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C A N C E R **PROGRAM**

Annual

REPORT



NORTH MISSISSIPPI
MEDICAL CENTER

CANCER CENTER

Cancer Committee

Members

- Raymond Orgler, M.D., Chairman
- Kevin Bond, M.D., Vice Chairman, Liaison Physician
- James Shirley, M.D., Liaison Physician
- Andrew Kellum, M.D., Medical Oncology
- Chris Bergmann, M.D., Diagnostic Radiology
- Montgomery Berry, M.D., Otolaryngology
- Carl Bevering, M.D., Neurosurgery
- Bert Duncan, M.D., Radiation Oncology
- Eric Emig, M.D., Diagnostic Radiology
- Richard Griswold, M.D., Pathology
- Jeff Houin, M.D., Dermatology
- Bill Kahlstorf, M.D., Gynecology
- Robert Yarber, M.D., Otolaryngology
- Robert McAuley, M.D., Surgery
- Charles Montgomery, M.D., Medical Oncology
- John Phillips, M.D., Gastroenterology
- Ray Reed, M.D., Radiation Oncology
- James Rish, M.D., Pulmonology
- Robert Daveloy, M.D., Cardiothoracic Surgery
- Elizabeth Fair, American Cancer Society
- Linda Roof, RN, Clinical Research & Outcomes
- Paula Turner, MSHA, Director, Cancer Center
- Shelia Jinkins, CTR, Cancer Registry
- Cindy Edwards, LMSW, OSW-C
- Jeannine Peters, Pharm.D.
- Karen George, RN, BSN
- Dick Stevens, Chaplain
- Tina Stevens, RN, Breast Care Center
- Harold Kornfuhrer, R.Ph., Oncology Service Line Administrator
- Joellen Murphree, RN, Quality Management
- Donna Lewis, RN, Medical Service Line

Cancer Committee

Activities

The North Mississippi Medical Center Cancer Program had a great year in 2006. The Cancer Program was involved in numerous local and regional activities as well as participation with the Commission on Cancer and National Cancer Data Base to release institutional data on colorectal and breast cancer treatments. The Cancer Committee also began preparations for review by the American College of Surgeons (ACOS). Review by the ACOS is a wonderful process to evaluate cancer centers nationwide on achieving and maintaining standards of excellence. The NMMC Cancer Program strives to ensure that patients in our area are provided with the best cancer care possible.

Our goals for 2006 include:

- Increase focus on participation in clinical research through protocol presentation at quarterly committee meetings.
- Maintain a three-year approval by the American College of Surgeons as a Community Hospital Cancer Program, as well as the American College of Radiology full accreditation.
- Monitor and report to the Cancer Committee cancer survival rates of people in our area compared to state/regional and national data. Focus on top five sites by reporting to the committee quarterly.
- Monitor the Cancer Registry to ensure accurate and timely abstracting, follow up and 100 percent accuracy on initial submission of NCDB data.
- Develop a model for promoting awareness/screening standards through primary care physicians for the following types of cancer: prostate, breast, lung, colon, cervix, skin (melanoma) and head/neck.
- Promote a higher quality of life for cancer patients.
 - Increase patient satisfaction at the Cancer Center.
 - Increase percentage of mammograms in the African-American population.
 - Promote use of end-of-life services (Inpatient Palliative Care Team, Hospice, Home Health Agency).
- Compare NMMC, state and regional compliance to nationally approved guidelines for breast conservation and report to committee annually.
- Continue multidisciplinary specialty conferences that report the top five primary sites seen, treated and/or diagnosed at NMMC. These cancer sites are:
 - Lung
 - Breast
 - Prostate
 - Colon/Rectal
 - Melanoma
- Maintain the College of American Pathologists Protocol Guidelines with 100 percent compliance.

Raymond Orgler, M.D., FACS
Chairman, Cancer Committee

Report *from the* Vice Chairman Data Analysis *and* Liaison Report

The North Mississippi Medical Center Cancer Program is a multidisciplinary program accredited by the American College of Surgeons (ACOS) and the American College of Radiology (ACR). Being nationally accredited assures that the NMMC Cancer Program adheres to the highest standards and allows comparison of its treatments and outcomes to others across the nation. During the 2006 calendar year, the NMMC Cancer Registry accrued 1,628 cases, of which 1,525 were analytic. There were 849 male and 779 female cases. Of cases diagnosed in 2006, the most prevalent forms of malignancy were consistent with national data and include in descending order: lung, breast, prostate, colon and melanoma.

