

NORTHBAY[™]
Cancer Center

2010 Annual Report



*Compassionate Care
Advanced Medicine
Close to Home*

2010 Cancer Center Annual Report 2010 Cancer Registry Statistical Review

*Published October 2011 by the NorthBay Cancer Committee
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Introduction



Since 1987, high quality cancer care has been available at the NorthBay Cancer Center. In 1996, the American College of Surgeon's Commission on Cancer initially approved our Community Hospital Cancer Program, making NorthBay Cancer Center the first non-military, community-based cancer program in Solano County.

The NorthBay Cancer Center is more than a place; it's a coordinated program of comprehensive cancer prevention, detection, treatment, and rehabilitation and support services. The Cancer Center is staffed by oncology experts – physicians, nurses, pharmacists, technologists and therapists, who strive to provide a compassionate approach to cancer treatment and care to patients and their families, supported by state-of-the-art technology and access to cutting-edge clinical research protocols.

Cancer Committee Chair: Florian Ploch, M.D.
Commission on Cancer Liaison Physician: Brian Vikstrom, M.D.
2010 Annual Report

In 2010, NorthBay Cancer Center activities were community wide and countywide. In our efforts to improve cancer control and increase general awareness about cancer recommendations on cancer screening presentations were made available to audiences throughout the county. Presentations given at service organizations, churches, and community centers, NorthBay Medical Center, VacaValley Hospital and the Center for Primary Care in Vacaville. Information was also posted on the NorthBay Cancer Center website. As well as providing general awareness and education about cancer, a need was identified to provide a Bereavement Support Group in Rio Vista, which is an under-served area in Solano County.

The Cancer Committee continued to monitor Quality Control Studies, such as adherence to National Comprehensive Cancer Guidelines for invasive breast cancer, breast pathology turnaround time from biopsy and/or resection to finalization of pathology reports and radiation therapy treatments.

The purpose of the Cancer Program 2010 Annual Report is to communicate information about the NorthBay Healthcare System's Cancer Program to the medical staff, administration and other allied health professionals. All of the cancer program activities and accomplishments are described in this annual report, along with statistical data from the NorthBay Cancer Registry.

2010 Cancer Committee Members

Physicians:

Florian Ploch, M.D., Chairman
Radiation Oncology

Michael Amster, M.D.
Pain Center

James Bronk, M.D.
Diagnostic Imaging

Roland Cook, M.D.
Pathology

James Long, M.D.
Medical Oncology

Terrell B. VanAken, M.D.
Palliative Care

Brian Vikstrom, M.D.
Hematology/Medical Oncology
Cancer Liaison Physician

John P. Zopfi, D.O.
General Surgery

Non-Physician Members:

Janet Black, R.N., OCN
Infusion Center

Adrienne Bowen
Clinical Dietitian

Jerry Gonzales, Pharm. D., FCSHP
Director, Cancer Center/Pharmacy

Peter Hansen, RTT
Radiation Oncology

Doug Hinton, PT
Rehabilitation Services

Keni Horiuchi, R.N., AOCN
Clinical Trials

Domenica Kelley, R.N. OCN
Med/Surg Department

Jan Lindsey, RPh, BCOP
Pharmacy

Nancy Meagher, R.N.
Performance Improvement

Magi Philpot, MSW
Oncology Social Services

Laurie Raymond
Clinical Trials

Ali Seidman
Community Services Director ACS

Bridgit Strachan, R.N.
Administration

Charlene Thompson, CTR, LVN
Cancer Registry

Jerry Wilcox, RT
Director, Radiation Oncology/D.I.

2010 Cancer Conference Cases

January

Lymphoma (2)
Breast Carcinoma
Lung Carcinoma
Unknown Primary

February

Lymphoma (2)

March

Colon Carcinoma
Breast Carcinoma
Hodgkin's Lymphoma

April

Lung Carcinoma
Breast Carcinoma (2)

May

Colon Carcinoma
Anal Carcinoma

June

Colon Carcinoma
Rectum Carcinoma
G.I. Carcinoma
Lymphoma

July

Breast Carcinoma (2)
Gastric Carcinoma
Bone Marrow
Hodgkin's Lymphoma

August

Lung Carcinoma (2)
Colorectal Carcinoma (2)
Unknown Primary

September

Breast Carcinoma (3)
Colon Carcinoma
Unknown Primary

October

Colon Carcinoma (3)
Carcinoid

November

Colon Carcinoma
Breast Carcinoma
Gastric Carcinoma
Pancreatic Carcinoma
Carcinoid

December

No Tumor Board

2010 Breast Care Conference Cases

January

Breast Carcinoma (6)

February

Breast Carcinoma (3)

March

Breast Carcinoma (6)

April

Breast Carcinoma (1)

May

Breast Carcinoma (1)

June

No Breast Care Conference

July

No Breast Care Conference

August

No Breast Care Conference

September

Breast Carcinoma (3)

October

Breast Carcinoma (2)

November

Breast Carcinoma (1)

December

Breast Carcinoma (1)

2010 Lung Care Conference Cases

January

Lung Carcinoma (5)

February

Lung Carcinoma (7)

March

Lung Carcinoma (2)

April

Lung Carcinoma (2)

May

Lung Carcinoma (5)

June

Lung Carcinoma (5)

July

Lung Carcinoma (5)

August

Lung Carcinoma (2)

September

Lung Carcinoma (5)

October

Lung Carcinoma (1)

November

No Lung Care Conference

December

Lung Carcinoma (2)



Scope of Services

Cancer Registry

- Data Collection
- Statistical Reporting
- Patient Care Evaluations
- Lifetime Patient Follow-up
- National Cancer Data Base Participation

Quality Improvement

- Monthly Cancer Case Conferences
- Ongoing Quality Improvement Studies
- Site Specific Oncology Didactic Lectures

Community Outreach

- “I Can Cope” Programs
- “Look Good, Feel Better” Programs
- Community Cancer Education Lectures
- Health Fairs
- Cancer Survivor’s Day

Clinical Services

- Clinical Trials
- Diagnostic Imaging
- Health at Home
- Nursing
- Nutrition
- Medical Oncology
- Pain Center
- Palliative Care
- Pathology
- Pharmacy
- Radiation Oncology
- Rehabilitation Services
- Surgery

Support Services

- Oncology Social Services
- Chaplaincy Services
- Hospice Program
- Support Groups



2010 Cancer Program Elements

Cancer Committee

The NorthBay Cancer Committee is a multidisciplinary team that directs and oversees all cancer program activities. Six meetings were held in 2010. Members of the Cancer Committee represent administration, quality improvement, rehabilitation, nursing, social services, the cancer registry, radiation oncology, clinical trials, medical oncology and physicians from several disciplines. The members are named elsewhere in this report.

Cancer Conferences

At NorthBay, monthly Cancer Conferences (also called Tumor Boards, Breast Care Conferences, and Lung Care Conferences) are offered, which provide physicians with access to multidisciplinary cancer consultative services for their patients, as well as continuing cancer education. Any staff physician is welcome to present a cancer-related case to the board. During the conference each patient's medical history, physical findings, clinical course, diagnostic work-up, and pathological specimens are reviewed. Discussions regarding the disease process, AJCC Staging, medical literature review and personal experience in the management of disease follow. Recommendations regarding further treatment plans are made based upon available information (NCCN guidelines). This report includes a listing of the types of cancer cases reviewed during the 2010 Cancer Conferences.

Cancer Registry

The NorthBay Cancer Registry is a data system that has been monitoring the incidence, staging, treatment and survival of cancer patients seen by NorthBay Healthcare since our reference date, Jan. 1, 1987. The registry is comprised of 10,800 cases admitted to NorthBay Medical Center from 1987-2010. Of this number, 2,950 patients are followed up on a 12-month basis. VacaValley Hospital has a total of 2,143 cancer cases admitted from 1987-2010. Of that number, 195 patients are followed up on a 12-month basis. Through the Cancer Registry's lifetime follow-up service, physicians and patients are contacted annually to record and update each patient's progress. The follow-up process helps to ensure patients receive regular medical care and provides the basis for survival statistics. In 1987, the registry began reporting cancer data to the State Department of Health Services California Cancer Registry as part of the mandatory cancer reporting law. This enabled the registry to compile data from individual cases to study NorthBay Healthcare cancer experience and compare the results with regional and statewide data.

