

Cancer Registry Annual Report *2008*

The Nebraska Medical Center

Bone Marrow & Stem Cell Transplant celebrates 25 years, founder of the program, James Armitage, MD



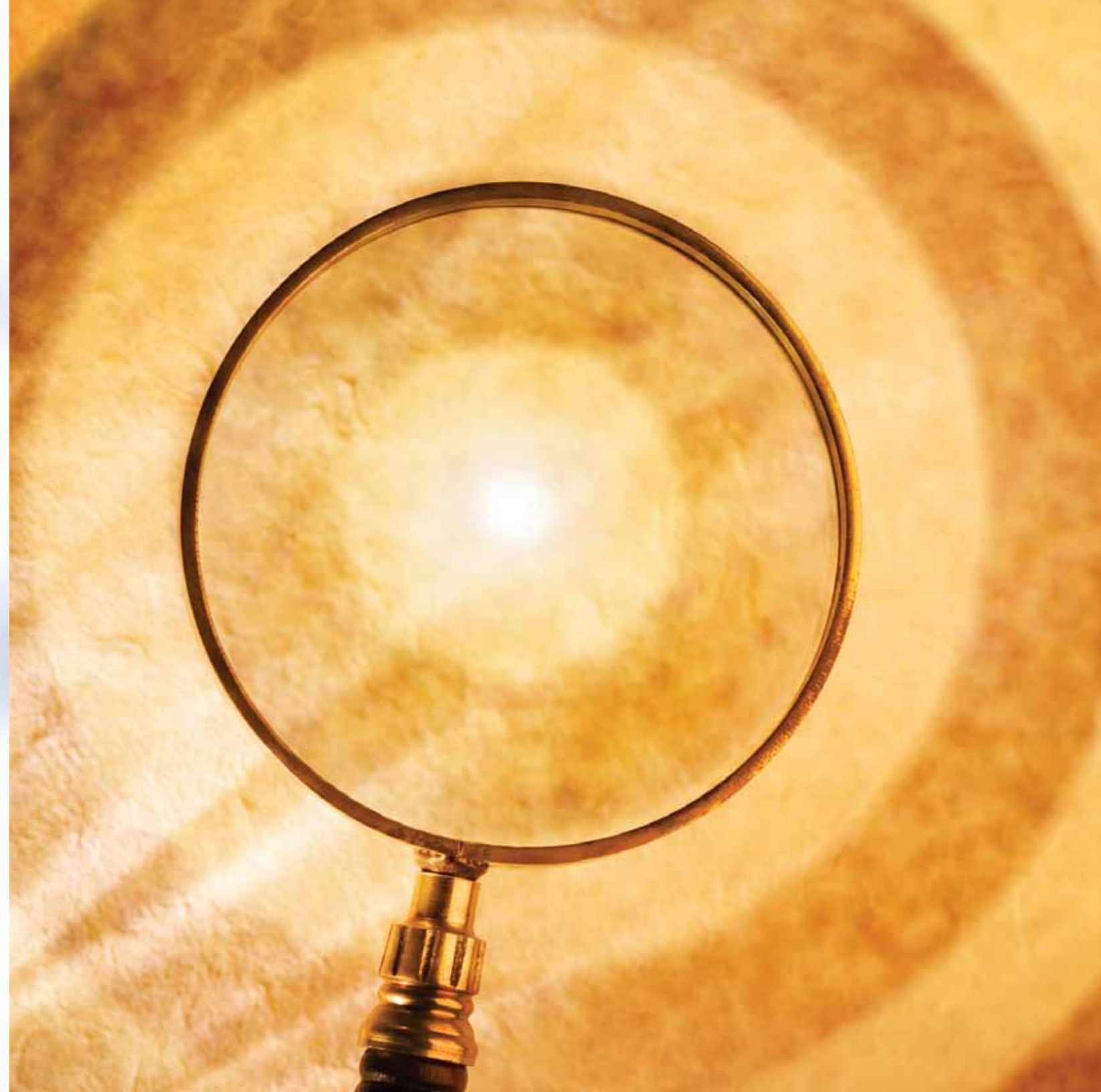
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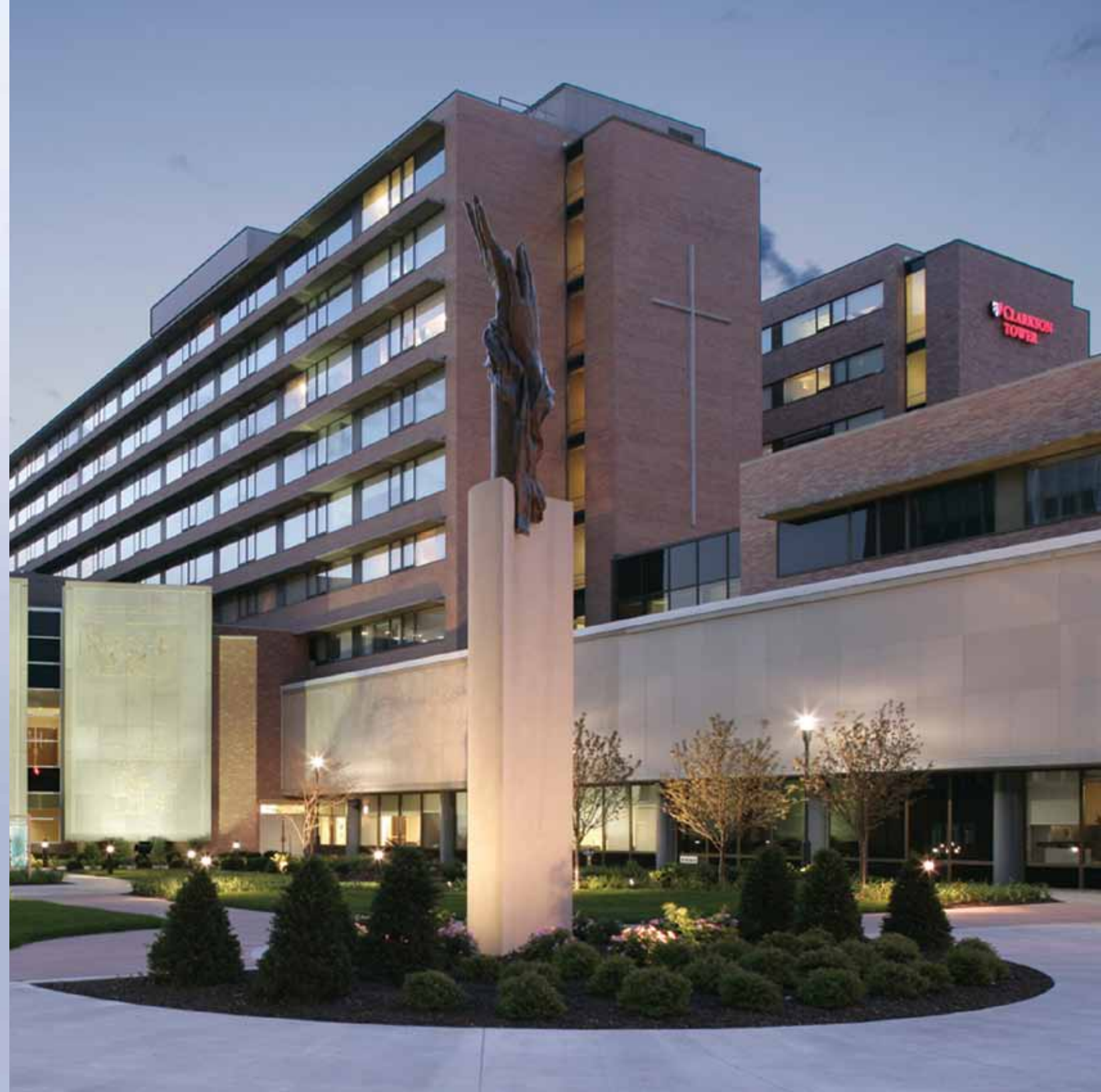
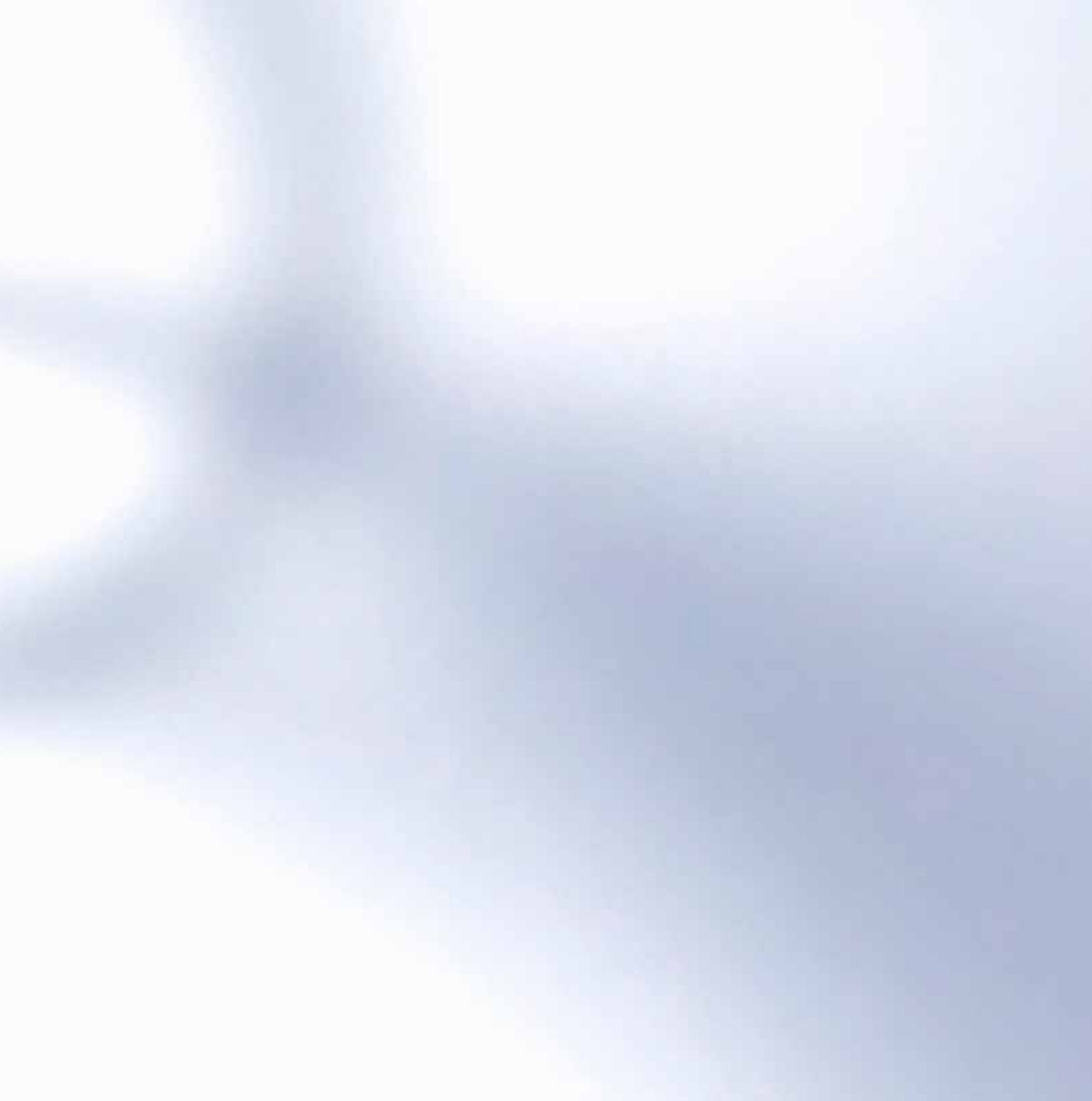
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Cancer Committee Membership



