

# Cancer Registry

2009 ANNUAL REPORT

Village Pointe Cancer Center in west Omaha  
*Steady Growth for a Soild Future*



**SERIOUS MEDICINE. EXTRAORDINARY CARE.®**

# About The Nebraska Medical Center

**The Nebraska Medical Center is known for excellence, innovation and quality patient care.** As the teaching hospital for the University of Nebraska's health sciences programs, this 624 acute-care bed facility is the largest in the state.

Supporting the mission statement of Serious Medicine. Extraordinary Care, the medical center has an international reputation for providing solid organ as well as blood and marrow transplantation services and is regionally respected for its comprehensive neurology, cardiology and oncology programs.

Exploring partnerships across the state, The Nebraska Medical Center provides cancer services at three locations: the medical center's main campus in midtown Omaha, Village Pointe Cancer Center in west Omaha and radiation oncology services in Shenandoah, Iowa.

The robust surgical oncology, chemotherapy and radiation programs offered at the medical center are nationally recognized. A multidisciplinary approach to cancer care is the standard for a variety of diseases, providing each patient with the opportunity to receive comprehensive cancer care. The cancer care received at The Nebraska Medical Center extends beyond acute cancer treatment. The Survivorship program transitions cancer survivors back the care of their family physician. Opening in May of 2011, the Life Renewal Center will be available to cancer patients and have resources available to restore confidence and esteem to patients adjusting to the physical and emotional changes of cancer treatment.

The Nebraska Medical Center's midtown campus



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## Accreditations and Awards

- National Comprehensive Cancer Network (NCCN)
- National Cancer Institute (NCI) Designation
- Foundation for the Accreditation of Cellular Therapy (FACT)
- Accreditation of Radiation Oncology by American College of Radiology (ACR)
- American College of Surgeons Commission on Cancer (ACoS CoC)
- First hospital in the state to receive the Blue Cross and Blue Shield of Nebraska, Blue Distinction Center for Complex and Rare Cancers



# Cancer Committee

**John Baker, MD** – Pathology  
**Lynn Borstelmann, RN, MSN, AOCN, NEA-BC** – Director, Oncology Services  
**Deborah Boucher-Payne BS, MDiv, OSB** – Director, Patient Services  
**Jim Commers, MD** – Hematology Oncology  
**Mary Durand** – Manager, Radiation Oncology  
**June Eilers, PhD, RN, BC, CS** – Clinical Nurse Researcher, Oncology  
**Charles Enke, MD** – Radiation Oncology  
**Theresa Franco, RN, MSN** – Executive Director, Cancer Care  
**James Harper, MD** – Pediatric Hematology Oncology  
**Dawn Jourdan RN, BSN** – Clinical Quality Coordinator, Oncology  
**Susan Kambhu, MD** – Hematology Oncology  
**Marsha Ketcham, RN, OCN** – Clinical Research Nurse Coordinator  
**Rudy Lackner, MD** – Thoracic Surgical Oncology  
**Jennifer Oliveto, MD** – Radiology  
**Vicki Parsons RHIT, CTR** – Lead, Cancer Registrar  
**Alan Richards, MD** – Head and Neck Surgical Oncology  
**Aaron Sasson, MD** – Cancer Committee Chair – Gastrointestinal Surgical Oncology  
**Carri Siedlik APRN** – Palliative Care Nurse Practitioner  
**Sue Stensland LCSW** – Manager, Social Work  
**Lisa Vignolo** – American Cancer Society  
**Jue Wang, MD** – Hematology Oncology  
**Sue Wardian Hartung RN, MSN, ONC** – Patient Education Coordinator, Oncology  
**Matt Winfrey, MPP** – Associate Director for Administration and External Affairs, Eppley  
Institute for Research in Cancer and Allied Diseases  
**Ann Yager BSRT, (R)(T)** – Director, Village Pointe Cancer Center

# Cancer Committee Chair Report



**Aaron R. Sasson, MD**

Surgical Oncologist  
The Nebraska Medical Center

Associate Professor, University of  
Nebraska Medical Center

The Nebraska Medical Center Cancer Committee is made up of multiple physician specialties, nursing support, hospital administrators, cancer registrars, social workers and liaison members from the Omaha community. The committee is focused on providing a high level of care for cancer patients treated at the medical center. It is my honor to report on the committee's 2009 accomplishments.

As part of the accreditation process for the Commission on Cancer by the American College of Surgeons, The medical center is reviewed on a regular basis. During the last review process, we completed a successful accreditation but were also cited for commendations in multiple areas. This reflects the professional and dedicated care that is provided at The Nebraska Medical Center.

Utilizing data from the National Cancer Databank, we were able to analyze our performance in breast cancer and compare the results to the state of Nebraska and national benchmarks. Once again, analysis of the data indicated that we were successful in surpassing many of the benchmarks.

Cancer care at Village Point Cancer Center continues to grow with increasing volume as well as the number of services offered. Radiation oncology and a full-service treatment infusion center are fully operational with selected diagnostic radiology capabilities.

Due to the large number of cancer patients seen at The Nebraska Medical Center, as well as the specialization of many of the practitioners, it is not surprising that there are multiple tumor conferences focusing in specific organs and patient population. Conferences are held for breast, thoracic, gynecology, head and neck, lymphoma, pediatric, neurologic, and gastrointestinal malignancies. Each of these conferences represents a multidisciplinary approach with specific emphasis and allows for a complete and comprehensive treatment plan.

In addition to providing patient care, many members of the oncology support team including physicians and nurses provide educational conferences for other health-care providers, patients and their families.

We are pleased to announce the development of a palliative medicine care program which serves both inpatient and outpatient needs. This has been a welcome addition to our treatment options and results in quality patient care experience delivered by a dedicated team of health-care practitioners.

The Nebraska Medical Center is committed to providing excellence in cancer care as a team of health-care providers, nurses, social workers, dieticians and counselors. As the newly appointed chair of the Cancer Committee, I look forward to continuing the progress at the medical center. In addition, I would like to thank Dr. Susan Kambhu, the previous chair of the committee for all of her hard work during her tenure.

# Centers of Excellence — Multidisciplinary Cancer Care



**Charles Enke, MD**

Radiation Oncologist  
The Nebraska Medical Center

Chairperson and Professor of  
Radiation Oncology, University  
of Nebraska Medical Center

Patients seeking cancer care at The Nebraska Medical Center soon realize they are not alone but have a large team of specialists working on their behalf. The medical center often refers to this approach to care as “multidisciplinary.”