Under the direction of the Cancer Committee, registry staff performs data analyses and participates in internal and national data studies. During 2010, registry data was submitted error-free to the National Cancer Database (NCDB) for cases diagnosed in 1989, 1994, 1999, 2004 and 2009.

Clinical Trials Program – 2010

In 2010, Dr. Brian Vikstrom assumed the principal investigator role for the NorthBay Cancer Center. His prior experience with clinical trials at UC Davis allowed for a smooth transition from Dr. James Long, who continues to support the program as an active sub-investigator. Dr. Florian Ploch (Radiation Oncology) and Dr. J. Peter Zopfi (Surgery) also continue as sub-investigators.

Access to national cooperative group clinical trials continues to be an important community resource. Through the Clinical Trials Support Unit (CTSU), the NorthBay Cancer Center continues to offer treatment trials for a variety of cancers, including breast, colon, gastric, kidney, lung, lymphoma and myeloma. The CTSU allows access to trials from various clinical trials groups such as Eastern Cooperative Oncology Group (ECOG) and the Cancer and Leukemia Group B (CALGB). This is in addition to the center's affiliation with the National Surgical Adjuvant Breast and Bowel Project (NSABP) through the City of Hope National Medical Center and the Southwest Oncology Group (SWOG) through the UC Davis Cancer Center. Twenty-five cooperative group trials were open to enrollment during 2010. Access to non-cooperative group trials is coordinated through associations with tertiary medical centers such as the UC Davis Cancer Center and the Stanford Cancer Center. Treatments for cancer continue to evolve rapidly and access to clinical trials remain a valuable resource for keeping physicians updated on new treatments and will continue to be an important component of the service offered through the NorthBay Cancer Center.

Diagnostic Imaging Services

Technologically advanced tools for cancer diagnosis, evaluation, treatment, planning and monitoring are available through NorthBay Healthcare's Diagnostic Imaging Services. These include multi-slice spiral CT Scanning, Magnetic Resonance Imaging, Mammography, Ultrasonography, Angiography, Nuclear Medicine, PET Imaging, and PACS. Diagnostic Imaging also offers Interventional Radiology, which includes percutaneous and stereotactic biopsy procedures, both minimally invasive methods for obtaining cells or tissue for diagnosis. The radiologists are available for consultation and are active participants in cancer conferences and the Cancer Committee.

Bioethics Committee

NorthBay Healthcare provides bioethics consultations through the Bioethics Committee. The committee consists of physicians, nurses, a chaplain, a social worker, a community lawyer and an administrative representative. This committee is available to any physician, staff person, patient or family needing consultation with an interdisciplinary focus. The Bioethics Committee meets quarterly to conduct business/education and meets whenever called to provide consultations. Decisions or actions to be taken are not decided during a consultation. The committee only provides recommendations regarding the issues brought before it.

Hospice & Bereavement

NorthBay Hospice & Bereavement provides comprehensive hospice services to Solano County residents. Hospice is an interdisciplinary program of care that provides palliative care and sophisticated methods of pain and symptom control to help the patient live as fully and comfortably as possible. It also provides emotional and spiritual support to terminally ill patients, their families and friends. The hospice team enables our patients to spend the last months of their lives with dignity and the highest quality of life possible. Hospice care emphasizes quality of life enhancement while preserving the patient's dignity. NorthBay's bereavement services are free to residents of Solano County, and include written material and support groups. Support groups are available for adults, young adults, teens and children.

Infusion Center

The Infusion Center performs extended outpatient intravenous medication and blood/blood product administration. Patient comfort during treatment is a high priority. Patients can choose to receive treatment in one of the two private infusion rooms with hospital beds or in one of the recliners, each with private TVs and a privacy curtain that can be pulled around to provide a more secluded treatment space to allow patients to read a book, listen to headphones, or sleep. Family members who accompany patients to the infusion center are encouraged to sit with the patient or they can enjoy a private TV lounge that is directly adjacent to the infusion center.

All infusion nurses have been specially trained in caring for cancer patients and are nationally certified oncology nurses (OCN). All of the infusion nurses are also Oncology Nursing Society (ONS) chemotherapy providers and are internally credentialed by NorthBay Medical Center to administer chemotherapy/biotherapy. The infusion nurses have other various credentialing, including, AOCN, OCN, PICC and have received advanced training in central line maintenance and care. The primary focus of care for infusion nurses are cancer treatment and symptom management. However, the Infusion Center is also a place where patients may comfortably receive other IV infusions including blood and blood products, bone supportive agents and antibiotic therapy. Cancer Center nurses promote nursing excellence at NorthBay by being a resource and by providing education to hospital-based nurses and the community. Cancer Center nurses actively participate in cancer-related community activities such as National Cancer Survivor's Day, Relay for Life, and Look Good, Feel Better, as well as other community events.

Nursing Department

NorthBay Medical Center's Medical-Surgical Unit provides 24-hour comprehensive acute care for hospitalized cancer patients. It is a multidisciplinary team composed of physicians, registered nurses, social workers, dietitians, rehabilitation specialists, respiratory therapists, and Continuity of Care Coordinators. The registered nurses are skilled in assessment, planning, interventions and evaluation of patient-care needs. All full- and part-time registered nurses participate in chemotherapy credential or certification classes, updates and oncology educational programs to enhance nursing care for the patient receiving chemotherapy.

Nutrition Services

NorthBay Healthcare clinical dietitians are available to provide comprehensive assessments for the special needs of cancer patients. Currently the dietitians are involved with one-on-one patient counseling, oncology rounds and the Cancer Committee. The dietitian's goal is to improve or maintain the nutritional status of cancer patients, which can be adversely affected by cancer and its treatment.

Oncology Social Services

Oncology Social Services provide direct clinical social work service, counseling and case management services to Cancer Center patients and their families including psychosocial assessment, development of a plan of care, implementation and documentation of emotional, social, financial, environmental or follow-up referral needs. The department works collaboratively with Cancer Center interdisciplinary members and other colleagues within the NorthBay Healthcare system, monitors progress toward goals of plan of care and facilitates integration with community-based resources to optimize patient health as well as it also collaborates with community partners to optimize patient health. Activities are consistent with the system's mission, values and in compliance with applicable regulations and systems policies and procedures.

Palliative Care Program

The objective of the NorthBay Bridges palliative care program is to help patients facing a life-limiting, chronic or progressive illness, to manage their symptoms and realize the best possible quality of life. NorthBay Bridges assists the primary care or attending physician to provide active care that reaches beyond physical pain and symptom relief to address emotional, social, cultural and spiritual needs of seriously ill patients and their families. Guided by a philosophy of care within an organized and structured system, treatment is determined and delivered in the context of the patient's unique life goals. Palliative care can be delivered concurrently with life-prolonging treatment or as the main focus of care.

Pathology

Pathologists at NorthBay provide a full range of oncological-related services, including anatomic pathology, clinical pathology, and immunopathology. Their multi-disciplinary management of cancer care includes an active role in the monthly Cancer Conferences and Cancer Committee, as well as being available to physicians and registry staff for consultation. In 2010, the department of pathology processed 2206 specimens.

Rehabilitation Services

Through NorthBay Rehabilitation Services, cancer patients are helped to achieve a greater degree of functional independence and an improved quality of life. Available services include speech therapy, occupational therapy and physical therapy, all provided by highly trained, licensed personnel. A lymphedema and post-mastectomy program are also available.

