2006 Annual Report

Including 2005 Cancer Registry Statistical Review

American College of Surgeons

Cancer Committee

Saint Francis/Mount Sinai Regional Cancer Center

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CANCER COMMITTEE – 2006 MEMBERSHIP

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George Barrows, M.D.	Pathology
Mark Belsky, MD	Family Practice
Cindy Climer, BSN, MSN	Inpatient Nurse Manager
Paul Davern, RPh, MBA	Pharmacy
Lynn Davis, M.D.	Medical Oncology
***Alessia Donadio, MD**	**Cancer Case Conference Coordinator**
***Judy Feret, RN, MS**	**Medical Oncology (Quality and Outcomes)**
***James Frank, MD**	**Surgical Oncologist/Cancer Liaison**
Mary Inguanti	Administration
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Sue Keefe, APRN	Pain/Palliative Care
Pam Krazia, RN	Hospice
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Ann Long, RN,C, MS, CCM, A-CCC, CNA	Director, Continuum of Care Division
Allan Mayer, DO	Gynecologic Oncology
Reverend Marcus McKinney D. Min, LPC	Pastoral Care Counseling, Director
Thomas Miller, MD	Rehabilitation Medicine
Joan Moore, APRN	Clinical Nurse Specialist-Inpatient
***Linda Nichols, RHIT, CTR**	**Cancer Registry**
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Carolyn Reid, R.N., M.S.	Home Care Services
Frank Setter, M.D.	Anesthesiology
Jonathan Sporn, MD	Research
Carolyn Tyler, M.A., R.D.	Health Promotion
George Wislo, M.D.	Radiology
Bonnie Zebrowski, R.N.	Nurse Manager, Outpatient

***Program Activity Coordinators**

The Cancer Committee meets a minimum of four times a year, as required by the Commission on Cancer. The meetings are held on Friday mornings at 7:30 a.m. in Conference Room B, 3rd floor, in the Patient Care Tower.

TUMOR REGISTRY DATA

ANALYTICAL CASES		2005
CNS	Brain/CNS	34
ORAL	Pharynx	9
	Mouth	3
	Tongue	6
	Parotid/Salivary Gland	2
	Lip	0
	Tonsil	5
RESPIRATORY	Lung	211
	Larynx	12
	Other Respiratory	7
DIGESTIVE	Colon	124
	Rectum	48
	Pancreas	42
	Stomach	48
	Esophagus	23
	Liver/Biliary	21
	Other Digestive	8
	Small Intestine	7
GENITO-URINARY	Prostate	89
	Bladder	61
	Corpus Uteri	74
	Kidney/Other	20
	Other female	28
	Ovary	27
	Cervix Uteri	17
	Testis	2
	Other male	0
OTHER SITES	Breast	266
	Skin/Melanoma	38
	Thyroid	21
	Endocrine	2
	Connective Tissue	9
	Eye	1
	Bone	0
	Peritoneum	5
HEMATOLOGIC	Non-Hodgkin Lymphoma Leukemia Myeloma Hodgkin Lymphoma	105
MISC	All Other	18
	Totals	1393

TUMOR REGISTRY

The Cancer Registry is part of the Cancer Program at Saint Francis Hospital and Medical Center, the registry adds to the continuity of care through accurate and consistent documentation of data. The Registry data is used for research, assessment of treatment modalities and special studies. As required by law, cancer cases are reported to the Central Registry at the State of Connecticut.

The Cancer Registry is managed by the Assistant Director of Health Information Management, a Coordinator, Abstractor and Technician. Cancer cases are accessioned into the registry, abstracted, reported to the State of Connecticut and annual follow-up is maintained on our analytic cases.

Since our reference date of January 1, 1998, 13,075 cases have been accessioned. A total of 1,615 cases were accessioned in 2005; 1,404 are analytic cases (87%) and 211 are non-analytic cases (13%). Analytic cases are cases that were diagnosed and the first course of treatment was given at SFHMC. The five major sites of cancer at SFHMC are Breast, Lung, Colon/Rectum, Prostate and Uterine. These major sites account for 55% of all analytic cases accessioned in 2005.

Our Cancer Committee meets on a quarterly basis and the Registry presents reports and provides data for special studies upon request. The Cancer Registry meets with the Chairman of the Cancer Committee providing an update of registry activity.