At The Nebraska Medical Center, there are multiple levels of multidisciplinary cancer care. At the first level of care, a tumor board conference is held. At this conference, newly diagnosed cancer patient cases are discussed. A team of nurses, nurse practitioners, nurse case managers, physician assistants, physicians, surgical oncologists, radiation oncologists, medical oncologists, pathologists, radiologists, registered dietitians, psychologists, and social workers discuss treatment options for each individual based on a particular patient’s history and the state of their disease. Frequently, treatments may involve a combination therapy from several sub-specialty areas. The multidisciplinary approach to care has become a best practice across the healthcare industry.

Disease specific tumor boards are also offered at the medical center. These tumor boards will have the same members in attendance as in the above general oncology tumor board with one very important distinction. The specialists present at the disease specific tumor board have specific interest, education and experience in a particular type of cancer. Current tumor boards at the medical center include lung, breast, lymphoma, gastrointestinal, head and neck, neurological, sarcoma and gynecologic cancer. Gastroenterologists, pulmonologists, endocrinologists and even dental specialists are also invited to attend these meetings as many of the cases call for their expertise.

Putting the patient needs as the highest priority, the medical center offers disease-specific tumor clinics. These clinics allow the oncology specialists to work closely together in the same location and give the patient the opportunity and convenience to see several cancer experts in one visit. The result of this collaboration is that patients receive a comprehensive treatment plan which takes into consideration all recommended therapies and services that are available and lends itself well to achieving the best possible outcome.





## Performance Improvement

The Cancer Committee at The Nebraska Medical Center continues to monitor both the clinical quality and the quality of the patient experience. During 2009, there continued to be a focus on improving the quality of care provided and identifying ways to improve patient safety. The staff at Village Pointe Cancer Center formed a performance improvement team to identify opportunities. The initial work has been on the selection of metrics to monitor.

Radiation therapy has focused on patient satisfaction and ways to ensure patient safety. An area of opportunity existed in the length of time between receiving a referral and when the patient was scheduled for an appointment. A target of seven days has been selected as a goal. Initially, only 65 percent of patients were seen within this seven day time frame. Following changes to scheduling and staff education, 100 percent of patients are seen within the seven day time frame.

The Lied Transplant unit continued their goal of reducing patient falls. Patient and caregiver education remains the cornerstone of this project. The unit has enjoyed the success of reducing the fall rate from 6.4 per 1,000 patient days in 2008 to 5.38 per 1,000 patient days in 2009. While this is a step in the right direction, work will continue into 2010 to address this patient safety issue.

In October, 2009, the ACoS CoC) reaccredited the cancer program at The Nebraska Medical Center, with several areas receiving commendations. Programs are required to demonstrate compliance with standards focusing on program management, staging and data management as well as ensuring patients receive quality care. The Cancer Committee provides oversight and helps ensure compliance with these standards.



# The Village Pointe Cancer Center

## *Steady Growth for a Solid Future*

**The Nebraska Medical Center opened the Village Pointe Cancer Center in Nov. 2008 in an effort to provide cancer patients with quality and comprehensive cancer care closer to their homes in west Omaha.** The center provides state-of-the-art technology, clinical care, access to clinical trials and offers many of the same treatments and services offered as The Nebraska Medical Center's midtown campus.

Since its opening, growth has been steady. There are currently 24 different physicians holding clinics at the cancer center and the list of providers continues to expand. The number of patients seen in the clinics and that receive radiation or chemotherapy treatments are steadily increasing as is illustrated in the graphs on the opposite page.

There is a multidisciplinary clinic for prostate cancer patients. A comprehensive assessment cancer Survivorship Clinic is held twice monthly. A dedicated staff of 42 individuals work at the cancer center. In addition to the permanent staff, there are many professionals working at both the cancer center and the Midtown campus.

The cancer center hosted Making Healthy Happen, a wellness event in partnership with Children's Hospital and Medical Center and UNMC Physicians to raise awareness of the available services at the cancer center. Physicians and nurses presented educational talks and displays on cancer prevention and new treatments.

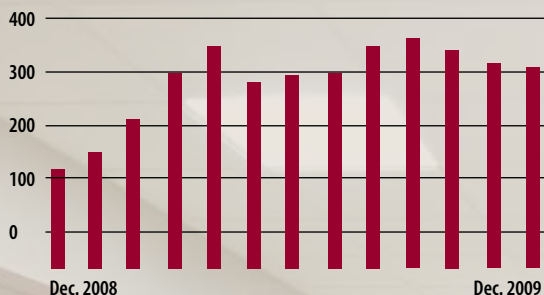
Plans are underway for the Life Renewal Center which will create a destination for patients to receive various services that support positive self-image and spirit. The center helps patients adjust to the physical and emotional changes they experience due to chemotherapy, radiation therapy or surgery. The Life Renewal Center will offer a variety of cancer patient support services such as wig fittings, skin care, prosthetics fittings along with massage therapy and yoga classes. Space will be available to the public for educational purposes.

Village Pointe Cancer Center in west Omaha

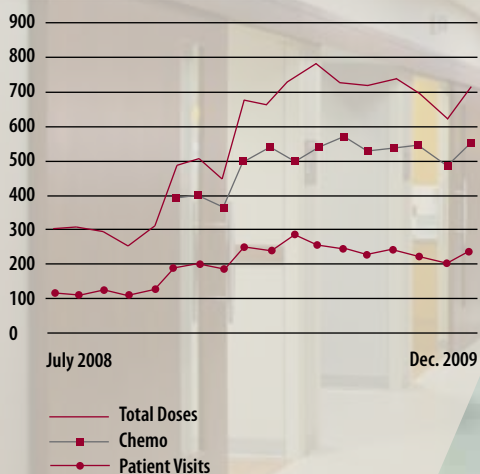




**Total Radiation Treatments**



**Village Pointe Cancer Center Infusion Center Activity**



**Radiation Oncology**



# Introducing — The Palliative Care Program

## *Providing the best possible quality of life*

The Palliative Care Program launched July 1, 2009 in an effort to address The Nebraska Medical Center priorities for excellence by increasing patient and family satisfaction and improving the quality of end of life care.

Social, spiritual, psychological and emotional support are cornerstones of the palliative care program. This health-care program focuses on pain and symptom management for patients with advanced disease. The program provides assistance in making informed decisions and establishing goals regarding the care of loved ones. The primary goal is to relieve suffering and provide the best possible quality of life for a patient and their family, at every stage of an advanced illness.