The Cancer Committee at North Mississippi Medical Center is comprised of specialists from medical oncology, radiation oncology, diagnostic radiology, pathology, all surgical subspecialties (one of which serves as the cancer liaison physician), an American Cancer Society representative and other health care professionals involved in the care and treatment of cancer patients. The committee meets quarterly to establish policies and goals to ensure that this cancer program continues to be one of the best in the nation. During 2006 the NMMC Cancer Program was involved in numerous activities.

These included, but were not limited to:

- Participation in the Commission on Cancer's Special Study, "Chemo, radiation and treatment of nasopharyngeal cancer."
- Establishment of an esophageal specialty conference.
- Implementation of a paperless medical record system including AJCC staging data.
- The first annual NMMC sponsored Oncology Conference titled "Issues Surrounding Oncology."
- Annual community outreach programs including a free prostate cancer screening held twice in September.
- Development of "Barbershop Talk," a program to increase awareness of prostate cancer in the African-American population.
- Institution of a gynecologic oncology satellite clinic held twice monthly on the NMMC campus.
- Contribution and cooperation of the Cancer Committee, working together with the American Cancer Society, to implement a smoke free city ordinance for Tupelo, Miss.

A weekly, multidisciplinary cancer conference is held to discuss a wide range of current prospective cancer cases. This includes the diagnosis, staging and treatment options of these patients. In 2006, 166 prospective cases were presented at cancer conference. Cases selected for discussion included those diagnosed with at least one of the five highest incidence rates of malignancy at NMMC, as well as cases with challenging diagnoses and treatment management.

Overall this was a very busy and exciting year for NMMC's Cancer Program. The program could not have achieved this level of excellence without the support of an outstanding Cancer Registry. The Cancer Committee and the Cancer Program look forward to another productive year focused on improving the quality of care for cancer patients in our region.

The NMMC Cancer Program would particularly like to thank Dr. James "Buck" Shirley for his dedication and support as a member as well as his service as a cancer liaison physician for the Cancer Committee for more than 20 years. He continues to support the Cancer Program and remains active as a physician advisor for NMMC's Health Information Services.

Kevin Bond, M.D.

Vice Chairman, Cancer Liaison Physician, Cancer Committee

Top Five Primary Sites Analytical Cases

All Patients

Lung	273
Breast	195
Prostate	175
Colon/Rectum	144
Melanoma	73

Cancer Registry

Mission

Why we exist:

To help increase survival rates of people in our region with cancer.

Cancer Registry

Vision

What we want to be:

The provider of the most consistent and accurate cancer data available to the North Mississippi Medical Center Cancer Program.