- Susan Kambhu, MD, Chair – Hematology and Oncology
- R. Gregory Bociek, MD – Hematology and Oncology
- Charles Enke, MD – Radiation Oncology
- Shahid Hussain, MD – Radiology
- James Harper, MD – Pediatric Hematology and Oncology
- Aaron Sasson, MD – Gastrointestinal Surgery
- John Baker, MD – Pathology
- Alan Richards, MD – Head and Neck Surgery
- Tom Davis, PharmD, BCOP, RPh – Pharmacist Clinical Specialist, Oncology
- Theresa Franco, RN, MSN – Executive Director, Cancer Service Line
- Lynn Borstelmann RN, MSN, AOCN, NEA-BC – Director, Oncology Services
- Vicki Parsons, RHIT, CTR – Lead, Cancer Registry
- Susan Stensland, LCSW – Manager, Social Work
- June Eilers, PhD, RN, BC, CS – Clinical Nurse Researcher/Specialist Hematology and Oncology
- Marsha Ketcham, RN, OCN – Clinical Research Support Manager
- Sue Wardian, RN, MSN, OCN – Patient Education Coordinator
- Deborah Boucher-Payne, BS, M.Div., OSB – Director, Patient Services
- Michelle Nielsen, RN – American Cancer Society
- Ann Yager, BSRT, (R)(T) – Manager, Radiation Oncology