Palliative Care supports physicians in meeting the challenge of caring for seriously ill patients in a complex hospital setting. The initial year of the program has been busy and rewarding for the palliative care team. Led by Medical Director Todd M. Sauer, MD, and Carri Siedlik, nurse practitioner, the first year exceeded expectations. "We projected we'd receive 100 consults in the first year," said Siedlik. "We actually had 240 and we expect to see continued growth in our second year."

**The Palliative Care Consult service can be especially helpful for referring physicians when:**

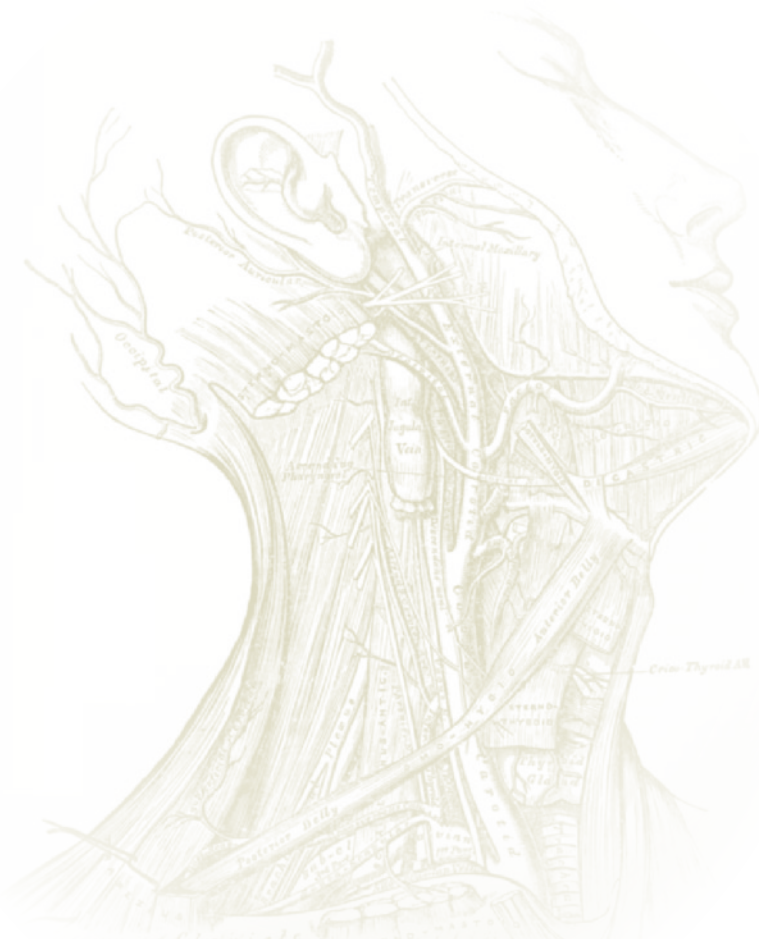
- Pain and debilitating symptoms are difficult to manage
- Decision making is unclear and facilitation of family meetings is needed
- Complex physical, psychological and social suffering requires an increasing amount of time and attention

"I think the campus is embracing the Palliative Care program," said Dr. Sauer, who completed a fellowship at the Institute for Palliative Medicine at San Diego Hospice. "We are getting positive feedback from not only the physicians that we serve, but also the case managers, social workers, nursing staff and chaplains," he said. "Many palliative care programs initially see many families struggling to understand and make decisions around end-of-life situations. Over time, the programs become part of the hospital culture and are consulted earlier, enabling our service to help more with symptoms and quality of life."

# Community Outreach — Oral, Head and Neck Cancer Screening

**Oral, head and neck cancers account for about 60,000 new patients each year in the United States.** Skin cancers involving the head and neck area are very common and are easily noticed by the patient. For this reason, most cases are brought to the attention of the doctor at an early stage. Cancer inside the mouth is less easy for the patient to see and the symptoms are attributed to dental problems. Often a patient will visit the dentist and the tumor is discovered. It is the dentist who refers the patient to a cancer specialist for treatment. Cancers of the throat, larynx (voice box) and the thyroid develop insidiously and are often detected by the patient or their clinician at a late stage. As this type of cancer progresses, the prognosis is often worse.

Therefore, early detection is of paramount importance. For five years, the head and neck cancer program hosts free oral, head and neck cancer screening event. The screening event is advertised locally by direct mailings, newspaper ads, print articles, television interviews and more recently social media channels. Members of the public are encouraged to visit with an oral, head and neck specialist to review their risk factors and receive a free examination. The event is extremely popular and results in over 120 attendees each year. Those who are found to have concerning results are scheduled for a follow-up appointment.





# Social Work — Spotlight on Support Groups



As part of the multidisciplinary approach to care, The Nebraska Medical Center's Social Work department plays a key role in **comprehensive cancer care**. Social workers assist patients and their families in adjusting to the emotional impact of cancer diagnosis and treatment on lifestyle and relationships. In addition to offering psychosocial assessment and supportive counseling they also refer individuals to community resources where they may receive financial assistance and make transportation arrangements for medical equipment and home health-care nursing. Psychosocial support for individuals with cancer and their families is also provided through the following departments within the hospital including psychiatry, psychology, child life, educational services and pastoral care.

Dedicated to improving the community resources for all patients in need of assistance, oncology social workers serve as officers with the Greater Omaha Oncology Social Work Association.