Pharmacy

To ensure patient safety, NorthBay Healthcare utilizes standardized treatment plans that have been referenced and reviewed with evidence-based chemotherapy guidelines by the clinical nurse specialist, oncology clinical pharmacist and the hematologist/oncologist. For non-standardized chemotherapy regimens, pharmacists verify dosing and scheduling based on textbook references, abstracts, journal articles or protocols from other major research institutions. Pharmacists verify calculations for all dosages of chemotherapy (based on mg/M² or dose per kg) and assess the appropriateness of the dose based upon patient specific parameters (i.e. renal function; liver function; cardiac function). Any discrepancies or additional patient safety recommendations are discussed with the physician and amended as necessary. The NorthBay Healthcare pharmacy utilizes a documented double check system for dosage calculations, drug, drug volume and intravenous solution prior to admixture. NorthBay Healthcare pharmacists oversee the preparation of all chemotherapeutic agents and non-chemotherapeutic agents utilized in the clinic and in the hospital at NorthBay. NorthBay Healthcare has recently begun utilizing the PhaSeal System. This system is an added safety measure to protect healthcare employees, patients and family members who may be present in the clinic from possible exposure to aerosolized chemotherapy. Pharmacy continues to ensure environmental safety in chemotherapy preparation by upgrading the chemotherapy clean room and instituting new recommendations from ASHP, NIOSH and USP 797 in regard to employee and patient safety. Pharmacists interact with patients and members of the healthcare team with drug information, side-effect and pain management information and are an important resource at Cancer Committee, Tumor Board and Oncology Team Meetings. NorthBay is committed to education and advancing the profession of oncology pharmacy by precepting Solano County's Touro University students. Our oncology clinical pharmacist is certified by the Board of Pharmaceutical Specialists in Oncology Pharmacy to further offer quality patient care.

Radiation Oncology Department

Intensity Modulated Radiation Therapy (IMRT) and forward planning for breast and lung cancers continue to be very important tools used by NorthBay's Radiation Oncology Department.

IMRT is used when a patient's tumor is in close proximity to critical health organs or when the tumor has a complex shape. The physician, working with the dosimetry and physics team, develops series of dose criteria that delivers a maximum dose to the tumor while delivering the smallest possible doses to the surrounding healthy structures and organs. Using a CT scan, the physician and dosimetrists determine the exact location in three dimensions of the tumor and critical structures within the patient's body. Using a powerful treatment planning computer the best possible treatment plan is developed. This process of developing the best IMRT treatment can often take days to perform, but results in the best possible treatment for our patient.

Forward planning is a process to eliminate small areas of relatively greater radiation dose. This achieved through an iterative process where the dose to be delivered through a single radiation beam angle is broken into smaller components. Each successive component seeks to block (not treat) the area of relatively higher dose from the beam previous. The net result of this process is a treatment plan that can spare adverse skin reactions for a patient undergoing treatment for many types of cancer. Forward planning is an iterative process that requires a very powerful treatment planning computer system and hours of dosimetrist's time.

Radiation Oncology is proud to offer these tools to its community and will embrace new modalities of treatment as they become available



2010 Cancer Program Accomplishments

Offered the following **professional** education lectures:

- “2010 ONS Chemotherapy & Biotherapy Course,” Keni Horiuchi, R.N., MSN, ACON, April 30, 2010 and May 7, 2010.
- NorthBay’s Advanced Medicine Lecture Series, “Waging War on Cancer,” Brian Vikstrom, M.D., June 17, 2010.
- “Genomic Profiling of Stage II Colon and Early Breast Cancer, David Hyams, M.D., FACS, Genomic Health, August 30, 2010.
- NorthBay’s Physician Forum, “Advances in the Diagnosis and Treatment of Breast Cancer,” James Long, M.D., September 28, 2010.

Offered the following **community** education lectures/presentation:

- “Cervical Cancer Awareness/Prevention & Screening information,” NorthBay Cancer Center, January 1-31, 2010.
- “Colorectal Cancer Awareness/Prevention & Screening information,” NorthBay Cancer Center, March 1-31, 2010.
- Co-sponsored the 14th Annual National Cancer Survivors Day Celebration, June 6, 2010.
- “Prostate Cancer Awareness/Prevention & Screening information,” NorthBay Cancer Center, September 1-30, 2010.
- “Breast Cancer Awareness and Screening information for local medical office staff workers,” Keni Horiuchi, R.N., MSN, AOCN, September 23, 2010.
- “Breast Cancer Awareness/Prevention & Screening information,” NorthBay Cancer Center, October 1-31, 2010.
- “8th Annual Breast Cancer Update,” James Long, M.D., and Brian Vikstrom, M.D., October 14, 2010.
- “Dig Pink National Breast Cancer Awareness Rally,” Will C. Wood High School & College Volleyball Tournament, NorthBay Cancer Center, October 2010.
- “Breast Cancer Awareness and Screening Information provided at the 2nd Annual Imagine Me Event,” NorthBay Cancer Center, October 2010.
- “Lung Cancer Awareness Month,” NorthBay Cancer Center, November 1-30, 2010.



2010 Cancer Program Accomplishments (Continued)

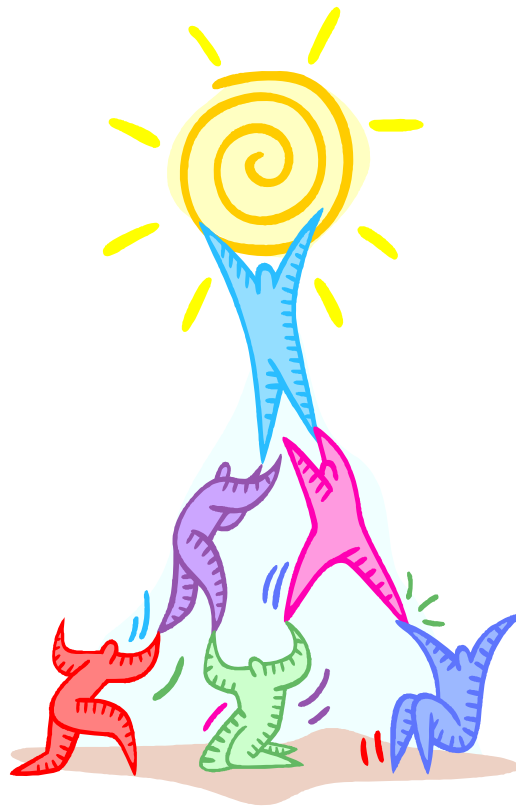
- Co-sponsored (with the American Cancer Society) four “Look Good...Feel Better” events.
- Published the 2009 Annual Report and posted the report to the Cancer Center website.
- Submitted all 2009 cases seen at NBMC and VVH to California Cancer Registry in Sacramento with 99 percent of the cases submitted within six months of first being seen at facility and a 99 percent Accuracy Rate. (State goal is 97 percent)
- Submitted 2009 Call for Data cases (2009, 2004, 1999, and 1994) to NCDB error-free.
- Held Monthly Cancer Conferences (Breast, Lung, and Tumor Board) See Cancer Conference Grids.
- Held quarterly Cancer Committee meetings.
- Participated in the California Cancer Registry Statewide Training program, “Collaborative Stage Version,” March – May 2010.
- Participated in the CCR “Achieving Excellence in Abstracting: Lymphoma and Overcoming Obstacles Abstracting Ovary Cases Web-based Tutorial,” May 2010.
- Provided an environment that facilitated the delivery of optimal patient care in all phases of evaluation, planning, treatment, and follow-up.

2010 Cancer Center Quality Improvements

- Expanded the scope of practice to allow specially trained, Peripherally Inserted Central Venous Catheter (PICC) certified RNs to assess chest x-rays for PICC placement, allowing for quicker release of PICC for use.
- Addition of a Bereavement Support Group in Rio Vista, which is an under-served area in Solano County.
- Addition of a Nurse Practitioner to the Palliative Care Program.
- Addition of an On-Call Medical Assistant in the Medical Oncology Department to assist with tasks that do not require a RN so that the RNs will be able to concentrate on other tasks such as medication administration.
- POLST Education (Physician Orders for Life Sustaining Treatment) for physicians and the community – Palliative Care Program.
- Established a procedure for unpacking chemotherapy shipments in the pharmacy to lower the exposure to the techs unpacking the chemotherapy orders and lower contamination in areas where chemotherapy is not administered or mixed.
- Improvement in the turn-around time of breast cancer pathology from biopsy and surgical resection to pathology finalization time, based on 2010 Quality Improvement Study.