THE NEBRASKA MEDICAL CENTER Survival by AJCC Stage* 2003-2008 Analytic Prostate Cancer Cases

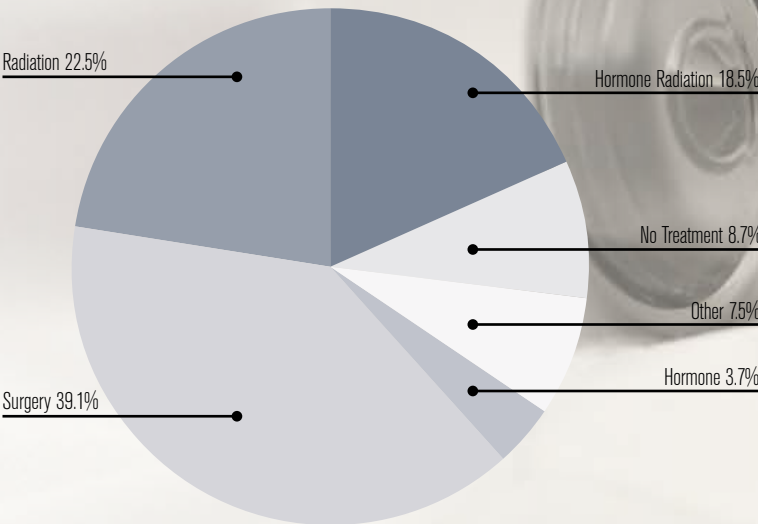
Stage at DX	Number of cases	1 yr survival (percent)	2 yr survival (percent)	3 yr survival (percent)	4 yr survival (percent)	5 yr survival (percent)
I	2	99	99	98	97	97
II	319	100	100	100	100	100
III	118	100	94	86	86	86
IV	51	100	88	88	88	88
Total	490					

NATIONAL DATA Survival by AJCC Stage* 2003-2008 Analytic Prostate Cancer Cases

Stage at DX	Number of cases	1 yr survival (percent)	2 yr survival (percent)	3 yr survival (percent)	4 yr survival (percent)	5 yr survival (percent)
I	187	94	89	85	81	79
II	37,785	98	96	92	89	83
III	3,553	99	97	93	89	83
IV	2,350	78	58	45	34	29
Total	43,875					

*Stage zero and unstaged cases not included.

INITIAL THERAPY Prostate Analytic 2003-2008 First Course of Treatment



Cancer of the Prostate Overview (continued)

Research

Detection

Biomarkers of prostate pre-malignancy have been developed for predicting individuals at risk for developing prostate cancer.

Investigator-Initiated Clinical Research

A Phase I/II chemotherapy, hormone and dose escalated radiation trial was conducted for men and lymph node positive prostate cancer.

A vaccine trial was completed for men with recurrent or Stage IV prostate cancer.

The Nebraska Medical Center was one of five sites that participated in a clinical trial involving real time targeting and tracking of prostate motion during radiation therapy.

Treatment Outcomes

The following tables illustrate survival comparisons between The Nebraska Medical Center and a national cancer data-base. Rates for survival by initial therapy exceed the national rates. When comparing survival rates by AJCC Stage; the Nebraska Medical Center is above the national rate in the majority of instances. (IMPAC Cancer Information Reference File)

Survival by Initial Therapy

2003-2008 Analytic Prostate Cancer Cases

Initial Therapy	Number of cases	1 yr survival (percent)	2 yr survival (percent)	3 yr survival (percent)	4 yr survival (percent)	5 yr survival (percent)
Surgery	222	99	99	98	97	97
Radiation	119	100	100	100	100	100
Hormone	33	100	94	86	86	86
Surgery and Hormone	17	100	88	88	88	88
Total	391					

NATIONAL DATA*

Survival by Initial Therapy

2003-2008 Analytic Prostate Cancer Cases

Initial Therapy	Number of cases	1 yr survival (percent)	2 yr survival (percent)	3 yr survival (percent)	4 yr survival (percent)	5 yr survival (percent)
Surgery	17,457	98	96	93	90	86
Radiation	9,904	99	97	94	91	85
Hormone	1,550	85	69	57	45	36
Surgery and Hormone	1,043	95	87	81	75	70
Total	29,954					

*Data from the IMPAC Cancer Information Reference File (CIRF)-Hackensack, NJ

Patients who begin cancer treatment at The Nebraska Medical Center start their treatment in a place where renowned specialists in specific kinds of cancer work together, implementing the multidisciplinary approach and focus on each patient's best possible outcome.

Cancer Committee Chair Report

The Nebraska Medical Center Cancer Committee identified several important areas to focus on in 2008. Setting clear goals and defining initiatives resulted in a productive year in cancer care.

Advancing the radiation oncology initiative of achieving accreditation through the American College of Radiology

Radiation Oncology achieved accreditation by the American College of Radiology, successfully recruited an additional radiation oncologist and improved the facilities and equipment at the radiation oncology clinic in Shenandoah, Iowa.

Preparing for re-accreditation of the cancer program by the American College of Surgeons Commission on Cancer (ACoS CoC) and stem cell transplant program by the Foundation for the Accreditation of Cellular Therapy (FACT)

Preparations for the American College of Surgeons Commission on Cancer survey progressed on schedule with a review date scheduled in October 2009. The committee also evaluated the tumor boards, use of nationally and internationally accepted cancer treatment guidelines in the center, use of standardized pathology reporting formats and use of accepted standards for cancer staging. In addition, FACT re-accreditation was granted.

Supporting development of the West Omaha Cancer Center

The Nebraska Medical Center Cancer Center in west Omaha progressed on schedule and opened another location. Patients have access to a full team of experienced cancer specialists including medical oncologists, surgical oncologists, radiation oncologists, nurse practitioners, case managers, nutritionists and social service workers to provide patients a full-service, multidisciplinary approach to their care.

Continue expansion of outreach offerings

Expansion of outreach offerings continued with several screening programs held and a particular focus on head and neck cancers. The event screened over 200 people this year. The lung cancer screening project to reach across the state continued as planned.

Prostate cancer is the most common cancer diagnosed in men in the United States.

Most cancers are detected based on screening exams consisting of a digital rectal exam (DRE) or PSA test which then leads to a prostate biopsy. Screening for prostate cancer is not without controversy. One concern is the detection of clinically insignificant prostate cancer. Even large prostate cancer screening clinical trials have given conflicting results regarding the value of screening. Currently, non-African-American males without a family history should start screening with an annual DRE and PSA blood test at age 50. Patients of African-American descent or men with a family history should start screening at age 45.