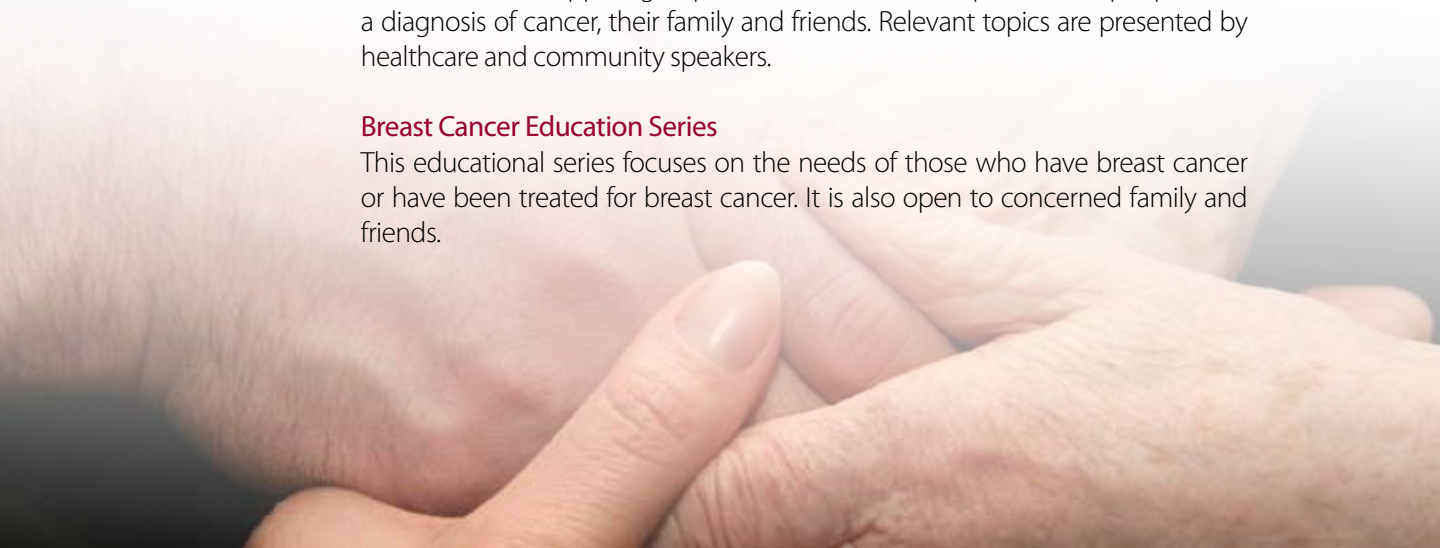
Many opportunities exist for members of the community who are in need of assistance at each stage of treatment. The social work team facilitates support and educational groups. Support groups are held on a regular basis and often feature a variety of topics relating to cancer, and are presented by professionals in the field. The group meetings are advertised by direct mail and community bulletin boards.

## **Cancer Survivorship Group**

An educational support group focused on survivorship issues for people with a diagnosis of cancer, their family and friends. Relevant topics are presented by healthcare and community speakers.

## **Breast Cancer Education Series**

This educational series focuses on the needs of those who have breast cancer or have been treated for breast cancer. It is also open to concerned family and friends.



### **Support for People with Oral and Head and Neck Cancers (SPOHNC)**

This group is open to patients with oral, head and neck cancers. Friends and family may attend as well.

### **Brain Tumor Support Group**

An educational group focused on the needs of those who are affected by a brain tumor and their family members. Each month a topic is presented by a health-care professional or respected professional in the related field.

### **Opportunities for People Experiencing Blood and Marrow Stem Cell Transplants (BMSCT)**

- Introduction to Blood and Marrow Stem Cell Transplants
- Catheter and General Care Classes
- BMSCT Luncheon

### **Community Colorectal Cancer Support Group**

A support group is for individuals with colon and rectal cancer and their families, sponsored in partnership with the American Cancer Society.

### **Caregiver Support Group**

This group is held at American Cancer Society as a cooperative effort with two other Omaha health systems.





## Research — The Eppley Cancer Center

**The Nebraska Medical Center continues to maintain its partnership with the University of Nebraska Medical Center (UNMC) Eppley Cancer Center at The Nebraska Medical Center.** The cancer center has been a leader in the fight against cancer for over 40 years, offering patients the most current and innovative treatment options available through the integration of cutting-edge research into state-of-the-art care.

Physicians and scientists work together to quickly translate discoveries made in the laboratory into innovative treatments for patients in a caring and compassionate manner. It is the only cancer center in Nebraska with the National Cancer Institute (NCI) designation. This designation is earned based on scientific excellence and the capability to integrate diverse research programs focused on cancer.

Funding for cancer research continues to increase annually and now totals over \$65 million. This has allowed researchers to continue current research projects as well as expand and develop new areas of research. Built upon a strong foundation established over 26 years ago, UNMC's lymphoma program is world renowned as a pioneer in research and treatment of this disease. To develop improved personalized therapies for lymphoma, members at the Eppley Cancer Center collaborate with scientists at The University of Texas M.D. Anderson Cancer Center in Houston, Texas on innovative studies funded by a SPORE (Special Program of Research Excellence) grant from the National Cancer Institute (NCI).

The Eppley Cancer Center is developing a strong brain cancer research program with committed scientists and physicians with a goal of making a program of excellence and provide cutting-edge therapies for patients with brain cancer. The cancer center is one of only 65 NCI designated centers in the country. The multidisciplinary approach to fighting cancer has been enhanced through recruitment of several new faculty members specializing in cancer research and treatment and care of patients with cancer.



# Lymphoma Overview

## Non-Hodgkin Lymphoma



**Philip Bierman, MD**  
Hematology Oncology  
The Nebraska Medical Center

Professor, University  
of Nebraska Medical Center

### Epidemiology and Etiology

In 2009 there will be approximately 65,540 new cases of non-Hodgkin lymphoma (NHL) in the U.S. and approximately 21,210 people will die with this diagnosis. These cancers account for approximately 4 percent of all new malignancies. The lifetime risk of developing NHL is 1 in 44 for males and 1 in 52 for females.

The incidence rate for NHL increased approximately 3 to 4 percent yearly over the last 30 years of the 20th century, although recent analyses show that the rate of this increase has plateaued. There is wide geographic variation in the incidence of lymphoma and the distribution of various types of lymphoma. The incidence of NHL increases with age and the median age at diagnosis is greater than 60 years. Approximately 85 percent of cases are derived from B-lymphocytes and the remainder are T-cell lymphomas. Most lymphomas are associated with cytogenetic abnormalities. Specific chromosomal translocations are associated with specific histologic subtypes of lymphoma. These translocations often appear at the sites of known oncogenes which may play a role in the development of lymphoma. Occupational exposures, infectious agents, and impaired immunity are associated with NHL. There is also a slightly higher risk of NHL in people with first degree relatives who have hematologic malignancies.

### Diagnosis

A meticulous approach to diagnosis, staging and treatment is exceedingly important since the goal of treatment is curative in a large proportion of patients, and because different types of lymphoma are managed in specific manners. Specialized molecular and cytogenetic tests are available to assist in diagnosis.

### Clinical Manifestations

Patients with NHL most often present with painless lymphadenopathy, but often have extranodal disease such as gastric or bone marrow involvement. Patients may have systemic symptoms consisting of unexplained fever, weight loss and drenching night sweats. Patients with low-grade histologic subtypes are often asymptomatic and can live many years, even without treatment. Other types of lymphoma behave much more aggressively.

## Classification

Non-Hodgkin lymphoma is classified according to the World Health Organization classification (WHO) which recognizes more than 40 distinct lymphoma entities and many more subtypes and variants. Almost 20 variants of diffuse large B-cell lymphoma (the most common type of NHL) are recognized in the newest WHO classification. These variants include subgroups identified with molecular testing which will assume greater importance in the future.