2011 Cancer Program Goals

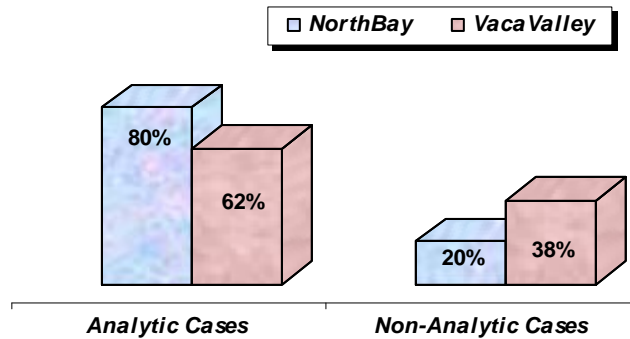
- Provide an environment that will facilitate the delivery of optimal patient care in all phases of evaluation, planning, treatment and follow-up.
- Conduct Performance Improvement activities specific to patient population.
- Recruit new Cancer Center Director.
- Recruit new Medical Oncologist.
- Establish a Patient Navigator Program for the NorthBay Cancer Center.
- Establish a Lung Cancer Screening Program
- Enroll in QOPI (Quality Oncology Practice Initiative)
- Replace Linear Accelerator in the Radiation Oncology department.
- Publish 2010 Cancer Center Annual Report.
- Participate in appropriate community activities.



2010 Cancer Registry Data Overview

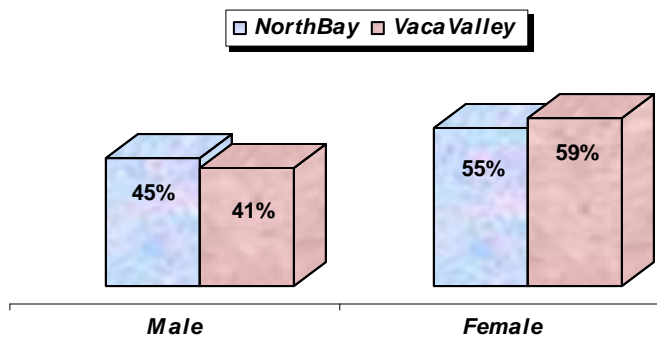
In 2010, the NorthBay Cancer Center accessioned 508 cancer cases from the NorthBay Medical Center (NBMC) and 73 cancer cases from NorthBay VacaValley Hospital (VVH).

Analytic vs. Non-Analytic Case Distribution - 2010



Eighty percent of cases seen at NBMC in 2010 were analytic cases (cases diagnosed and/or received some part of their first course treatment at this facility); while the analytic cases reported at VVH were 62 percent of the caseload. The graph below demonstrates the distribution of new cancer cases by gender.

Gender Distribution - 2010



The tables and graphs on the following pages contain 2010 cancer case data compiled and analyzed by the NorthBay Cancer Registry. The Primary Site tables contain a breakdown of our cancer caseload by organ of cancer origin and show cancer case distribution by class of case, gender, and AJCC Stage. The graphs entitled "Primary Site Distribution" demonstrate our most common cancer diagnoses at NBMC vs. VVH, as a percentage of each institution's total caseload. In the Incidence Comparison tables, 2010 cancer incidence estimates from California and the nation are provided along with the actual incidence from NBMC and VVH.

**2010 Primary Site Table
NorthBay Medical Center**

Site	Total Cases	Class		Sex		Stage					Unknown
		Analytic	NonAn	M	F	Stage 0	Stage I	Stage II	Stage III	Stage IV	
ALL SITES	512	410	102	231	281	19	77	112	67	91	4
ORAL CAVITY/PHARYNX	16	14	2	9	7	0	1	2	3	8	0
TONGUE	3	2	1	2	1	0	0	0	0	2	0
SALIVARY GLANDS, MAJOR	1	1	0	1	0	0	1	0	0	0	0
GUM	2	2	0	1	1	0	0	0	0	2	0
MOUTH, OTHER & NOS	2	1	1	1	1	0	0	0	0	1	0
TONSIL	4	4	0	2	2	0	0	1	1	2	0
OROPHARYNX	1	1	0	1	0	0	0	0	1	0	0
NASOPHARYNX	1	1	0	0	1	0	0	0	0	1	0
HYPOPHARYNX	2	2	0	1	1	0	0	1	1	0	0
DIGESTIVE SYSTEM	74	66	8	38	36	0	9	20	20	16	1
ESOPHAGUS	7	5	2	5	2	0	2	0	1	2	0
STOMACH	15	13	2	11	4	0	4	1	5	2	1
SMALL INTESTINE	1	0	1	0	1	0	0	0	0	0	0
COLON	19	17	2	8	11	0	1	6	7	3	0
RECTUM & RECTOSIGMOID	17	17	0	8	9	0	1	7	5	4	0
LIVER	4	4	0	2	2	0	0	1	1	2	0
GALLBLADDER	3	2	1	1	2	0	1	0	1	0	0
BILE DUCTS	1	1	0	0	1	0	0	0	0	1	0
PANCREAS	9	8	1	5	4	0	0	5	0	3	0
PERITONEUM,OMENTUM,MESENT	1	1	0	0	1	0	0	0	0	1	0
RESPIRATORY SYSTEM	88	67	21	39	49	0	6	6	15	40	0
LARYNX	5	5	0	5	0	0	2	1	0	2	0
LUNG/BRONCHUS-SMALL CELL	12	9	3	6	6	0	0	0	3	6	0
LUNG/BRONCHUS-NON SM CELL	71	53	18	29	42	0	4	5	12	32	0
PLEURA	1	1	0	0	1	0	0	0	0	1	0
BLOOD & BONE MARROW	28	21	7	15	13	0	0	0	0	0	0
LEUKEMIA	12	9	3	6	6	0	0	0	0	0	0
MYELOMA	9	7	2	6	3	0	0	0	0	0	0
OTHER HEMATOPOIETIC	7	5	2	3	4	0	0	0	0	0	0
SOFT TISSUE	3	1	2	0	3	0	0	0	1	0	0
MELANOMA OF SKIN	4	2	2	4	0	0	0	0	0	2	0
KAPOSIS SARCOMA	1	0	1	1	0	0	0	0	0	0	0
OTHER SKIN CA	6	3	3	5	1	0	0	0	0	1	0
BREAST	107	95	12	0	107	16	33	26	16	2	2

**2010 Primary Site Table
NorthBay Medical Center**

Site	Total	Class		Sex		Stage					Unknown
		Analytic	NonAn	M	F	Stage 0	Stage I	Stage II	Stage III	Stage IV	
ALL SITES	512	410	102	231	281	19	77	112	67	91	4
FEMALE GENITAL	26	20	6	0	26	0	3	5	4	8	0
CERVIX UTERI	4	4	0	0	4	0	0	4	0	0	0
CORPUS UTERI	7	5	2	0	7	0	1	1	3	0	0
UTERUS NOS	1	0	1	0	1	0	0	0	0	0	0
OVARY	13	11	2	0	13	0	2	0	1	8	0
VULVA	1	0	1	0	1	0	0	0	0	0	0
MALE GENITAL	81	66	15	81	0	0	7	51	2	6	0
PROSTATE	80	65	15	80	0	0	6	51	2	6	0
TESTIS	1	1	0	1	0	0	1	0	0	0	0
URINARY SYSTEM	25	15	10	16	9	3	8	0	2	1	1
BLADDER	12	6	6	9	3	3	1	0	1	0	1
KIDNEY AND RENAL PELVIS	13	9	4	7	6	0	7	0	1	1	0
BRAIN	10	6	4	4	6	0	0	0	0	0	0
OTHER NERVOUS SYSTEM	1	1	0	0	1	0	0	0	0	0	0
ENDOCRINE SYSTEM	1	1	0	0	1	0	0	0	1	0	0
THYROID	1	1	0	0	1	0	0	0	1	0	0
LYMPHATIC SYSTEM	26	19	7	13	13	0	10	2	3	4	0
HODGKIN'S DISEASE	3	2	1	0	3	0	1	0	1	0	0
NON-HODGKIN'S LYMPHOMA	23	17	6	13	10	0	9	2	2	4	0
UNKNOWN OR ILL-DEFINED	11	10	1	3	8	0	0	0	0	0	0