Registry activities for the past year include:

- Submitted data to the NCDB (National Cancer Data Base) annual call for data.
- Attended quarterly Cancer Committee meetings and Tumor Boards that were started in 2006.
- AJCC TNM staging system, General Summary Staging and SEER extent of disease staging system used

TUMOR BOARDS

2006 saw a major restructuring of the Tumor Boards. Dr. Shumway had coordinated the General Tumor Board for more that 10 years and he asked to be replaced. Dr. Donadio was appointed as the new Tumor Board Coordinator.

Two new oncologists joined the Medical Oncology Program, recently, Dr. Sporn (GI Cancers) and Dr. Donadio (Urological Cancers). Multidisciplinary care and collaborative practice are two of the major goals of the Cancer Center and towards that end both physicians started monthly site specific Tumor Boards.

There are now four site specific Tumor Boards (Gyn Onc, GI, Urologic and Breast) which cover 65% of our cases. The General Tumor Board was reduced to twice monthly meetings to provide a forum for the remaining 45% of the cases. At 124 sessions a year, the actual number of Tumor Board meetings has not decreased, however, the site specific Tumor Boards allow for smaller working groups to focus on building a more collaborative approach to patient care.

Below is a grid outlining the schedule of Tumor Boards offered at Saint Francis/Mount Sinai Regional Cancer Center.

	Tuesday	Wednesday	Thursday	Friday
1st	General Tumor Board 1st and 3rd Tuesdays 12-1pm		GYN Onc Tumor Board Every Thursday 12-1 pm 4-9 Labor & Delivery Conference Room	*1:30 pm - Lung Conference Includes Oncology Cases when appropriate
2nd		Multidisciplinary Breast Conference 2nd and 4th Wednesdays 7:30-8:30 am 95 Woodland GI Tumor Board 2nd Wednesdays 5:30 -6:30 pm	GYN Onc Tumor Board Every Thursday 12-1 pm 4-9 Labor & Delivery Conference Room	*1:30 pm - Lung Conference Includes Oncology Cases when appropriate
3rd	General Tumor Board 1st and 3rd Tuesdays 12-1pm	Uro-Onc Tumor Board 3rd Wednesdays 7:15-8:15 am Cancer Center Conference Rm	GYN Onc Tumor Board Every Thursday 12-1 pm 4-9 Labor & Delivery Conference Room	*1:30 pm - Lung Conference Includes Oncology Cases when appropriate
4th		Multidisciplinary Breast Conference 2nd and 4th Wednesdays 7:30-8:30 am 95 Woodland	GYN Onc Tumor Board Every Thursday 12-1 pm 4-9 Labor & Delivery Conference Room	*1:30 pm - Lung Conference Includes Oncology Cases when appropriate
5th			GYN Onc Tumor Board Every Thursday	*1:30 pm - Lung

			12-1 pm	Conference Includes Onc Cases

Site Study – NHL

EPIDEMIOLOGY:

Non-Hodgkin's lymphoma (NHL) and Hodgkin's lymphoma account for 4% of all new cancer cases per year. Nearly 55,000 cases are diagnosed yearly and 20,000 individuals succumb to their disease. Lymphomas are the fifth leading cause of cancer death in the United States.

ETIOLOGY:

The cause of most cases of NHL is unknown. Several inherited disorders such as severe combined immunodeficiency, hypogammaglobulinemia, common variable immunodeficiency, Wiskott-Aldrich syndrome, and ataxia-telangiectasia are associated with an increased risk for the development of lymphoma. Individuals with connective tissue disorders such rheumatoid arthritis, psoriasis, and Sjogren's syndrome are also at an increased risk. A variety of infectious agents have also been implicated. These include Epstein-Barr virus, human immunodeficiency virus, human T-cell lymphotropic virus type-1, human herpes virus-8, hepatitis C virus, *Helicobacter pylori*, *Borrelia burgdorferi*, and *Chlamydia psittaci*. Environmental, occupational and dietary factors may also be contributory. Finally, prior treatment of malignancy with chemotherapy and/or radiation therapy may predispose patients to an increased risk of secondary lymphoma.