## Staging

Non-Hodgkin lymphoma is staged with the Ann Arbor system. The staging evaluation determines the anatomic extent of disease. The information from staging determines prognosis, guides treatment, and allows assessment of response after therapy. Positron Emission Tomography (PET) scans are being used with increasing frequency as a means of determining whether residual masses contain viable tumor. These scans can also identify abnormalities not visible on computed axial tomography (CT) scans.

## Prognostic factors

Numerous factors have been identified that have been associated with unfavorable prognosis in diffuse large B-cell lymphoma. An International Prognostic Index (IPI) has been developed that has identified age, tumor stage, number of extranodal sites, performance status and LDH level as the most important prognostic factors. Similar indices have been developed for follicular lymphoma, mantle cell lymphoma, and peripheral T-cell lymphomas. Recent studies suggest that gene profiling using complementary DNA (cDNA) micro-arrays provide important information beyond the information obtained with routine histologic examination. This technique will become an important tool for determining prognosis and guiding therapy.

## Treatment

Treatment decisions are based upon numerous factors including the specific NHL histology, stage, age, performance status and often patient preference. The availability of a suitable clinical trial often guides treatment decisions. The results of therapy for NHL have been revolutionized by the introduction of rituximab. Rituximab is the first monoclonal antibody approved to treat cancer. It is directed against the CD20 antigen which is present on most B-cell lymphomas. It prolongs survival when combined with chemotherapy for the most common types of non-Hodgkin lymphoma in adults. It also prolongs the duration of remission when used as maintenance therapy following upfront treatment for follicular lymphoma. It is used in a number of other hematologic disorders such as immune thrombocytopenia as well as other conditions such as rheumatoid arthritis.

Patients with follicular lymphoma may often be managed initially with observation alone. Many treatment options are available for patients with symptomatic disease. Several studies have demonstrated that survival is prolonged when rituximab is combined with initial chemotherapy. In addition, the duration of remission is prolonged when rituximab maintenance is used after initial therapy.

The introduction of rituximab has also greatly improved the results of treatment for diffuse large B-cell lymphoma. Several studies have demonstrated improved survival when rituximab is combined with initial therapy.

Specific regimens have been developed for less common lymphomas such as mantle cell lymphoma and Burkitt lymphoma. In some cases these patients are treated in a manner similar to acute leukemia.

Radiotherapy is often used alone for patients with limited-stage indolent lymphomas. The outcome of other patients may be improved when radiation is combined with chemotherapy. Various regimens are useful for patients who relapse and these patients can often be cured with aggressive strategies such as stem cell transplantation.

### **New Directions**

Several new drugs and targeted agents have demonstrated activity for patients with relapsed and refractory disease. Some of these agents are now being tested in the upfront setting in phase III trials. Several other trials are testing whether interim PET scans can be used to identify patients that can be managed with less aggressive therapy and those who will require more therapy. The ultimate goal is to identify unique molecular and genetic tumor-associated differences and patient-associated differences that will allow us to design customized treatments for individual patients.

Patients at the Nebraska Medical Center benefit from a team of lymphoma specialists as well as expert hematopathologists. Patients are discussed weekly in a multidisciplinary Lymphoma Conference. The Nebraska Lymphoma Study Group (NLSG) comprises physicians from Nebraska and neighboring states. A wide variety of cooperative-group, investigator-initiated, and industry-sponsored trials are available for patients with newly diagnosed and relapsed NHL. The NLSG also maintains a tissue bank that contains several thousand stored tissue specimens that can be used for research.

### **Treatment Outcomes**

The following tables illustrate survival of patients treated at The Nebraska Medical Center in comparison with patients in the National Cancer Database (IMPAC Cancer Information Reference file.) The observed method was used to calculate survival. Stage zero and unstaged cases are not included.



**The Nebraska Medical Center**  
**Survival by Initial Therapy**  
 2003-2009 NHL

Initial Therapy	# Of Cases	1 Year Survival	2 Years Survival	3 Years Survival	4 Years Survival	5 Years Survival
No Treatment	32	74 percent	69 percent	57 percent	57 percent	57 percent
Chemo	53	84 percent	78 percent	75 percent	69 percent	69 percent
Chemo & Hormone	96	77 percent	69 percent	65 percent	56 percent	56 percent
Surgery	10	89 percent	89 percent	89 percent	71 percent	71 percent
<b>TOTAL</b>	<b>191</b>					

**National Data\***  
**Survival by Initial Therapy**  
 2003-2009 NHL

AJCC Stage	# Of Cases	1 Year Survival	2 Years Survival	3 Years Survival	4 Years Survival	5 Years Survival
No Treatment	2,326	68 percent	60 percent	53 percent	47 percent	41 percent
Chemo	2,717	76 percent	67 percent	61 percent	58 percent	50 percent
Chemo & Hormone	1,779	78 percent	63 percent	58 percent	50 percent	47 percent
Surgery	1,335	81 percent	77 percent	70 percent	64 percent	58 percent
<b>TOTAL</b>	<b>8,157</b>					

*\*Data from the IMPAC Cancer Information Reference File (CIRF)*

**The Nebraska Medical Center**  
**Survival by American Joint Committee on Cancer (AJCC) Stage**  
 2003-2009 NHL

AJCC Stage	# Of Cases	1 Year Survival	2 Years Survival	3 Years Survival	4 Years Survival	5 Years Survival
Stage I	159	89 percent	86 percent	86 percent	81 percent	79 percent
Stage II	98	95 percent	87 percent	81 percent	78 percent	78 percent
Stage III	126	88 percent	78 percent	73 percent	70 percent	63 percent
Stage IV	212	81 percent	71 percent	67 percent	66 percent	59 percent
<b>TOTAL</b>	<b>595</b>					

**National Data\***  
**Survival by AJCC Stage**  
 2003-2009 NHL

AJCC Stage	# Of Cases	1 Year Survival	2 Years Survival	3 Years Survival	4 Years Survival	5 Years Survival
Stage I	4,533	87 percent	80 percent	74 percent	68 percent	64 percent
Stage II	2,434	81 percent	73 percent	66 percent	62 percent	55 percent
Stage III	2,468	79 percent	73 percent	61 percent	57 percent	50 percent
Stage IV	4,852	70 percent	61 percent	54 percent	49 percent	44 percent
<b>TOTAL</b>	<b>14,288</b>					

*\*Data from the IMPAC Cancer Information Reference File (CIRF)*

# The Nebraska Medical Center Cancer Registry Overview

The Nebraska Medical Center compiles and publishes the Annual Cancer Registry Report as one of the requirements set forth by the American College of Surgeons Commission on Cancer in order to sustain the accreditation of the hospital's cancer program.