**2010 Primary Site Table
VacaValley Hospital**

Site Group	Total Cases	Class		Sex		Stage					
		Analytic	NonAn	M	F	Stage 0	Stage I	Stage II	Stage III	Stage IV	Unknown
ALL SITES	74	46	28	30	44	0	11	9	5	14	0
DIGESTIVE SYSTEM	25	16	9	14	11	0	2	7	3	4	0
STOMACH	1	1	0	1	0	0	0	0	1	0	0
SMALL INTESTINE	1	0	1	0	1	0	0	0	0	0	0
COLON	9	9	0	6	3	0	2	3	2	2	0
RECTUM & RECTOSIGMOID	5	3	2	3	2	0	0	2	0	1	0
LIVER	3	2	1	2	1	0	0	2	0	0	0
BILE DUCTS	1	1	0	0	1	0	0	0	0	1	0
PANCREAS	5	0	5	2	3	0	0	0	0	0	0
RESPIRATORY SYSTEM	16	14	2	8	8	0	3	1	1	9	0
LARYNX	1	1	0	1	0	0	0	0	0	1	0
LUNG/BRONCHUS-SMALL CELL	1	1	0	0	1	0	0	0	0	1	0
LUNG/BRONCHUS-NON SM CELL	14	12	2	7	7	0	3	1	1	7	0
BLOOD & BONE MARROW	8	6	2	2	6	0	0	0	0	0	0
LEUKEMIA	2	1	1	1	1	0	0	0	0	0	0
MYELOMA	3	3	0	1	2	0	0	0	0	0	0
OTHER HEMATOPOIETIC	3	2	1	0	3	0	0	0	0	0	0
SOFT TISSUE	1	0	1	0	1	0	0	0	0	0	0
MELANOMA OF SKIN	1	0	1	1	0	0	0	0	0	0	0
BREAST	6	1	5	0	6	0	1	0	0	0	0
FEMALE GENITAL	5	4	1	0	5	0	1	1	1	1	0
CERVIX UTERI	2	1	1	0	2	0	1	0	0	0	0
CORPUS UTERI	1	1	0	0	1	0	0	1	0	0	0
OVARY	2	2	0	0	2	0	0	0	1	1	0
MALE GENITAL	1	0	1	1	0	0	0	0	0	0	0
PROSTATE	1	0	1	1	0	0	0	0	0	0	0
URINARY SYSTEM	5	3	2	2	3	0	2	0	0	0	0
BLADDER	1	1	0	1	0	0	1	0	0	0	0
KIDNEY AND RENAL PELVIS	3	2	1	1	2	0	2	0	0	0	0
URETER	1	0	1	0	1	0	0	0	0	0	0
OTHER ENDOCRINE	2	1	1	0	2	0	0	0	0	0	0
NON-HODGKIN'S LYMPHOMA	3	1	2	1	2	0	1	0	0	0	0
UNKNOWN OR ILL-DEFINED	1	0	1	1	0	0	0	0	0	0	0



Male Cancer Incidence by Site* - 2010

NorthBay Medical Center & VacaValley Hospital vs. California & National Incidence

<u>Site</u>	<u>NBMC</u>	<u>VVH</u>	<u>CALIF</u>	<u>NAT'L</u>
LUNG	11%	23%	12%	15%
COLON & RECTUM	7%	30%	11%	9%
PROSTATE	35%	3%	30%	28%
URINARY	7%	6%	7%	7%
LEUKEMIA & LYMPHOMAS	8%	6%	8%	7%
ALL OTHER	32%	32%	32%	44%



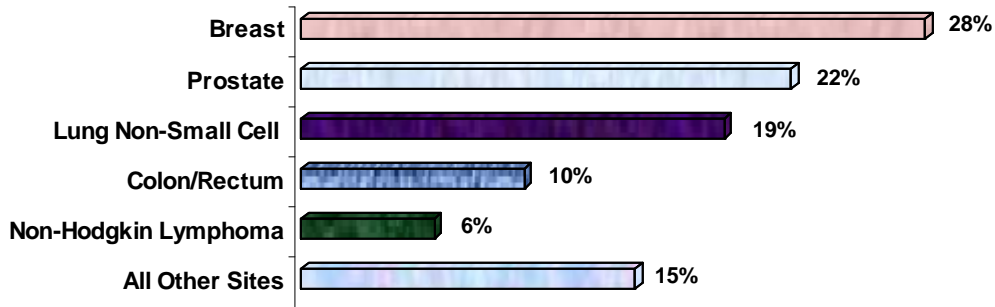
Female Cancer Incidence by Site* - 2010

NorthBay Medical Center & VacaValley Hospital vs. California & National Incidence

<u>Site</u>	<u>NBMC</u>	<u>VVH</u>	<u>CALIF</u>	<u>NAT'L</u>
BREAST	35%	14%	34%	28%
LUNG	17%	18%	10%	14%
COLON & RECTUM	7%	11%	10%	10%
UTERUS & CERVIX	4%	7%	8%	6%
LEUKEMIA & LYMPHOMAS	7%	7%	7%	4%
ALL OTHER	37%	43%	31%	38%

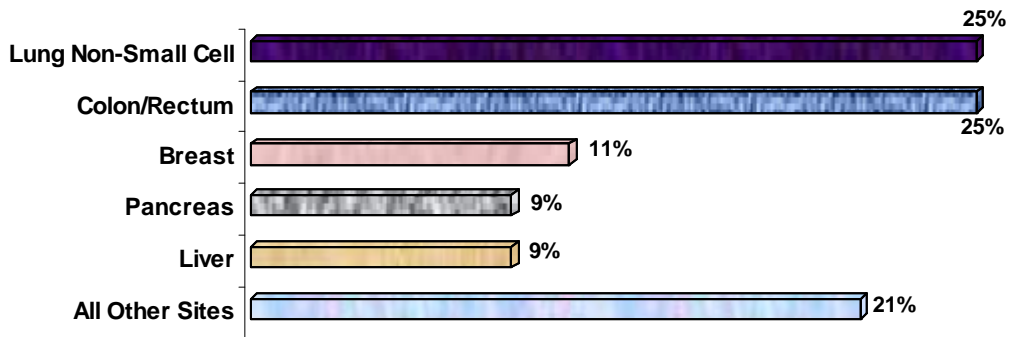
Excludes nonmelanoma skin cancer (both sexes) and cervical carcinoma in situ (females)

**2010 Primary Site Distribution Top Five Sites
NorthBay Medical Center Analytic Cases Only**

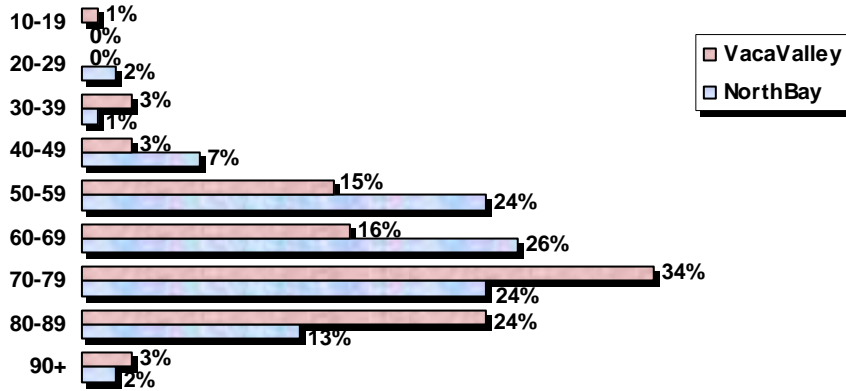


The Primary Site Distribution graph reflects the top five sites of cancer diagnosed and treated at NBMC and VVH in 2010. This does not reflect the incidence of cancer in the areas surrounding the hospital. In addition, there is an overlap between the two hospitals in the treatment of patients due to limited cancer treatment services at VVH.

