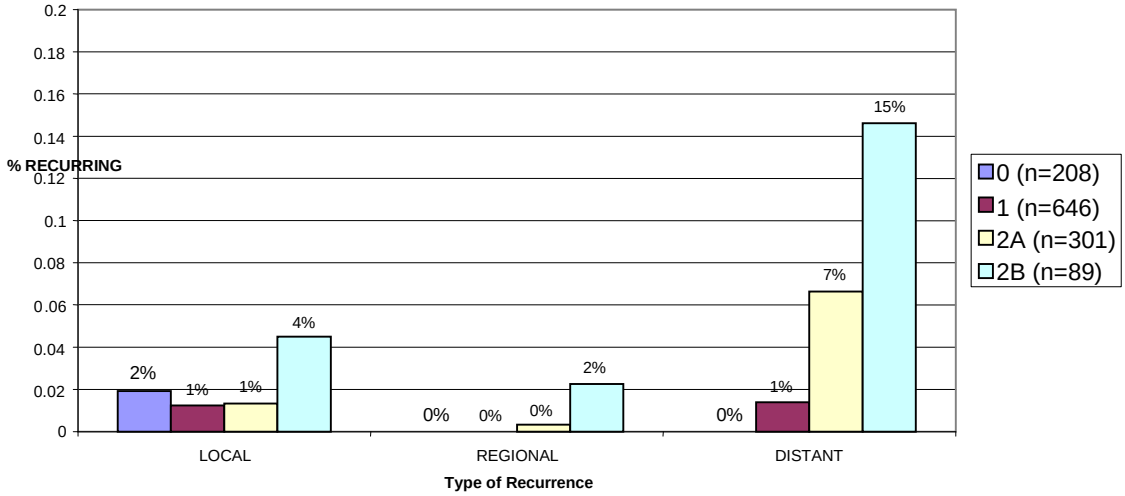
Figure 10

1995-1999 AND 1996-2000 Mercy and Unity Breast Cancer
5-year Observed Survival
vs. 1995-1996 National Cancer Data Base (NCDB)



Ten year recurrence rates following lumpectomy were determined for those with Stage 0-2B cancers. These are found in figure 11. Again, no national data is available for comparison.

Figure 11: Lumpectomy Recurrence Rates 1994-2004 (Stage 0-2B)



Additional program benchmarks were studied in 2004. Needle biopsy is recommended by NCCN to best preserve cosmesis and to facilitate the use of sentinel node biopsy procedures. Time from mammogram to biopsy, and from biopsy to first surgery are being tracked to determine whether our procedures decrease the number of "sleepless nights" experienced by the woman during the diagnostic process, but allow sufficient time for surgical decision making. These numbers are reflected in figure 12, and are judged acceptable by the Breast Cancer Board.

Figure 12: Other Benchmarks

% of Patients diagnosed by needle biopsy = 81% (196 out of 242)

Time from Mammogram to Biopsy

AVERAGE (n=99)	16 days
MEDIAN (n=99)	14 days

Time from Biopsy to First Surgery

AVERAGE (n=191)	19 days
MEDIAN (n=191)	16 days

Summary:

Overall, the Breast Program is seeing increasing number of breast cancer patients. This is felt to reflect increased use of our facilities, increased detection and a growing population. More of these patients are also staying within the Mercy/Unity system for their oncology and radiation treatment. Trends reflect increased diagnosis at earlier stages and in younger patients. Our overall survival and recurrence rates are on track with national averages.

Future directions:

In 2006, we will attempt to track complications requiring any return to surgery. This will include return for positive margins, axillary dissection, flap necrosis, seroma and bleeding. We also will stress the importance of yearly screening starting at age 40 through communication with primary care providers and through the community newsletters.