The registry performs data collection and lifetime follow-up on all cases diagnosed and treated at our facilities. Data includes patient characteristics, American Joint Commission on Cancer (AJCC) staging, site, histology, first course of treatment, disease recurrence (if applicable) and survival information. Registry data is an effective resource which assists in establishing goals, measures progress and evaluating outcomes of our cancer program.

The follow-up process provides critical information about disease status and treatment outcomes. The process is also a valuable service for physicians and patients as 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 information is gathered through hospital visits, physicians and patient follow-up letters.

The Nebraska Medical Center's Tribute to Caregivers plaza





The registry staff would again like to take this opportunity to thank the medical staff for responding to follow-up letters regarding patients who receive therapy.

Response to those letters makes it possible for the staff to gather meaningful data for inclusion in the registry. It also allows for the maintenance and compliance of related standards mandated by the ACoS CoC for an approved cancer program.

The registry is capable of providing a variety of reports for use by the health-care team. The ability to produce comparative reports with larger data bases is of benefit to the cancer program. Dating back to 2003, the registry has 15,960 cases. Four full-time and one part-time certified tumor registrars are on staff to develop reports which meet the needs to improve cancer care. Please contact the cancer registry staff at 402-552-2145 for assistance.

### 2009 Registry Activities

In 2009, 2,685 new cases were acquisitioned into the registry. The Registry submitted data to the National Cancer Data Base (NCDB) as mandated by the related standard of the ACoS CoC.

The NCDB is a joint program of the ACoS 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 are captured at the institutional level and reported to the NCDB. This project began in 1989 and now contains approximately 20 million records from hospital cancer registries across the country. These data are 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 registry at The Nebraska Medical Center also submitted data on a routine basis to the Nebraska Cancer Registry, for state-wide analysis.



**“** The cancer registry is a critical part of our cancer program and provides the statistical information that our program needs to determine areas for growth and improvement of our cancer services. The valuable information is used by all members of our cancer health care team to insure comprehensive quality delivery of care to all of our patients.”

**Theresa Franco, RN, MSN**

Executive Director,  
Cancer Care Service Line

### 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 2009.

#### **The Nebraska Medical Center (2,680 Cases)\***

**Breast** 323 or 12 percent  
**Colorectal** 212 or 8 percent  
**Lung** 243 or 9 percent  
**NHL** 271 or 10 percent  
**Prostate** 137 or 5 percent

#### **State of Nebraska (8,810 Cases) \*\***

Breast 1,200 or 14 percent  
Colorectal 950 or 11 percent  
Lung 1,230 or 14 percent  
NHL 400 or 5 percent  
Prostate 1,410 or 16 percent

#### **United States (1,479,350 Cases) \*\***

Breast 192,370 or 13 percent  
Colorectal 146,970 or 10 percent  
Lung 219,440 or 15 percent  
NHL 65,980 or 5 percent  
Prostate 192,280 or 13 percent

\* 2009 actual new cancer cases

\*\*2009 estimated new cancer cases American Cancer Society Facts and Figures-Ca institution excluded

### Cases Accessioned 2003-2009

<b>Year</b>	<b>Analytic Cases</b>	<b>Non-Analytic Cases</b>	<b>Total Cases</b>
2003	1,391	507	1,898
2004	1,584	517	2,101
2005	1,594	505	2,099
2006	1,598	744	2,342
2007	1,577	738	2,315
2008	1,818	702	2,520
2009	1,922	763	2,685
<b>TOTAL</b>	<b>11,484</b>	<b>4,476</b>	<b>15,960</b>