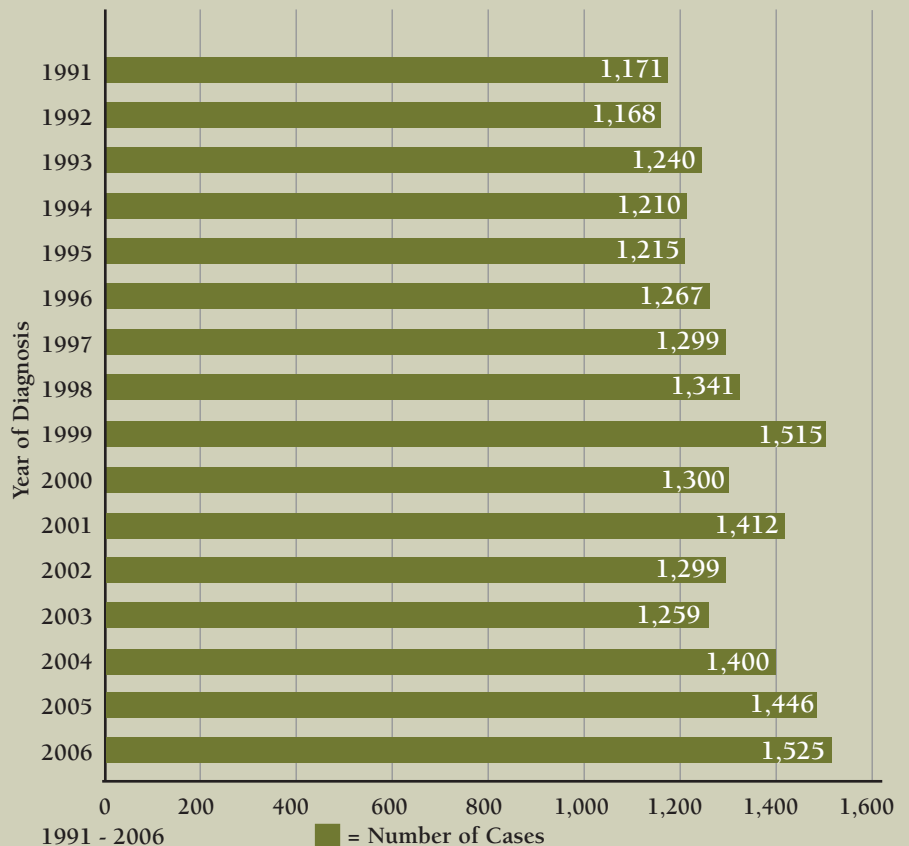
The Cancer Registry at North Mississippi Medical Center is comprised of highly skilled professionals who are an integral part of NMMC's Cancer Program. The registry professionals, called Certified Tumor Registrars, collect, manage and analyze data on patients with cancer and certain pre-cancerous conditions.

Data maintained by the Cancer Registry is available for use by the medical staff and other health care professionals for special studies, reports and statistics. During 2006 the Cancer Registry completed 45 data requests from NMMC physicians, administrators and other departments. The database now includes more than 25,000 cases identified since January 1989.

The Registry participates in the National Cancer Data Base (NCDB) "Call for Data" and reports cases to the Mississippi Central Cancer Registry in Jackson, as well as the Commission on Cancer Facility Information Profile System (FIPS) and the American Cancer Society (ACS). This information is used by researchers to determine cancer trends, treatment patterns, education and screening guidelines.

The Cancer Registry annually follows NMMC cancer cases to ensure that up-to-date disease status is entered into the database on all active cases. The follow-up letter is one method to remind physicians and patients that routine medical examinations are encouraged. In 2006, NMMC consistently exceeded the American College of Surgeons mandated follow-up rate of 90 percent.