Prostate cancer is usually diagnosed by obtaining rectal ultrasound guided biopsies of the prostate gland. Ninety-five percent of prostate cancers are adenocarcinomas. Approximately four percent of prostate cancers have transitional cell morphology and are thought to arise from the lining of the prostatic urethra. Other rare presentations include neuroendocrine carcinoma and lymphoma.

Staging of prostate cancer is based on clinical examination of the prostate. The pre-biopsy PSA and the microscopic appearance, known as Gleason's Score, are also important. A bone scan and computerized tomography (CT) scan may also be obtained based on the estimated risk of metastatic disease. Magnetic resonance imaging (MRI) of the prostate and pelvis is being done with increasing frequency.

A multidisciplinary urologic oncology clinic at The Nebraska Medical Center was introduced in 2003. This includes

participation by urologic surgical oncologists, medical and radiation oncologists. This clinic has offered prostate cancer patients the opportunity to receive a multidisciplinary recommendation with a single visit.

Treatment

The treatment of prostate cancer is contingent upon many different factors. Some prostate cancer patients are candidates for watchful waiting or expectant management. Patients who require or choose definitive treatment may be treated with low dose rate brachytherapy implant, various surgical prostatectomy approaches including laparoscopic or robotic procedures versus perineal or open prostatectomies. Outpatient radiation therapy is delivered with intensity modulated radiation therapy (IMRT) utilizing various advanced image guidance technologies, image guided radiation therapy (IGRT). Hormonal therapy and docetaxel-based chemotherapy are sometimes added with more locally advanced presentations of prostate cancer.

Frequently patients are seen with a history of prostate cancer recurrence following initial treatment. Effective salvage strategies may include radiation therapy or cryotherapy. Prostate patients with metastatic disease may be candidates for hormonal therapy, chemotherapy and/or the use of biphosphonates.

Clinical Trials

Patients have participated in investigator-initiated clinical trials as well as cooperative oncology group clinical trials.



Cancer of the Prostate Overview



Introduction

Prostate cancer is the most common cancer diagnosed in men in the United States. It accounts for 25 percent of cancers occurring in men and is projected to be the second leading cause of cancer death in men. In 2008, there are a projected 186,320 new cases and 28,660 deaths. The incidence of prostate cancer has changed over the past 20 years. This has included a sharp increase from 1988 to 1992 followed by a sharp decline and more stable rates since 1995. This observation may have been related to the introduction of the prostate specific antigen (PSA) blood test for prostate screening. In the last 25 years, the five-year survival rate for all stages combined has increased from 69 percent to almost 99 percent.

Etiology and Risk Factors

The well-established risk factors for prostate cancer are age, ethnicity and family history. Approximately two-thirds of prostate cancer cases occur in men age 65 or older. African-American men have the highest incidence of prostate cancer of any ethnic group. It is also common in men of European descent. It is less common in men of Asian or South American descent. Approximately five to 10 percent of cases have a strong familial predisposition suggesting a hereditary component. Environmental factors including a high-fat diet may be a risk factor. Agent Orange, an herbicide used in the Vietnam War from 1962-1971, has been associated with the subsequent development of prostate cancer.

Diagnosis

Early stage prostate cancer is usually asymptomatic. Men with locally advanced disease may present with difficulties with urination. However, benign enlargement of the prostate is the most common cause of urinary obstructive symptoms. Hematuria is rare except in more locally advanced cases. Advanced prostate cancer may present with symptoms related to metastasis involving bone or lower extremity swelling and renal problems due to metastatic lymphadenopathy.

Setting clear goals and defining initiatives
resulted in a productive year in cancer care.

Hosting another National Comprehensive Cancer Network (NCCN) symposium for the region

The NCCN Symposium was again a success, covering the topic of head and neck cancers. The thoracic and gastrointestinal cancer (GI) cancers educational offering was also a success. The Optum conference, attended by over 200 professionals highlighted innovations in both The Nebraska Medical Center's oncology and stem cell transplant programs.

Increasing the current number of cancer education offerings to staff members

Cancer educational offerings for staff continued with sessions for general nursing and oncology staff. In addition, an oncology nursing fellowship initiative was launched to recruit and retain cancer nurses. An oncology residency in pastoral education was established to increase supportive care interventions for patients.

Expanding survivorship clinic populations.

The committee supported the Survivorship Symposium in May. The survivorship clinic populations were further expanded to include patients with lymphomas. Support groups increased with the addition of the brain tumor support group and the breast cancer support group series that started with a spa night for breast cancer patients, followed by group educational sessions at the Cancer Center in west Omaha.

Major emphasis remains on improving services for patients. The cancer care service line added a Clinical Quality Coordinator to the staff of professionals. The Cowdery Patient Care Center patient flow gains achieved in 2007 to reduce waiting times were maintained. The quality improvement Falls Reduction/Prevention project, Hand Hygiene Observation project and revision of electronic documentation of patient education progressed on schedule. A Press Ganey survey of patient satisfaction was implemented. The results will be helpful in identifying other areas to advance our quality and reputation in addressing the needs of our patient.

It has been my privilege to serve our patients with cancer and their families at The Nebraska Medical Center. My tenure as chair of the Cancer Committee has come to an end. Aaron Sasson, MD has generously accepted the Chairmanship of this committee. I wish him a very fulfilling tenure.

Susan Kambhu, MD
Hematology/Oncology
Chair, Cancer Committee

Community Outreach



The Nebraska Medical Center continues to participate in the Douglas and Sarpy county Colon Cancer Taskforce annual fecal occult blood test (FOBT) kit distribution project. This year The Nebraska Medical Center processed 100 kits and followed up on five participants with positive test results.

The Nebraska Medical Center in partnership with the University of Nebraska Medical center (UNMC) Eppley Cancer Center performed health screenings at several events including the Black Family Wellness Health Fair held at North High School in Omaha, Neb. where free prostate-specific antigen (PSA) and digital rectal exams (DRE) were offered. At the Cattleman's Ball held in Albion, Neb. PSA, Dermascan and blood pressure screenings were offered to those who wished to participate. In total, The Nebraska Medical Center cancer service line participated in five community events and provided screening services to over 700 participants.



In addition to health screenings, The Nebraska Medical Center cancer service line participated in the Explorer Post program giving presentations to area high school students interested in health-care careers. Though no formal evaluation has been forwarded from the program coordinators, it was noted by the presenters that despite being the last hour-long presentation of the evening, presenters kept the audience's attention.