# 2009 Primary Site Table

Primary Site	Total (%)	Sex		Class of Case		Status		Stage Distribution - Analytic Cases Only							
		M	F	Analy	NA	Alive	Exp	Stg 0	Stg I	Stg II	Stg III	Stg IV	N/A	Unk	
<b>ORAL CAVITY &amp; PHARYNX</b>	<b>95 (3.5%)</b>	<b>64</b>	<b>31</b>	<b>76</b>	<b>19</b>	<b>83</b>	<b>12</b>	<b>2</b>	<b>15</b>	<b>8</b>	<b>6</b>	<b>41</b>	<b>1</b>	<b>3</b>	
Lip	8 (0.3%)	6	2	4	4	7	1	0	1	1	0	2	0	0	
Tongue	27 (1.0%)	18	9	21	6	24	3	0	5	2	4	9	1	0	
Salivary Glands	4 (0.1%)	4	0	4	0	4	0	0	0	1	1	2	0	0	
Floor of Mouth	11 (0.4%)	6	5	8	3	10	1	1	2	2	0	3	0	0	
Gum & Other Mouth	20 (0.7%)	9	11	18	2	17	3	1	6	0	0	10	0	1	
Nasopharynx	6 (0.2%)	5	1	4	2	5	1	0	0	1	0	1	0	2	
Tonsil	12 (0.4%)	10	2	12	0	12	0	0	0	0	1	11	0	0	
Oropharynx	1 (0.0%)	1	0	1	0	1	0	0	0	0	0	1	0	0	
Hypopharynx	6 (0.2%)	5	1	4	2	3	3	0	1	1	0	2	0	0	
<b>DIGESTIVE SYSTEM</b>	<b>539 (20.1%)</b>	<b>308</b>	<b>231</b>	<b>378</b>	<b>161</b>	<b>410</b>	<b>129</b>	<b>6</b>	<b>67</b>	<b>98</b>	<b>75</b>	<b>100</b>	<b>8</b>	<b>24</b>	
Esophagus	32 (1.2%)	25	7	21	11	26	6	1	2	3	7	6	0	2	
Stomach	37 (1.4%)	25	12	28	9	28	9	0	3	5	6	13	0	1	
Small Intestine	29 (1.1%)	11	18	8	21	25	4	0	1	2	1	1	3	0	
Colon Excluding Rectum	137 (5.1%)	64	73	89	48	115	22	2	24	20	12	27	0	4	
Cecum	44	14	30	32	12	36	8	1	5	5	4	14	0	3	
Appendix	2	0	2	1	1	1	1	0	0	0	0	1	0	0	
Ascending Colon	18	10	8	12	6	15	3	0	3	4	1	3	0	1	
Hepatic Flexure	5	2	3	4	1	4	1	0	2	1	1	0	0	0	
Transverse Colon	12	5	7	8	4	11	1	0	3	3	1	1	0	0	
Splenic Flexure	6	6	0	5	1	5	1	0	1	3	1	0	0	0	
Descending Colon	3	3	0	2	1	3	0	0	1	0	0	1	0	0	
Sigmoid Colon	39	19	20	25	14	35	4	1	9	4	4	7	0	0	
Large Intestine, NOS	8	5	3	0	8	5	3	0	0	0	0	0	0	0	
Rectum & Rectosigmoid	75 (2.8%)	55	20	44	31	62	13	0	7	7	13	11	2	4	
Rectosigmoid Junction	22	18	4	12	10	20	2	0	3	1	1	6	0	1	
Rectum	53	37	16	32	21	42	11	0	4	6	12	5	2	3	
Anus, Anal Canal & Anorectum	8 (0.3%)	3	5	5	3	8	0	0	0	3	0	0	0	2	
Liver & Intrahepatic Bile Duct	76 (2.8%)	51	25	63	13	49	27	0	19	8	22	11	1	2	
Liver	62	43	19	52	10	37	25	0	18	7	17	7	1	2	
Intrahepatic Bile Duct	14	8	6	11	3	12	2	0	1	1	5	4	0	0	
Gallbladder	13 (0.5%)	5	8	11	2	11	2	1	3	3	2	2	0	0	
Other Biliary	21 (0.8%)	13	8	19	2	14	7	1	2	3	5	4	0	4	
Pancreas	106 (4.0%)	54	52	87	19	68	38	1	6	44	7	24	0	5	
Retroperitoneum	3 (0.1%)	2	1	1	2	3	0	0	0	0	0	1	0	0	
Peritoneum, Omentum & Mesentery	1 (0.0%)	0	1	1	0	1	0	0	0	0	0	0	1	0	
Other Digestive Organs	1 (0.0%)	0	1	1	0	0	1	0	0	0	0	0	1	0	
<b>RESPIRATORY SYSTEM</b>	<b>282 (10.5%)</b>	<b>159</b>	<b>123</b>	<b>229</b>	<b>53</b>	<b>189</b>	<b>93</b>	<b>0</b>	<b>57</b>	<b>16</b>	<b>56</b>	<b>84</b>	<b>8</b>	<b>8</b>	
Nose, Nasal Cavity & Middle Ear	12 (0.4%)	4	8	11	1	11	1	0	0	2	2	3	3	1	
Larynx	24 (0.9%)	19	5	18	6	22	2	0	4	2	2	10	0	0	
Lung & Bronchus	243 (9.1%)	134	109	197	46	154	89	0	53	12	52	70	3	7	
Trachea, Mediastinum & Other Respiratory Organs	3 (0.1%)	2	1	3	0	2	1	0	0	0	0	1	2	0	
<b>BONES &amp; JOINTS</b>	<b>15 (0.6%)</b>	<b>6</b>	<b>9</b>	<b>11</b>	<b>4</b>	<b>13</b>	<b>2</b>	<b>0</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>4</b>	
Bones & Joints	15 (0.6%)	6	9	11	4	13	2	0	5	1	0	1	0	4	
<b>SOFT TISSUE</b>	<b>38 (1.4%)</b>	<b>23</b>	<b>15</b>	<b>30</b>	<b>8</b>	<b>34</b>	<b>4</b>	<b>0</b>	<b>6</b>	<b>2</b>	<b>4</b>	<b>7</b>	<b>3</b>	<b>8</b>	
Soft Tissue (including Heart)	38 (1.4%)	23	15	30	8	34	4	0	6	2	4	7	3	8	
<b>SKIN EXCLUDING BASAL &amp; SQUAMOUS</b>	<b>142 (5.3%)</b>	<b>71</b>	<b>71</b>	<b>109</b>	<b>33</b>	<b>134</b>	<b>8</b>	<b>17</b>	<b>46</b>	<b>13</b>	<b>15</b>	<b>3</b>	<b>3</b>	<b>12</b>	
Melanoma -- Skin	133 (5.0%)	65	68	102	31	127	6	17	46	13	13	3	0	10	
Other Non-Epithelial Skin	9 (0.3%)	6	3	7	2	7	2	0	0	0	2	0	3	2	
<b>BASAL &amp; SQUAMOUS SKIN</b>	<b>3 (0.1%)</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	
Basal/Squamous cell carcinomas of Skin	3 (0.1%)	1	2	0	3	3	0	0	0	0	0	0	0	0	
<b>BREAST</b>	<b>323 (12.1%)</b>	<b>2</b>	<b>321</b>	<b>252</b>	<b>71</b>	<b>313</b>	<b>10</b>	<b>57</b>	<b>87</b>	<b>66</b>	<b>30</b>	<b>7</b>	<b>0</b>	<b>5</b>	