**2010 Primary Site Distribution Top Five Sites
VacaValley Hospital Analytic Cases Only**

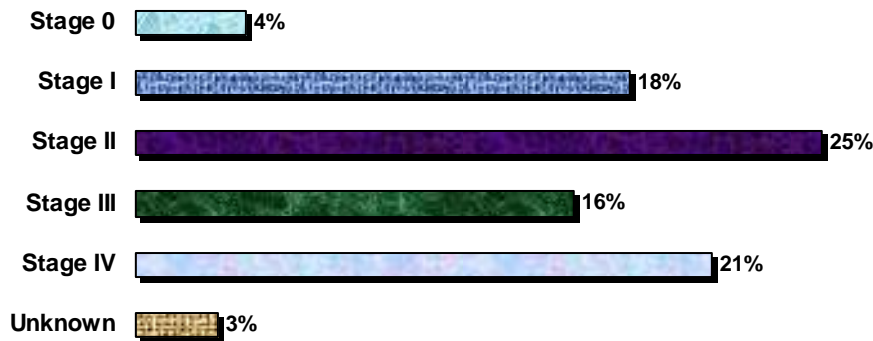


Age at Diagnosis - 2010
Analytic Cases Only



The largest group of patients diagnosed and/or treated at NorthBay presented between the ages of 50-79 at the time of diagnosis. The median age at diagnosis for patients seen at NorthBay was 65 years of age. Patients diagnosed and/or treated at VacaValley presented between the ages of 70-89 years of age with the median age at diagnosis of 72 years of age.

AJCC Stage Distribution - 2010
NorthBay Medical Center
Analytic Cases Only



Forty seven percent of the newly diagnosed cancer patients seen at NorthBay were considered early-stage (Stages 0-2), meaning that their cancer was localized to the area of origin. Patient prognosis is based on the stage of disease at the time of diagnosis.

Non- Hodgkin Lymphoma Review

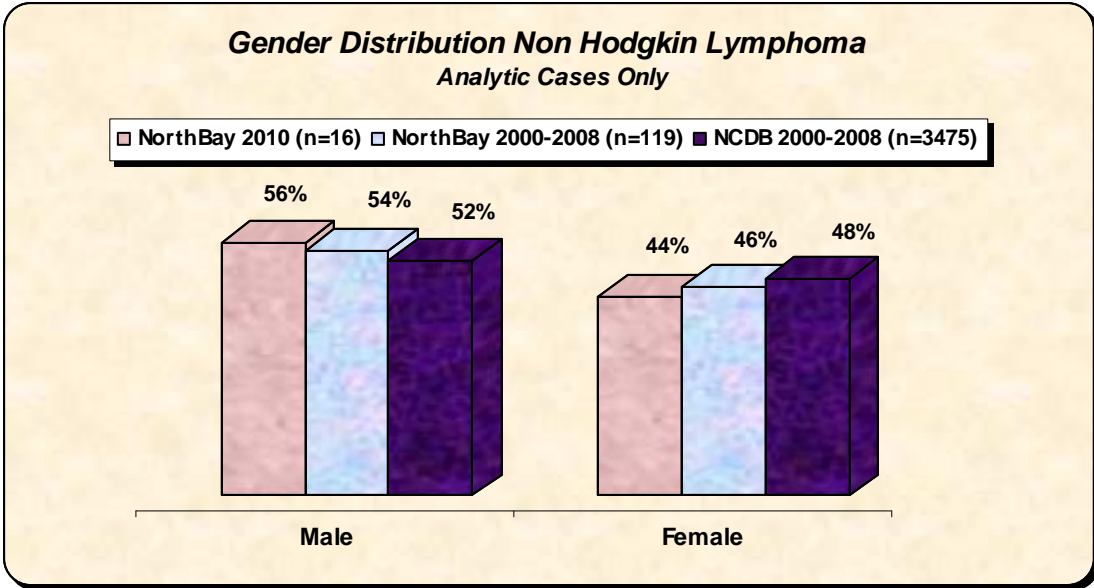
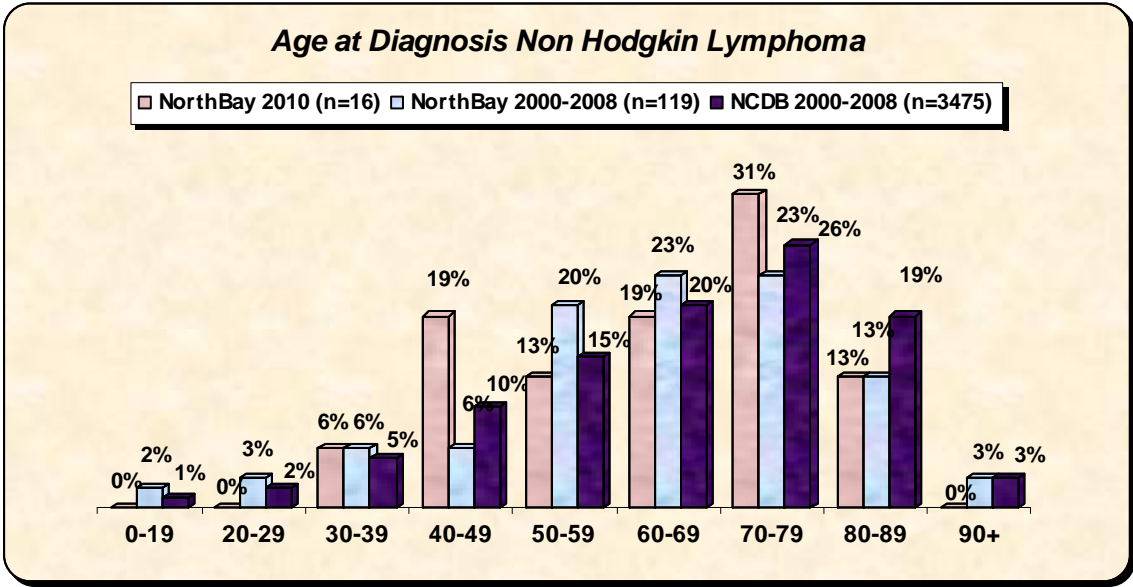
The term “Non-Hodgkin’s Lymphoma (NHL)” refers to any one of a group of malignancies with different disease processes and characteristics, but all arise from lymphoreticular system malfunction at the cellular level. NHL represents a diverse group of diseases distinguished by the characteristics of the cancer cells associated with each disease type. The most common type of NHL is the B-cell type of NHL (85 percent). In 2010 about 474,880 people are living with lymphoma or are in remission (no sign of the disease) in the United States.

According to the *Leukemia & Lymphoma Society Facts 2010-2011*, estimates of 65,540 new cases of non-Hodgkin lymphoma (NHL) will occur in the United States; of this number it is estimated that 7,010 cases will be from California. NHL is the seventh most common cancer in the U.S. SEER (Surveillance, Epidemiology and End Results) show that the incidence of NHL increases with age. From age 60-64 years the rate increases more than 19 times to 46 cases per 100,000 and at age 80-84 the rate is more than 49-fold to 119 cases per 100,000. SEER has estimated that 1 in 48 men and women will be diagnosed with NHL during their lifetime.