Primary Site Table (continued)	TOTAL # OF CASES	SEX		CLASS OF CASE		STAGE DISTRIBUTION (ANALYTIC CASES ONLY)						
		M	F	A	NA	STG 0	STG I	STG II	STG III	STG IV	N/A	UNK
BREAST	298 (12.0%)	6	292	243	55	52	85	66	29	4	0	7
Breast	298 (12.0%)	6	292	243	55	52	85	66	29	4	0	7
FEMALE GENITAL SYSTEM	93 (3.8%)	0	93	70	23	3	27	13	10	8	4	5
Cervix uteri	13 (0.5%)	0	13	10	3	0	3	4	1	1	0	1
Corpus and uterus, NOS	39 (1.6%)	0	39	31	8	0	16	5	2	3	3	2
Corpus uteri	35	0	35	31	4	0	16	5	2	3	3	2
Uterus, NOS	4	0	4	0	4	0	0	0	0	0	0	0
Ovary	26 (1.0%)	0	26	20	6	0	6	1	7	4	0	2
Vagina	3 (0.1%)	0	3	3	0	0	0	3	0	0	0	0
Vulva	10 (0.4%)	0	10	5	5	3	2	0	0	0	0	0
Other female genital organs	2 (0.1%)	0	2	1	1	0	0	0	0	0	1	0
MALE GENITAL SYSTEM	203 (8.2%)	203	0	132	71	0	9	81	24	14	0	4
Prostate	185 (7.5%)	185	0	119	66	0	0	81	21	14	0	3
Testis	14 (0.6%)	14	0	9	5	0	7	0	2	0	0	0
Penis	4 (0.2%)	4	0	4	0	0	2	0	1	0	0	1
URINARY SYSTEM	138 (5.6%)	87	51	111	27	13	32	12	16	19	7	12
Urinary bladder	54 (2.2%)	41	13	40	14	11	4	7	4	8	0	6
Kidney and renal pelvis	81 (3.3%)	45	36	69	12	2	28	5	12	11	6	5
Ureter	2 (0.1%)	1	1	1	1	0	0	0	0	0	0	1
Other urinary organs	1 (0.0%)	0	1	1	0	0	0	0	0	0	1	0
EYE and ORBIT	8 (0.3%)	5	3	8	0	0	0	3	0	0	4	1
Eye & Orbit	8 (0.3%)	5	3	8	0	0	0	3	0	0	4	1
BRAIN and OTHER NERVOUS SYSTEM	115 (4.6%)	54	61	88	27	0	0	0	0	0	88	0
Brain	57 (2.3%)	36	21	42	15	0	0	0	0	0	42	0
Other nervous system	58 (2.3%)	18	40	46	12	0	0	0	0	0	46	0
ENDOCRINE SYSTEM	85 (3.4%)	18	67	65	20	0	32	2	6	1	17	7
Thyroid	65 (2.6%)	8	57	48	17	0	32	2	6	1	0	7
Other endocrine (including thymus)	20 (0.8%)	10	10	17	3	0	0	0	0	0	17	0
LYMPHOMAS	307 (12.4%)	178	129	147	160	0	27	26	23	70	0	1
Hodgkin Lymphoma	51 (2.1%)	30	21	28	23	0	3	16	5	4	0	0
Hodgkin - Nodal	50	30	20	27	23	0	3	16	4	4	0	0
Hodgkin - Extranodal	1	0	1	1	0	0	0	0	1	0	0	0
Non-Hodgkin Lymphoma	256 (10.3%)	148	108	119	137	0	24	10	18	66	0	1
NHL - Nodal	184	105	79	80	104	0	10	6	17	46	0	1
NHL - Extranodal	72	43	29	39	33	0	14	4	1	20	0	0
MULTIPLE MYELOMA	58 (2.3%)	36	22	36	22	0	0	0	0	0	36	0
Multiple Myeloma	58 (2.3%)	36	22	36	22	0	0	0	0	0	36	0
LEUKEMIAS	102 (4.1%)	60	42	56	46	0	0	0	0	0	56	0
Lymphocytic Leukemia	39 (1.6%)	23	16	18	21	0	0	0	0	0	18	0
Acute Lymphocytic Leukemia	12	9	3	7	5	0	0	0	0	0	7	0
Chronic Lymphocytic Leukemia	23	13	10	9	14	0	0	0	0	0	9	0
Other Lymphocytic Leukemia	4	1	3	2	2	0	0	0	0	0	2	0
Myeloid & Monocytic Leukemia	62 (2.5%)	37	25	37	25	0	0	0	0	0	37	0
Acute Myeloid Leukemia	37	20	17	23	14	0	0	0	0	0	23	0
Acute Monocytic Leukemia	8	3	5	5	3	0	0	0	0	0	5	0
Chronic Myeloid Leukemia	15	13	2	9	6	0	0	0	0	0	9	0
Other Myeloid/Monocytic Leukemia	2	1	1	0	2	0	0	0	0	0	0	0
Other Leukemia	1 (0.0%)	0	1	1	0	0	0	0	0	0	1	0
MESOTHELIOMA	2 (0.1%)	1	1	2	0	0	0	0	0	0	1	1
Mesothelioma	2 (0.1%)	1	1	2	0	0	0	0	0	0	1	1
MISCELLANEOUS	69 (2.8%)	38	31	47	22	0	0	0	0	0	47	0
Miscellaneous Sites	69 (2.8%)	38	31	47	22	0	0	0	0	0	47	0
Total	2,478	1,277	1,201	1,776	702	84	356	343	259	357	287	90