Cancer Registry Cases Analytical Cases



NMMC Cancer

Registrars

- Shelia Jinkins, CTR
- Jewell Johnson, CTR
- Sandra Oliver, CTR

Primary Site	Class of Case			Sex		Stage Distribution - Analytic Cases Only						Blank/	
	Cases	Analytic	NA	Male	Female	Stg 0	Stg I	Stg II	Stg III	Stg IV	Stg 88	Unk	Inv
Buccal Cavity & Pharynx	53	50	3	40	13	0	20	4	3	22	1	0	0
Lip	3	2	1	1	2	0	2	0	0	0	0	0	0
Tongue	13	13	0	12	1	0	5	1	2	5	0	0	0
Salivary Glands	6	6	0	6	0	0	4	0	0	2	0	0	0
Floor of Mouth	5	5	0	3	2	0	3	1	0	1	0	0	0
Gum & Other Mouth	15	13	2	11	4	0	5	0	0	8	0	0	0
Nasopharynx	1	1	0	0	1	0	0	1	0	0	0	0	0
Tonsil	6	6	0	5	1	0	0	1	1	4	0	0	0
Oropharynx	1	1	0	1	0	0	0	0	0	1	0	0	0
Hypopharynx	2	2	0	1	1	0	1	0	0	1	0	0	0
Other Buccal Cavity & Pharynx	1	1	0	0	1	0	0	0	0	0	1	0	0
Digestive System	276	269	7	141	135	3	48	47	55	87	7	20	2
Esophagus	13	13	0	9	4	0	1	0	5	4	0	3	0
Stomach	29	27	2	12	17	0	4	2	4	9	4	3	1
Small Intestine	9	9	0	3	6	0	0	1	2	2	3	0	1
Colon Excluding Rectum	109	106	3	52	57	3	21	22	26	32	0	2	0
Cecum	15	15	0	7	8	0	5	2	5	3	0	0	0
Appendix	2	2	0	1	1	0	1	1	0	0	0	0	0
Ascending Colon	21	21	0	9	12	0	6	3	8	4	0	0	0
Hepatic Flexure	9	9	0	2	7	0	1	4	1	3	0	0	0
Transverse Colon	5	5	0	3	2	0	0	1	0	4	0	0	0
Splenic Flexure	3	3	0	2	1	0	0	2	1	0	0	0	0
Descending Colon	6	6	0	4	2	0	1	0	3	2	0	0	0
Sigmoid Colon	39	39	0	20	19	3	7	9	7	11	0	2	0
Large Intestine, NOS	9	6	3	4	5	0	0	0	1	5	0	0	0
Rectum & Rectosigmoid Junction	38	38	0	23	15	0	14	9	6	4	0	5	0
Rectosigmoid Junction	10	10	0	6	4	0	2	3	2	2	0	1	0
Rectum	28	28	0	17	11	0	12	6	4	2	0	4	0
Anus, Anal Canal & Anorectum	3	3	0	1	2	0	1	2	0	0	0	0	0
Liver & Intrahepatic Bile Duct	13	13	0	11	2	0	3	0	3	5	0	2	0
Liver	13	13	0	11	2	0	3	0	3	5	0	2	0
Gallbladder	1	1	0	0	1	0	1	0	0	0	0	0	0
Other Biliary	7	7	0	3	4	0	1	1	0	3	0	2	0
Pancreas	53	51	2	27	26	0	2	9	9	28	0	3	0
Retroperitoneum	1	1	0	0	1	0	0	1	0	0	0	0	0
Respiratory System	308	302	6	202	106	3	61	17	91	128	2	0	0
Nasal Cavity, Middle Ear & Accessory Sinuses	2	2	0	2	0	0	0	0	0	2	0	0	0
Larynx	27	26	1	24	3	2	9	3	6	6	0	0	0
Lung & Bronchus	278	273	5	176	102	1	52	14	85	120	1	0	0
Trachea, Mediastinum & Other	1	1	0	0	1	0	0	0	0	0	1	0	0
Bones & Joints	1	1	0	0	1	0	0	0	1	0	0	0	0
Soft Tissue	7	7	0	6	1	0	6	0	0	1	0	0	0
Skin excluding Basal & Squamous	77	71	6	37	40	15	36	13	4	3	0	0	0
Melanoma - Skin	73	67	6	35	38	15	34	11	4	3	0	0	0
Other Nonepithelial Skin	4	4	0	2	2	0	2	2	0	0	0	0	0
Breast	209	195	14	0	209	22	63	70	30	6	0	4	0
Female Genital System	99	81	18	0	99	27	26	8	10	7	2	1	0
Cervix Uteri	43	36	7	0	43	24	6	5	1	0	0	0	0
Corpus and Uterus, NOS	33	30	3	0	33	0	19	1	4	3	2	1	0
Ovary	11	8	3	0	11	0	0	1	3	4	0	0	0
Vagina	1	0	1	0	1	0	0	0	0	0	0	0	0
Vulva	11	7	4	0	11	3	1	1	2	0	0	0	0