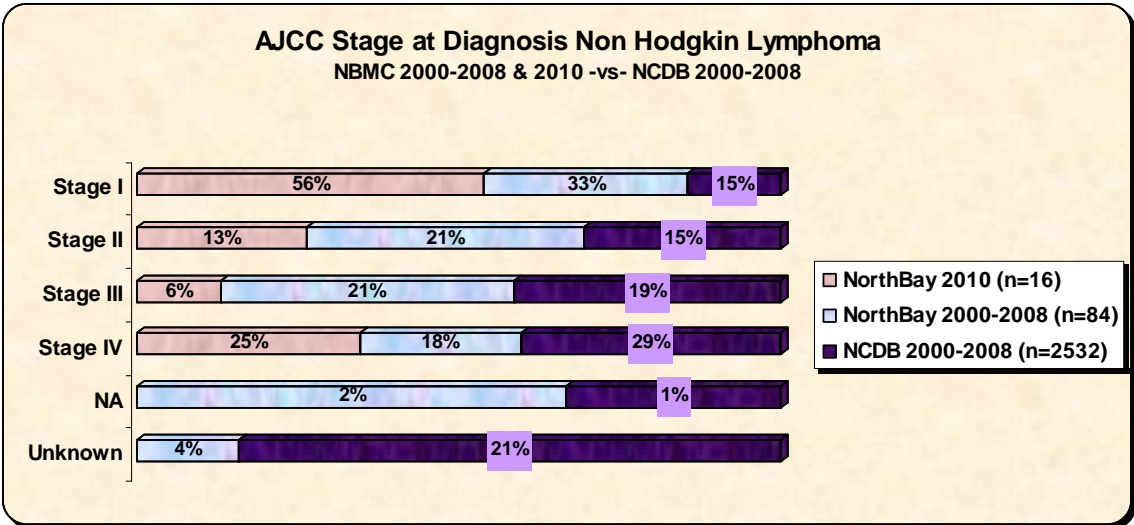
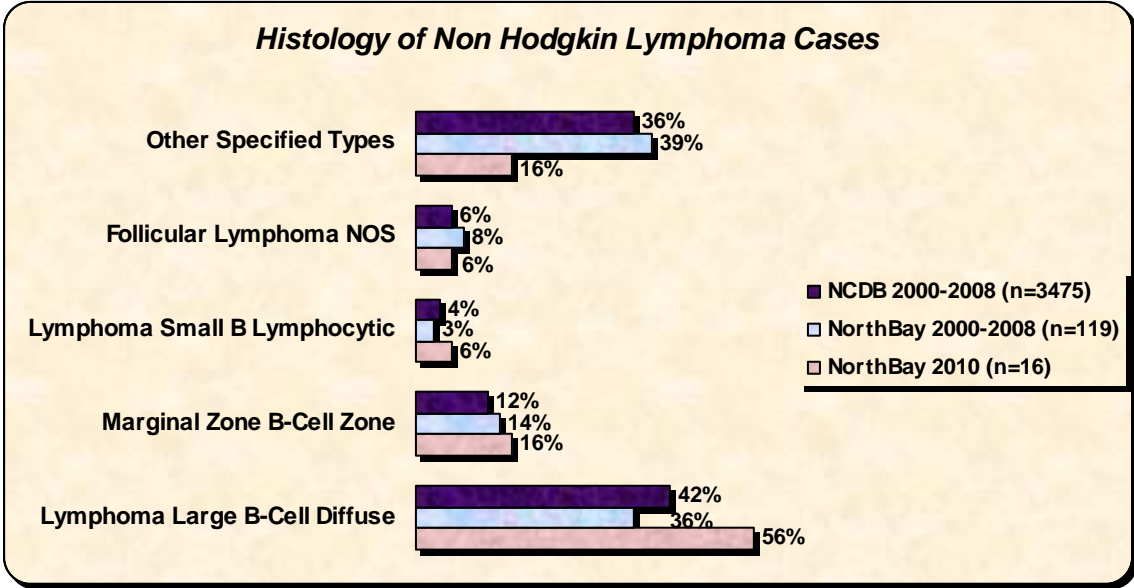
In 2010, NHL was the fourth top site of reported malignancies with 16 new cases reported. Sixty-nine percent of newly diagnosed NHL cases at NMBC were diagnosed at an early stage, Stage I or Stage II, 9 (56 percent) and 2 (13 percent) respectively. The median age at the time of diagnosis was 65 years of age. Gender distribution for NHL cases show that 9 (56 percent) were males and 7 (44 percent) were females, which is consistent with the incidence rates of NHL published by SEER that NHL rates tend to be higher among males than females in the United States.

In the graphs that follow NorthBay Medical Center Data on NHL cases from the years 2000 through 2008 and 2010 cases will be compared to National Cancer Data Base (NCDB) Community Cancer Centers in California 2000-2008.