Primary Site	Total (%)	Sex		Class of Case		Status		Stage Distribution - Analytic Cases Only							
		M	F	Analy	NA	Alive	Exp	Stg 0	Stg I	Stg II	Stg III	Stg IV	N/A	Unk	
Breast	323 (12.1%)	2	321	252	71	313	10	57	87	66	30	7	0	5	
<b>FEMALE GENITAL SYSTEM</b>	<b>97 (3.6%)</b>	<b>0</b>	<b>97</b>	<b>70</b>	<b>27</b>	<b>85</b>	<b>12</b>	<b>0</b>	<b>32</b>	<b>6</b>	<b>16</b>	<b>9</b>	<b>2</b>	<b>5</b>	
Cervix Uteri	15 (0.6%)	0	15	14	1	14	1	0	4	2	3	3	0	2	
Corpus & Uterus, NOS	41 (1.5%)	0	41	33	8	37	4	0	22	1	5	3	1	1	
Corpus Uteri	38	0	38	32	6	35	3	0	22	1	5	2	1	1	
Uterus, NOS	3	0	3	1	2	2	1	0	0	0	0	1	0	0	
Ovary	34 (1.3%)	0	34	20	14	28	6	0	5	3	8	2	1	1	
Vagina	1 (0.0%)	0	1	0	1	1	0	0	0	0	0	0	0	0	
Vulva	6 (0.2%)	0	6	3	3	5	1	0	1	0	0	1	0	1	
<b>MALE GENITAL SYSTEM</b>	<b>151 (5.6%)</b>	<b>151</b>	<b>0</b>	<b>99</b>	<b>52</b>	<b>147</b>	<b>4</b>	<b>0</b>	<b>4</b>	<b>64</b>	<b>16</b>	<b>10</b>	<b>0</b>	<b>5</b>	
Prostate	137 (5.1%)	137	0	88	49	133	4	0	0	62	12	10	0	4	
Testis	11 (0.4%)	11	0	10	1	11	0	0	3	2	4	0	0	1	
Penis	2 (0.1%)	2	0	1	1	2	0	0	1	0	0	0	0	0	
Other Male Genital Organs	1 (0.0%)	1	0	0	1	1	0	0	0	0	0	0	0	0	
<b>URINARY SYSTEM</b>	<b>176 (6.6%)</b>	<b>125</b>	<b>51</b>	<b>140</b>	<b>36</b>	<b>152</b>	<b>24</b>	<b>25</b>	<b>50</b>	<b>13</b>	<b>21</b>	<b>20</b>	<b>6</b>	<b>5</b>	
Urinary Bladder	72 (2.7%)	54	18	51	21	62	10	21	5	9	8	5	0	3	
Kidney & Renal Pelvis	98 (3.7%)	68	30	84	14	85	13	2	45	4	13	13	5	2	
Ureter	5 (0.2%)	3	2	4	1	5	0	2	0	0	0	2	0	0	
Other Urinary Organs	1 (0.0%)	0	1	1	0	0	1	0	0	0	0	0	1	0	
<b>EYE &amp; ORBIT</b>	<b>16 (0.6%)</b>	<b>7</b>	<b>9</b>	<b>12</b>	<b>4</b>	<b>15</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>1</b>	
Eye & Orbit	16 (0.6%)	7	9	12	4	15	1	0	4	2	2	0	3	1	
<b>BRAIN &amp; OTHER NERVOUS SYSTEM</b>	<b>141 (5.3%)</b>	<b>67</b>	<b>74</b>	<b>101</b>	<b>40</b>	<b>127</b>	<b>14</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>101</b>	<b>0</b>	
Brain	66 (2.5%)	40	26	50	16	57	9	0	0	0	0	0	50	0	
Cranial Nerves Other Nervous System	75 (2.8%)	27	48	51	24	70	5	0	0	0	0	0	51	0	
<b>ENDOCRINE SYSTEM</b>	<b>93 (3.5%)</b>	<b>32</b>	<b>61</b>	<b>72</b>	<b>21</b>	<b>91</b>	<b>2</b>	<b>0</b>	<b>47</b>	<b>2</b>	<b>8</b>	<b>1</b>	<b>12</b>	<b>2</b>	
Thyroid	73 (2.7%)	20	53	60	13	71	2	0	47	2	8	1	0	2	
Other Endocrine including Thymus	20 (0.7%)	12	8	12	8	20	0	0	0	0	0	0	12	0	
<b>LYMPHOMA</b>	<b>317 (11.8%)</b>	<b>187</b>	<b>130</b>	<b>167</b>	<b>150</b>	<b>295</b>	<b>22</b>	<b>0</b>	<b>24</b>	<b>30</b>	<b>18</b>	<b>91</b>	<b>0</b>	<b>4</b>	
Hodgkin Lymphoma	46 (1.7%)	29	17	27	19	45	1	0	1	13	4	9	0	0	
Hodgkin - Nodal	43	27	16	25	18	43	0	0	0	13	4	8	0	0	
Hodgkin - Extranodal	3	2	1	2	1	2	1	0	1	0	0	1	0	0	
Non-Hodgkin Lymphoma	271 (10.1%)	158	113	140	131	250	21	0	23	17	14	82	0	4	
NHL - Nodal	196	111	85	96	100	179	17	0	6	12	11	64	0	3	
NHL - Extranodal	75	47	28	44	31	71	4	0	17	5	3	18	0	1	
<b>MYELOMA</b>	<b>51 (1.9%)</b>	<b>19</b>	<b>32</b>	<b>28</b>	<b>23</b>	<b>45</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>28</b>	<b>0</b>	
Myeloma	51 (1.9%)	19	32	28	23	45	6	0	0	0	0	0	28	0	
<b>LEUKEMIA</b>	<b>105 (3.9%)</b>	<b>55</b>	<b>50</b>	<b>76</b>	<b>29</b>	<b>79</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>76</b>	<b>0</b>	
Lymphocytic Leukemia	42 (1.6%)	29	13	30	12	38	4	0	0	0	0	0	30	0	
Acute Lymphocytic Leukemia	15	14	1	9	6	12	3	0	0	0	0	0	9	0	
Chronic Lymphocytic Leukemia	22	12	10	16	6	21	1	0	0	0	0	0	16	0	
Other Lymphocytic Leukemia	5	3	2	5	0	5	0	0	0	0	0	0	5	0	
Myeloid & Monocytic Leukemia	61 (2.3%)	26	35	44	17	40	21	0	0	0	0	0	44	0	
Acute Myeloid Leukemia	39	17	22	26	13	24	15	0	0	0	0	0	26	0	
Acute Monocytic Leukemia	3	2	1	3	0	1	2	0	0	0	0	0	3	0	
Chronic Myeloid Leukemia	14	5	9	10	4	13	1	0	0	0	0	0	10	0	
Other Myeloid/Monocytic Leukemia	5	2	3	5	0	2	3	0	0	0	0	0	5	0	
Other Leukemia	2 (0.1%)	0	2	2	0	1	1	0	0	0	0	0	2	0	
Other Acute Leukemia	1	0	1	1	0	0	1	0	0	0	0	0	1	0	
Aleukemic, Subleukemic & NOS	1	0	1	1	0	1	0	0	0	0	0	0	1	0	
<b>MESOTHELIOMA</b>	<b>10 (0.4%)</b>	<b>9</b>	<b>1</b>	<b>6</b>	<b>4</b>	<b>8</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>1</b>	
Mesothelioma	10 (0.4%)	9	1	6	4	8	2	0	1	0	1	3	0	1	
<b>KAPOSI SARCOMA</b>	<b>3 (0.1%)</b>	<b>3</b>	<b>0</b>	<b>2</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	
Kaposi Sarcoma	3 (0.1%)	3	0	2	1	2	1	0	0	0	0	0	2	0	
<b>MISCELLANEOUS</b>	<b>83 (3.1%)</b>	<b>51</b>	<b>32</b>	<b>62</b>	<b>21</b>	<b>56</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>62</b>	<b>0</b>	
Miscellaneous	83 (3.1%)	51	32	62	21	56	27	0	0	0	0	0	62	0	
<b>TOTAL</b>	<b>2,680</b>	<b>1,340</b>	<b>1,340</b>	<b>1,920</b>	<b>760</b>	<b>2,281</b>	<b>399</b>	<b>107</b>	<b>445</b>	<b>321</b>	<b>268</b>	<b>377</b>	<b>315</b>	<b>87</b>	

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