Primary Site	Class of Case			Sex		Stage Distribution - Analytic Cases Only						Blank/	
	Cases	Analytic	NA	Male	Female	Stg 0	Stg I	Stg II	Stg III	Stg IV	Stg 88	Unk	Inv
Male Genital System	207	178	29	207	0	1	5	157	8	7	0	0	0
Prostate	204	175	29	204	0	0	4	156	8	7	0	0	0
Testis	1	1	0	1	0	0	1	0	0	0	0	0	0
Penis	2	2	0	2	0	1	0	1	0	0	0	0	0
Urinary System	107	101	6	75	32	31	33	12	8	15	0	2	0
Urinary Bladder	58	54	4	45	13	29	8	7	3	6	0	1	0
Kidney & Renal Pelvis	48	46	2	29	19	1	25	5	5	9	0	1	0
Ureter	1	1	0	1	0	1	0	0	0	0	0	0	0
Eye & Orbit	2	1	1	1	1	0	0	0	0	0	0	0	1
Brain & Other Nervous System	29	28	1	11	18	0	0	0	0	0	22	0	6
Brain	21	20	1	9	12	0	0	0	0	0	15	0	5
Other Nervous System	1	1	0	0	1	0	0	0	0	0	1	0	0
Benign/Borderline Primary Intracranial and CNS	7	7	0	2	5	0	0	0	0	0	6	0	1
Endocrine System	30	29	1	11	19	0	11	3	2	3	8	0	2
Thyroid	20	19	1	6	14	0	11	3	2	3	0	0	0
Other Endocrine (including Thymus)	10	10	0	5	5	0	0	0	0	0	8	0	2
Lymphomas	76	75	1	36	40	0	21	15	18	18	1	1	1
Hodgkin Lymphoma	10	10	0	4	6	0	5	4	1	0	0	0	0
Hodgkin - Nodal	10	10	0	4	6	0	5	4	1	0	0	0	0
Non-Hodgkin Lymphoma	66	65	1	32	34	0	16	11	17	18	1	1	1
NHL - Nodal	41	40	1	18	23	0	6	10	13	8	1	1	1
NHL - Extranodal	25	25	0	14	11	0	10	1	4	10	0	0	0
Myeloma	20	19	1	8	12	0	0	0	0	0	8	0	11
Leukemias	23	22	1	12	11	0	0	0	0	0	10	0	12
Lymphocytic Leukemia	5	5	0	3	2	0	0	0	0	0	2	0	3
Acute Lymphocytic Leukemia	3	3	0	2	1	0	0	0	0	0	1	0	2
Chronic Lymphocytic Leukemia	2	2	0	1	1	0	0	0	0	0	1	0	1
Myeloid & Monocytic Leukemia	17	17	0	9	8	0	0	0	0	0	8	0	9
Acute Myeloid Leukemia	11	11	0	4	7	0	0	0	0	0	6	0	5
Acute Monocytic Leukemia	2	2	0	2	0	0	0	0	0	0	0	0	2
Chronic Myeloid Leukemia	4	4	0	3	1	0	0	0	0	0	2	0	2
Other Leukemia	1	0	1	0	1	0	0	0	0	0	0	0	0
Mesothelioma	6	6	0	5	1	0	2	1	1	1	1	0	0
Kaposi Sarcoma	1	1	0	0	1	0	0	0	0	0	1	0	0
Ill-Defined/Unspecified	40	39	1	23	17	0	0	0	0	0	18	0	21
Invalid Site**	57	50	7	34	23	0	31	18	1	0	0	0	0
Total	1,628	1,525	103	849	779	102	363	365	232	298	81	28	56

- This report excludes primary sites with a count of 0.
- Groups in gray font aggregate to form the category immediately above the first item in the group.

Note:

** Invalid Site group includes:

- Any site or histology code not within valid range or site code not found in the primary site table.
- Cases with unusual primary site/histology codes that have been over-ridden in an edit.
- Sites with a primary site code of C44* with histology codes 8000-8110.

Invalid Site group does NOT include cases where the Behavior Code is 0 or 1.

(NAACCR Volume III, Data Analysis and Reporting, Process Standards Chapter III.B.1)