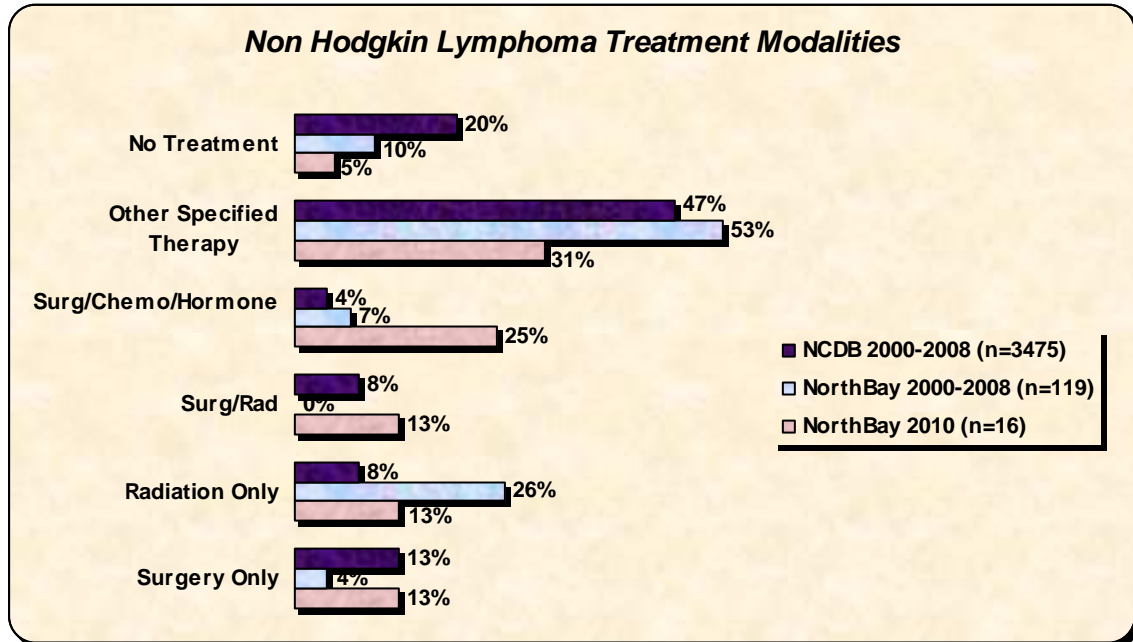
Non- Hodgkin Lymphoma – 2010



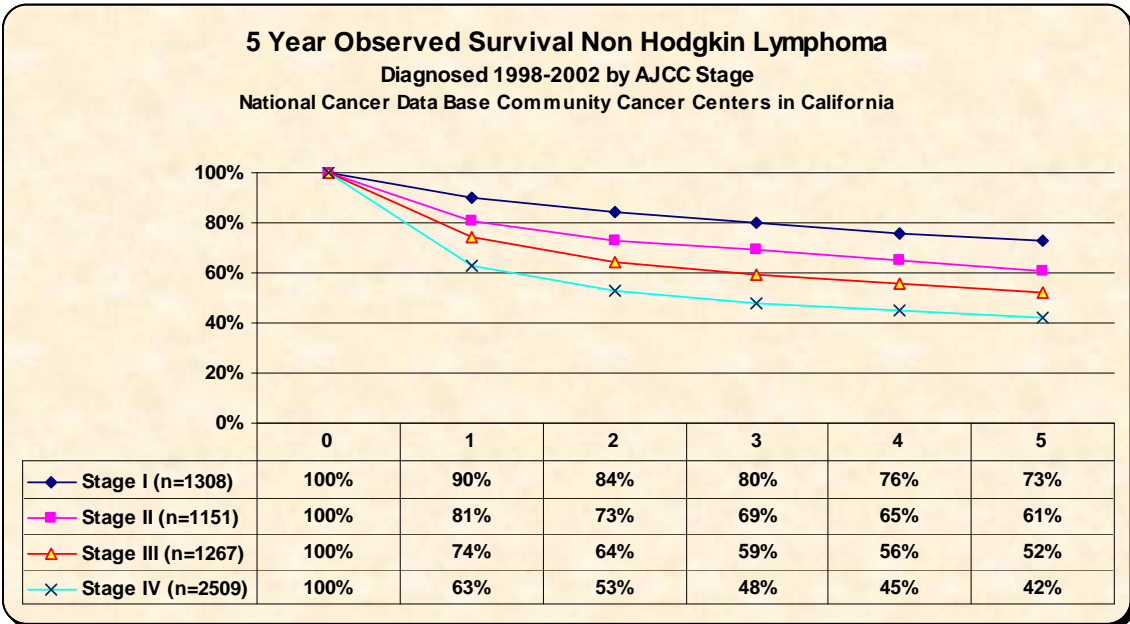
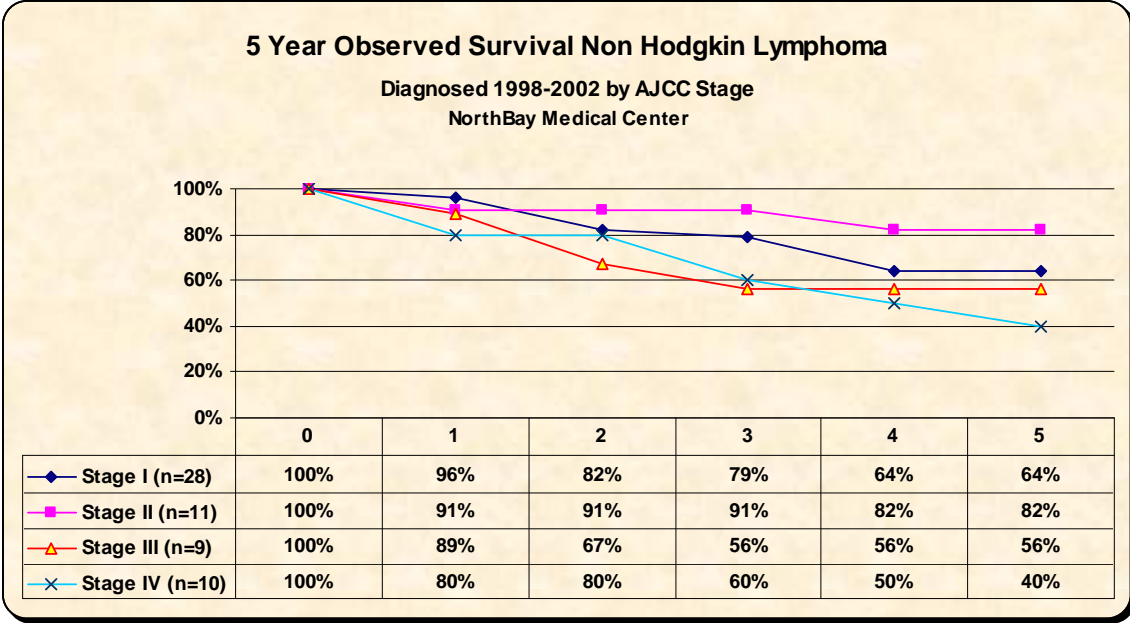
Non- Hodgkin Lymphoma – 2010



Non- Hodgkin Lymphoma – 2010



Non Hodgkin- Lymphoma – 2010



Glossary & Abbreviations

ACS: American Cancer Society

AJCC: The American Joint Commission on Cancer, co-creators of the TNM (Tumor, Node, and Metastasis) scheme for staging cancer (See Stage of Disease).

Analytic Case: A situation in which the patient was diagnosed with cancer and/or given at least part of his/her first course of cancer treatment by NorthBay Healthcare. (**Class of Case 0-2**, see below).

Cancer-Directed Treatment: Therapy intended to affect, control, remove, destroy or cure cancer. Examples are chemotherapy and radiation therapy.

Class of Case: The category of cancer case according to services rendered by the reporting hospital. The classes recognized by the American College of Surgeons and NorthBay Healthcare are:

- ❖ Class 0: Diagnosis only by the reporting hospital; cancer-directed treatment elsewhere.
- ❖ Class 1: Diagnosis and at least part of the first course of cancer-directed First Course of Treatment at the reporting facility.
- ❖ Class 2: At least part of the first course of cancer-directed First Course of Treatment at the reporting facility; cancer diagnosed elsewhere.
- ❖ Class 3: Diagnosis and all of first course of cancer-directed First Course of Treatment elsewhere. Additional treatment, as for a recurrence or progression, administered at the reporting facility.
- ❖ Class 4: Diagnosis and all of first course cancer-directed First Course of Treatment at the reporting facility before the reference date of the Cancer Registry. Additional treatment, as for a recurrence or progression, administered at the reporting facility after the reference date of the Cancer Registry.
- ❖ Class 5: Diagnosis with cancer at autopsy.
- ❖ Class 6: Diagnosis and all of first course of cancer-directed First Course of Treatment in the office of a staff physician (not a member of NorthBay Healthcare in our case). The NorthBay Cancer Registry does not currently collect this class of case.

Median: The middle value in a range of numbers arranged in ascending order.

NCDB: National Cancer Data Base: “A nationwide oncology outcomes database for 1,600 hospitals in 50 states...The NCDB was founded as a joint project of the Commission on Cancer of the American College of Surgeons (ACoS) and the American Cancer Society.” (Quoted from the NCDB link on the ACoS website, <http://www.facs.org>)

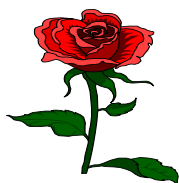
NOS: Not otherwise specified

Non-cancer directed treatment: Procedures intended to diagnose, stage, or palliate (relieve pain) rather than to control or cure cancer.

Observed Survival: Analysis in which statistics are calculated according to the actuarial method of observed survival rates. The analysis includes patients with varying lengths of observation and those lost to follow-up.

Relative Survival: Analysis in which survival rates for each patient are adjusted for normal life expectancy for the patient’s age at diagnosis, gender and ethnicity.

Stage of Disease: A category describing the extent of cancer present at diagnosis and its distribution through the body, which has implications for treatment and prognosis. NorthBay Healthcare’s preferred staging system is the TNM (Tumor, Node, and Metastasis) scheme from the American Joint Commission on Cancer (AJCC).



References

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California Facts and Figures, 2010. American Cancer Society, Atlanta, GA; American Cancer Society, 2009.

Leukemia & Lymphoma Society Facts 2010-2011. Leukemia & Lymphoma Society, White Plains, NY; www.lls.org, 2011.

National Cancer DataBase – 2000-2008, Commission on Cancer, Benchmark Summary of Cancer Care and Survival, United States. Chicago, IL; Commission on Cancer, 2000-2008.

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Professional Affiliations

- ❖ American Cancer Society (ACS)
- ❖ American College of Surgeons (ACOS)
- ❖ American Society of Clinical Oncology (ASCO)
- ❖ American Society of Hematology (ASH)
- ❖ Association of Community Cancer Centers (ACCC)
- ❖ Association of Oncology Social Workers
- ❖ California Cancer Registrar's Association (CCRA)
- ❖ City of Hope National Medical Center
- ❖ National Association of Social Work
- ❖ National Cancer Data Base (NCDB)
- ❖ National Cancer Registrar's Association (NCRA)
- ❖ National Surgical Adjuvant Breast and Bowel Project (NSABP)
- ❖ Oncology Nursing Society (ONS)
- ❖ Southwest Oncology Group (SWOG)

Directory of Cancer Services

Administration.....	646-5001
Cancer Registry	646-4020
Cancer Support Group Information.....	646-3595
Clinical Trials Coordinator.....	646-4016
Community Health Education	646-4277
Diagnostic Imaging Services	
NorthBay Medical Center.....	646-5100
VacaValley Hospital.....	624-7100
Health at Home.....	646-3575
Hospice & Bereavement Services	646-3595
Laboratory Services	
NorthBay Medical Center.....	646-5000
VacaValley Hospital.....	624-7000
Managed Care Services	646-3290
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Medical Oncology	646-4000
NorthBay Medical Center.....	646-5000
Nursing Services.....	646-5011
Nutritional Counseling	646-5055
Oncology Social Services.....	646-4045
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Public Relations.....	646-3336
Radiation Oncology.....	646-4040
Rehabilitation Services	
NorthBay Medical Center.....	646-4150
Browns Valley Sport Club.....	646-7470
VacaValley Hospital.....	642-7000