2008 Primary Site Table

Primary Site	TOTAL # OF CASES	SEX		CLASS OF CASE		STAGE DISTRIBUTION (ANALYTIC CASES ONLY)							
		M	F	A	NA	STG 0	STG I	STG II	STG III	STG IV	N/A	UNK	
ORAL CAVITY and PHARYNX	89 (3.6%)	64	25	75	14	2	12	5	6	42	1	7	
Lip	6 (0.2%)	5	1	4	2	0	2	0	0	0	0	2	
Tongue	29 (1.2%)	19	10	23	6	2	6	2	0	11	0	2	
Salivary glands	8 (0.3%)	6	2	8	0	0	0	0	3	5	0	0	
Floor of mouth	6 (0.2%)	3	3	6	0	0	0	1	1	4	0	0	
Gum and other mouth	15 (0.6%)	9	6	14	1	0	3	1	0	7	1	2	
Nasopharynx	6 (0.2%)	6	0	5	1	0	0	0	2	3	0	0	
Tonsil	10 (0.4%)	9	1	8	2	0	1	0	0	6	0	1	
Oropharynx	2 (0.1%)	1	1	1	1	0	0	0	0	1	0	0	
Hypopharynx	6 (0.2%)	5	1	6	0	0	0	1	0	5	0	0	
Other oral cavity and pharynx	1 (0.0%)	1	0	0	1	0	0	0	0	0	0	0	
DIGESTIVE SYSTEM	502 (20.3%)	285	217	366	136	4	56	108	75	97	12	14	
Esophagus	33 (1.3%)	23	10	26	7	1	2	3	7	12	0	1	
Stomach	27 (1.1%)	19	8	21	6	0	4	7	3	2	2	3	
Small intestine	23 (0.9%)	15	8	9	14	0	0	2	1	1	5	0	
Colon excluding rectum	145 (5.9%)	78	67	91	54	1	21	25	24	19	0	1	
Cecum	35	21	14	27	8	0	5	9	7	6	0	0	
Appendix	3	0	3	3	0	0	0	2	0	1	0	0	
Ascending colon	19	9	10	13	6	0	3	2	3	5	0	0	
Hepatic flexure	8	5	3	8	0	0	1	2	2	2	0	1	
Transverse colon	8	5	3	6	2	0	3	0	2	1	0	0	
Splenic flexure	1	1	0	0	1	0	0	0	0	0	0	0	
Descending colon	8	6	2	6	2	0	3	3	0	0	0	0	
Sigmoid colon	44	20	24	28	16	1	6	7	10	4	0	0	
Large intestine, NOS	19	11	8	0	19	0	0	0	0	0	0	0	
Rectum and rectosigmoid	57 (2.3%)	30	27	38	19	1	7	10	9	7	2	2	
Rectosigmoid junction	18	10	8	8	10	0	1	2	2	1	0	2	
Rectum	39	20	19	30	9	1	6	8	7	6	2	0	
Anus, anal canal and anorectum	7 (0.3%)	4	3	5	2	1	1	0	2	0	0	1	
Liver and intrahepatic bile duct	79 (3.2%)	56	23	62	17	0	13	12	19	13	2	3	
Liver	65	47	18	49	16	0	11	10	16	8	2	2	
Intrahepatic bile duct	14	9	5	13	1	0	2	2	3	5	0	1	
Gallbladder	9 (0.4%)	2	7	7	2	0	4	2	0	1	0	0	
Other biliary	14 (0.6%)	6	8	9	5	0	0	4	3	2	0	0	
Pancreas	105 (4.2%)	51	54	96	9	0	4	43	6	40	0	3	
Retroperitoneum	1 (0.0%)	0	1	1	0	0	0	0	1	0	0	0	
Peritoneum, omentum and mesentery	1 (0.0%)	0	1	1	0	0	0	0	0	0	1	0	
Other digestive organs	1 (0.0%)	1	0	0	1	0	0	0	0	0	0	0	
RESPIRATORY SYSTEM	269 (10.9%)	157	112	228	41	0	45	13	61	93	10	6	
Nasal cavity, middle ear and accessory sinuses	9 (0.4%)	6	3	8	1	0	0	0	0	6	2	0	
Larynx	25 (1.0%)	22	3	22	3	0	6	2	5	8	1	0	
Lung and bronchus	233 (9.4%)	127	106	198	35	0	39	11	56	79	7	6	
Pleura	1 (0.0%)	1	0	0	1	0	0	0	0	0	0	0	
Trachea, mediastinum and other respiratory organs	1 (0.0%)	1	0	0	1	0	0	0	0	0	0	0	
BONES and JOINTS	20 (0.8%)	13	7	19	1	0	6	2	0	1	0	10	
Bones and joints	20 (0.8%)	13	7	19	1	0	6	2	0	1	0	10	
Soft tissue	25 (1.0%)	14	11	21	4	0	1	3	6	5	1	5	
Soft Tissue (including heart)	25 (1.0%)	14	11	21	4	0	1	3	6	5	1	5	
SKIN EXCLUDING BASAL and SQUAMOUS	93 (3.8%)	57	36	61	32	10	24	9	3	3	2	10	
Melanoma -- skin	83 (3.3%)	53	30	53	30	10	22	7	2	3	0	9	
Other nonepithelial skin	10 (0.4%)	4	6	8	2	0	2	2	1	0	2	1	
BASAL and SQUAMOUS SKIN	2 (0.1%)	1	1	1	1	0	0	0	0	0	1	0	
Basal and squamous cell carcinomas of skin	2 (0.1%)	1	1	1	1	0	0	0	0	0	1	0	

Social Work & Support Groups

Social workers are an integral part of the health-care team.

The Nebraska Medical Center Social Work department assists patient and family in adjusting to the emotional impact of cancer diagnosis and treatment on lifestyle and relationships through:

- psychosocial assessment
- supportive counseling
- referral to community resources (financial assistance, transportation, etc.)
- arrangements for medical equipment and home health care nursing
- assistance in alternative living settings (nursing facility, rehabilitation center, etc.)
- assistance in completing advance directives
- facilitation of support and educational groups
- distribution of patient education materials related to psychosocial issues and cancer

Psychosocial support for individuals with cancer and their families is also provided in consultations with the following departments: Psychiatry, Psychology, Child Life, Educational Services, and Pastoral Care.



Support and educational programs for people with cancer

- Breast Cancer educational series begins with a spa night kick-off and is followed by six monthly meetings.
- Blood and Marrow Stem Cell Transplant is a weekly support group.
- Cancer Survivorship Group is offered monthly.
- Colon Cancer Support Group is held at American Cancer Society as a cooperative effort with two other Omaha health systems.
- Support for People with Oral and Head and Neck Cancers (SPOHNC) meets quarterly.
- Look Good, Feel Better is a monthly program offered in conjunction with the American Cancer Society offering advice and services to women recovering from cancer treatment ways to cope with the changes cancer has caused.
- Transplant Companion is offered to all transplant patients and their families in conjunction with the hospitals Volunteer Services.
- Introduction to Blood and Marrow Stem Cell Transplants, Catheter and General Care Classes is offered four times each week.

Community Involvement

Oncology social workers serve as officers within the Greater Omaha Oncology Social Work Association.

Performance Improvement Summary

The Cancer Committee continues to monitor the quality of both care and service at The Nebraska Medical Center.

Great improvements in patient flow have been made in the Cowdery Care Center, midtown campus outpatient care center, since the project began. The goal has shifted from improving the percentage of treatments started within 22 minutes to maintaining the accomplishments of the last 12 months. Patient flow will also be monitored at Village Pointe Cancer Center in west Omaha.