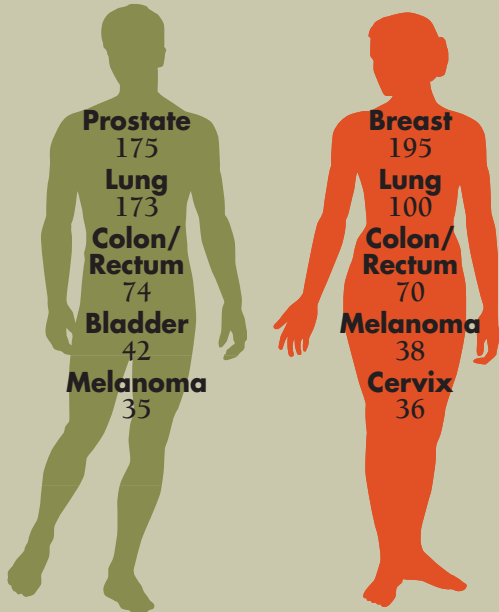


Demographic

Data

All Analytic Patients

Top Five Primary Sites



Sex/Race

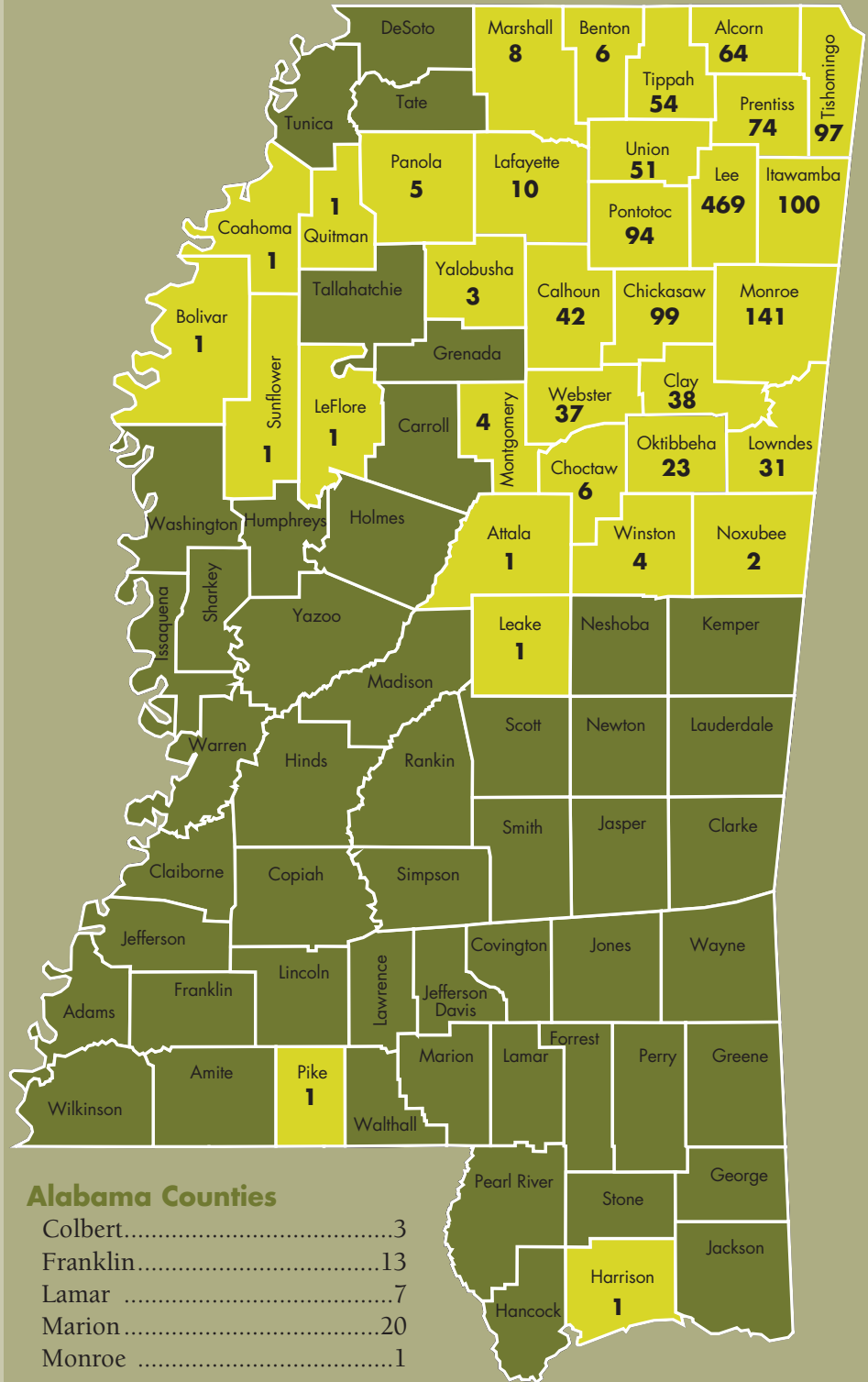
Male	796 (total)
Caucasian	655
African-American	139
Other	2
Female	729 (total)
Caucasian	602
African-American	121
Other	6
Analytic	1,525
Non-analytic	103
Total cases for 2006	1,628

Age at Diagnosis:

1,525 Analytic Cases

19 & Younger	7
20-29	23
30-39	58
40-49	138
50-59	310
60-69	393
70-79	393
80-89	203

Geographic Location:



Alabama Counties

Colbert	3
Franklin	13
Lamar	7
Marion	20
Monroe	1

Other	10
Alabama	44
Mississippi	1,471
Total	1,525

Analysis of Breast Cancer

Clinical Practice Analysis of Breast Conservation Treatment, Lumpectomy Followed by Radiation to the Whole Breast

According to the National Comprehensive Cancer Network, for most women with stage I or II breast cancer, breast-conserving therapy (lumpectomy and radiation therapy) is as effective as mastectomy. Survival rates of women treated with these two approaches are the same. However, breast conservation therapy is not an option for all women with breast cancer. Those who may not have breast-conserving therapy include:

- Prior radiation therapy of the affected breast or chest
- Suspicious or malignant appearing abnormalities that are widespread throughout the breast
- Women whose lumpectomy, including any possible repeat lumpectomy when needed, cannot completely remove their cancer with a satisfactory cosmetic result
- Women with active connective tissue disease involving the skin (especially scleroderma or lupus) that makes body tissues especially sensitive to the side effects of radiation
- Pregnant women who would require radiation while still pregnant
- Women whose tumors are larger than five centimeters (two inches) and can't be shrunk by treatment before surgery

Physicians at North Mississippi Medical Center follow these guidelines:

Charts of those patients who were treated between 1990 and 2002 with radiation to the breast after lumpectomy were retrospectively assessed. Forty-six percent of all patients' charts were randomly selected. The goal of the study was to evaluate breast cosmesis and complications, and to look at local recurrence rate in those women who were treated at NMMC.

A second evaluation of the women who had breast preservation surgery was to establish that *bilateral* mammograms were being performed and documented annually in the cancer registry. Cosmesis was evaluated using a scale of poor, fair, good and excellent.

- 240 patient records were reviewed.
- 49 records had 10 years of follow-up data.
- 223 records had complete information available.
- 205 patient records had at least five years of data.

This study shows that the local recurrence rate at NMMC Cancer Center is 2 percent, which is comparable to the national rate of recurrence among patients who have had lumpectomy followed by radiation therapy. Of the records examined, 93 percent show evidence that bilateral mammograms are being utilized for annual surveillance. Mammograms are most important in following women after conservation treatment for breast cancer.

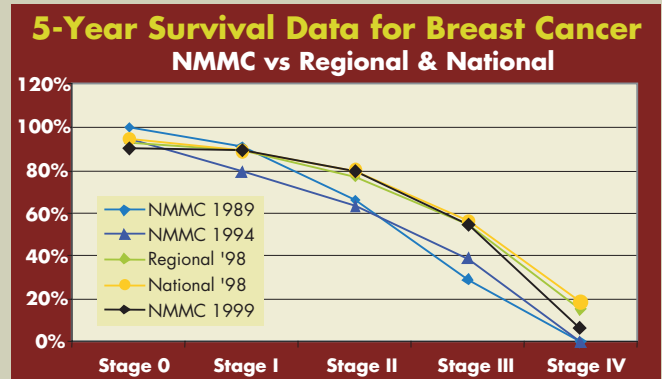
In conclusion, the records at NMMC Radiation Oncology Department along with abstracts pulled from the NMMC Cancer Registry indicate that outcomes of breast cancer, treated with lumpectomy followed by radiation to the whole breast at this facility, are equal to nationally reported statistics that examine rates of local recurrence.

Choosing between breast-conserving surgery and mastectomy can be a difficult decision. The advantage of breast-conserving surgery (lumpectomy) is that it preserves the appearance of the breast. A disadvantage is the need for several weeks of radiation therapy after surgery. Women who choose lumpectomy and radiation can expect the same chance of survival as those who choose mastectomy. Data from the national trials show that with 20 years of follow up, lumpectomy with radiation gives the same survival as mastectomy. A woman's choice will depend upon:

- how she feels about losing her breast
- whether she wants to devote the additional time and travel for radiation therapy
- whether she would want to have more surgery to reconstruct her breast after having a mastectomy
- her preference for mastectomy as a way to "take it all out as quickly as possible"

From national statistics, many women opt to save their breasts based on the 20-year studies showing equal survival.

Bert Duncan, M.D.
Linda Roof, RN



NCDB 12/28/2005, 7/27/06 • NMMC Cancer Registry 12/28/2005, 7/27/06