Preventing patient falls continues to be a safety focus for the Oncology Hematology Special Care Unit and the Lied Transplant Cooperative Care Unit. Nursing staff continue to use scripting to help ensure a clear consistent message regarding fall prevention. Patients are reminded each night of the need to consider their safety and methods to reduce the risk of falling. An extensive review of falls that occurred over the previous 12 months was completed. The goal of this review was to better understand the risk factors which contribute to a greater risk for falling. The results of the review concluded patients with the greatest fall risk matched the average demographic profile of patients in the unit. The majority of patients who experienced a fall were oriented, had no previous history of falls and were previously independent. This emphasizes the need for all patients to receive continued education regarding fall prevention strategies and the need to develop better ways to identify times when patients may experience an increased risk of falling.

In September 2008, the Foundation for the Accreditation of Cellular Therapy (FACT) reaccredited the hematopoietic progenitor cell transplant program. This was the third accreditation the program has received since FACT was founded in 1986. One requirement for FACT accreditation is having a robust quality management program. Audits are regularly conducted to ensure that patients receive high quality care. If an audit identifies an opportunity for improvement, a plan is developed to improve the process. After a new process is implemented, the audit is repeated to determine if the initial problems have been resolved and no new problems created. Quality data is reviewed on a quarterly basis by a multidisciplinary committee to ensure patients are receiving appropriate care.

are captured at the institutional level and reported to the NCDB. It began in 1989 and now contains approximately 20 million records from hospital cancer registries across the country. This data is used to explore trends in cancer care, create regional and state benchmarks for participating hospitals and to serve as the basis for quality improvement. Data on all types of cancer are tracked and analyzed. Data collected include patient characteristics, tumor staging and histology characteristics, type of first course treatment administered, disease recurrence and survival information.

The Nebraska Medical Center registry also submitted data on a routine basis to the Nebraska Cancer Registry. This has been an on-going process since cancer was designated as a reportable disease to the state in 1987.

The Registrars attended the fall meeting of the Tumor Registrars Association of Nebraska at Mahoney State Park.

Actual and Estimated Cancer Incidence

The five most frequently diagnosed solid tumor cancer sites at The Nebraska Medical Center are depicted below and compared with estimated sites for Nebraska and the United States in 2008.

The Nebraska Medical Center (2,478 Cases)*	State of Nebraska (8,710 Cases) **	United States (1,437,180 Cases) **	* 2008 actual new cancer cases **2008 estimated new cancer cases (American Cancer Society Facts & Figures-Ca in situ excluded)
Breast 298 or 12 percent	Breast 1,160 or 13 percent	Breast 182,460 or 13 percent	
Colorectal 202 or 8 percent	Colorectal 910 or 10 percent	Colorectal 148,810 or 10 percent	
Lung 233 or 9 percent	Lung 1,240 or 14 percent	Lung 215,020 or 15 percent	
NHL 256 or 10 percent	NHL 390 or 4.5 percent	NHL 66,120 or 5 percent	
Prostate 185 or 7.5 percent	Prostate 1,260 or 14.5 percent	Prostate 186,320 or 13 percent	

Cases Accessioned 2001-2008

Year	Analytic Cases	Non-Analytic Cases	Total Cases
2001	1,453	385	1,838
2002	1,543	335	1,878
2003	1,433	437	1,870
2004	1,588	475	2,063
2005	1,592	473	2,065
2006	1,547	668	2,215
2007	1,526	761	2,287
2008	1,776	702	2,478

The Nebraska Medical Center's midtown campus



Cancer Registry Overview

The Nebraska Medical Center Cancer Registry is one of the required components for accreditation of our cancer program by the American College of Surgeons Commission on Cancer.

The registry performs data collection and lifetime follow-up on all cases diagnosed and treated at the medical center facilities. A few of the data collected include patient characteristics, American Joint Committee on Cancer (AJCC) staging, site, histology, first course of treatment, disease recurrence (if applicable) and survival information. Registry data is an effective resource that dictates and drives how the cancer care program establishes goals and measures accomplishments.

The follow-up process provides critical information about disease status and treatment outcomes. This process also serves as a valuable service for physicians and patients. It reminds patients that regular reassessment of their disease is vital for early detection of local recurrences, possible metastases or development of subsequent primaries. Lifetime follow-up is another important aspect of the Cancer Registry. Follow-up is gathered from hospital visits, physicians and patient follow-up letters.

Our registry is capable of providing a variety of reports for use by our medical staff and for planning purposes. The medical center also has the capability of doing comparative reports with larger data bases. The registry dates back to 1994 with a data base of 27,483 cases. The registry is

staffed by four full-time and one part time certified tumor registrars. The staff is happy to develop reports to meet customer needs based on the cancer experience here at The Nebraska Medical Center. Please call at 402-552-2145 for assistance.

The registry staff would again like to take this opportunity to thank the medical staff for responding to follow-up letters that are sent to physician offices on a monthly basis and for completing staging forms on newly diagnosed patients. Response to those letters and completion of staging forms, make it possible for the registry staff to gather meaningful data for inclusion in the registry. It also allows the staff to maintain compliance with related standards mandated by the Commission on Cancer for an approved cancer program.

2008 Registry Activities

In 2008, there were 2,478 new cases accessioned into the registry.

The Registry submitted data to the National Cancer Data Base (NCDB) as mandated by the related standard of the Commission on Cancer (CoC).

The NCDB is a joint program of the CoC and the American Cancer Society. It provides an outcomes database for more than 1,400 Commission-approved cancer programs in the United States and Puerto Rico. Some 75 percent of all newly diagnosed cases of cancer in the United States

Research

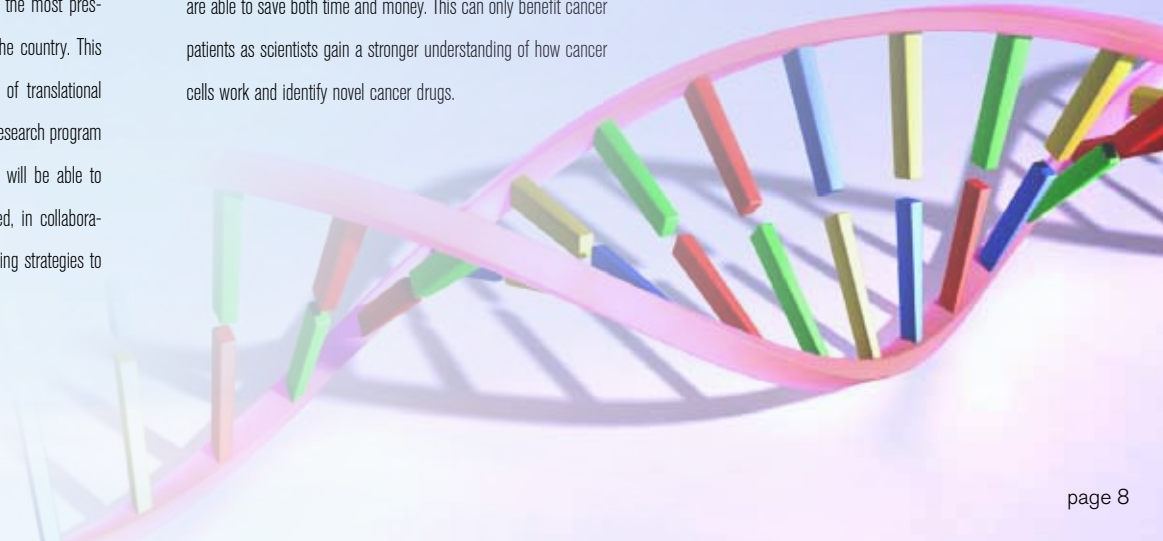
The Nebraska Medical Center continues to maintain its partnership with the University of Nebraska Medical Center (UNMC) Eppley Cancer Center where over 200 scientists and physicians work together to bring innovative cancer therapies from the laboratory to the patients' bedside. The translational research done at the Eppley Cancer Center provides those with a cancer diagnosis and their loved ones new hope in the fight against cancer. The center continues to focus on the mission of facilitating education and cancer screenings throughout the state, promoting healthy lifestyles for the citizens of Nebraska and conducting cancer screenings in both rural and urban communities. In recent years, funding for the Eppley Cancer Center has increased significantly and now totals over \$60 million each year.

Pancreatic Cancer Research

The National Cancer Institute awarded a \$5.3 million, five-year Specialized Program of Research Excellence (SPORE) grant in pancreatic cancer to the Eppley Cancer Center. The University of Nebraska Medical Center was one of only two programs to receive funding in 2008 for pancreatic research. SPORE grants are large, multidisciplinary federal grants that fund scientific research aimed at bringing new laboratory findings quickly to the clinic. They are highly competitive grants and are sought after by the most prestigious research and medical institutions across the country. This grant will allow researchers to conduct a series of translational research projects that are extensions of our basic research program and specifically impact patient care. Researchers will be able to offer novel clinical trials that have been developed, in collaboration with basic scientists who are studying promising strategies to improve the treatment of pancreatic cancer.

Targeting a Cure

The addition of a new high-throughput screening facility will provide researchers access to technology involving the use of Ribonucleic acid (RNA) interference, a powerful approach in the study of genes. Researchers will examine how genes function and their ability to affect specific biological responses in cancer cells. This technology will allow researchers to screen large numbers of samples quickly, reducing the time from months to weeks. By doing this, researchers are able to save both time and money. This can only benefit cancer patients as scientists gain a stronger understanding of how cancer cells work and identify novel cancer drugs.



Westward Expansion

Responding to west Omaha's growing suburban population, The Nebraska Medical Center is committed to ensuring quality and comprehensive healthcare close to home. Answering the increased demand for cancer services, The Nebraska Medical Center and UNMC Physicians recently opened a new outpatient Cancer Center near 180th and West Dodge Road in Omaha. The center includes outpatient clinics for cancer specialists to see patients as well as outpatient treatment options.

"Easy access and convenience are critical issues for cancer patients who may need multiple treatments and careful monitoring of their condition," says Theresa Franco, Cancer Service Line Executive Director at The Nebraska Medical Center. "This new site will fulfill those needs. It provides the same high standard of care as that provided at our midtown campus with a full continuum of cancer services from radiation oncology to treatment to survivorship."

The Village Pointe Cancer Center in west Omaha offers state-of-the-art technology, clinical care and cancer research with clinical trial options that mirror the many of the treatments and services delivered at The Nebraska Medical Center's midtown campus. This includes medical therapies, radiology and laboratory support as well as radiation treatments.

Patients have access to a full team of experienced cancer specialists including medical oncologists, surgical oncologists, nurse practitioners, case managers, nutritionists and social workers to provide patients a full-service, multidisciplinary approach to their care.

Village Pointe Cancer Center in west Omaha



Bone Marrow Transplant

There are many reasons why people from all over the country and around the world come to receive care from the transplant program at The Nebraska Medical Center. Since its founding 25 years ago, more than 4,000 transplants have been performed. Physicians and researchers at The Nebraska Medical Center program are pioneers in the field and recognized internationally for a number of ground-breaking advancements. These advancements have helped improve the success rates and have made bone marrow and stem cell transplants a more viable and promising option for a growing number of patients with malignancies, primary lymphomas, leukemias, multiple myeloma as well as some blood disorders.

The first of these revolutionary achievements was the study and introduction of autologous transplantation by James Armitage, MD and his colleagues, which served as the starting point and foundation for the program's success. Today, autologous transplants are the preferred form of transplantation for more than three-quarters of lymphoma patients.

Another milestone in the field of bone marrow and stem cell transplantation was the development of stem cell transplantation, which was introduced by Margaret Kessinger, MD, hematologist/oncologist at The Nebraska Medical Center. The use of peripheral blood-derived stem cells, as opposed to bone marrow-derived stem cells, has become the standard of care for transplantation. This has helped improve outcomes for autologous transplant patients, contributed to much quicker recovery times and decreased infection rates.

Adult transplant candidates used to be limited to those younger than 60 years of age. Today, transplants are performed on individuals as old as 75 years old. Survival rates average 50 to 60 percent, depending on the type of malignancy, compared to approximately 20 to 40 percent 10 years ago.

Pediatric transplants are another component of the Bone Marrow and Stem Cell Transplant Program. Started by Peter Coccia, MD, hematologist/oncologist, in 1987, the program has performed more than 335 transplants. Transplants in the pediatric population are normally reserved for patients with more aggressive disease and is far less common than adult transplants.

The Nebraska Medical Center program is unique in that adult and pediatric patients share the same unit. This gives the medical center the advantage of sharing all of the same resources and the expertise of an experienced nursing staff and other health-care professionals.

Research is critical to the ongoing success of the program. The Nebraska Medical Center is able to offer patients new and promising therapies before anyone else. The Nebraska Medical Center is also part of the National Institutes of Health and National Cancer Institute Bone Marrow Transplant Clinical Trials Network. This is a consortium of 16 transplant centers across the country that collaborates on clinical trials and allow for greater sharing of information between centers.