CLASSIFICATION:

The classification of NHL has undergone numerous changes over the last several decades. Initially, lymphomas were classified pathologically with no regard to their clinical behavior. Subsequently, an attempt was made to incorporate clinical features in the Working Formulation. The most recent classification system is the one devised by the World Health Organization which builds upon the Revised European American Lymphoma project. In the WHO system, morphology, clinical behavior, immunophenotype and genetic abnormalities are all taken into account. This represents the first true international consensus on the classification of hematologic malignancies.

The WHO classification divides lymphomas into precursor-B cell and mature B-cell NHL, and precursor T-cell and mature T-cell NHL. Precursor neoplasms include precursor B-cell acute lymphoblastic lymphoma and precursor T-cell lymphoblastic lymphoma. Mature B-cell malignancies consist of B-cell small lymphocytic lymphoma, B-cell prolymphocytic leukemia, lymphoplasmacytic lymphoma, splenic marginal zone lymphoma, hairy cell leukemia, plasma cell myeloma, extranodal and nodal marginal zone lymphomas, follicular lymphoma, mantle cell lymphoma, diffuse large B-cell lymphoma, and Burkitt's lymphoma. Mature T-cell neoplasms include T-cell prolymphocytic leukemia, T-cell large granular lymphocytic leukemia, adult T-cell lymphoma/leukemia (HTLV1+), cutaneous T-cell lymphoma, peripheral T-cell lymphoma not otherwise specified, primary systemic

anaplastic large cell lymphoma, eneteropathy-type T-cell lymphoma, and a several other rarer entities.

A clinical trial of the International Lymphoma Study Group arrived at a consensus diagnosis of 1389 cases (Figure A). In this study, diffuse large B-cell lymphoma and follicular lymphoma accounted for 34% and 22% of cases, respectively. The incidence of other lymphomas was 7% for peripheral T-cell lymphoma, 8% for MALT lymphomas, 6% for mantle cell lymphoma, 6% for small lymphocytic lymphoma, 2% each for marginal zone lymphoma, anaplastic large cell lymphoma, and lymphoblastic lymphoma, and 1% for Burkitt's lymphoma.

STAGING AND PROGNOSTICATION:

The Ann-Arbor staging system separates patients into 4 stages. "B" symptoms are associated with a worse prognosis and include weight loss >10% body weight over the past 6 months, fever, and drenching night sweats. Staging is facilitated by imaging studies such as CAT scanning and PET scanning as well as by bone marrow aspiration and biopsy with flow cytometry and cytogenetic analysis. In individuals with diffuse large B-cell lymphoma, the International Prognostic Index identifies 5 features (age >60 years, poor performance status, elevated LDH level, more than 1 extranodal sites of disease, and stage III/IV) which divides these patients into 4 prognostic categories. Similarly, in patients with follicular lymphoma, the Follicular Lymphoma International Prognostic Index (FLIPI) divides individuals into 3 separate categories based on 5 features (number of nodal regions involved, elevated LDH level, age >60 years, stage III/IV and anemia). These prognostic systems are now being utilized to identify patients with more aggressive disease who may require more intensive or earlier therapy.

TREATMENT:

Patients with NHL can generally be divided into 3 categories based on clinical behavior. Low-grade lymphomas include B-cell small lymphocytic, marginal zone and follicular NHL. These diseases are incurable but are associated with a prolonged median duration of survival measured occasionally in decades. However, patients with stage I and some with stage II may be cured with involved field radiation therapy. For more advanced disease, asymptomatic individuals can be observed expectantly until the development of clinical features requiring treatment. For those who require treatment, rituximab with or without chemotherapy, stem cell transplantation, radioimmunoconjugates, radiation therapy and investigational approaches may be considered in a step-wise fashion. The intent of treatment is palliation of symptoms and improvement in progression-free survival.

Intermediate-grade lymphomas consist primarily of diffuse large B-cell lymphoma and anaplastic large cell lymphoma. These conditions are treated with several cycles of chemotherapy. Rituximab is also administered in cases of diffuse large B-cell lymphoma. Stem cell transplantation should be considered for relapsed disease. The intent of treatment is improvement in disease-free and overall survival as well as cure.

High-grade malignancies include lymphoblastic lymphoma, Burkitt's lymphoma, and mantle cell lymphoma. Lymphoblastic and Burkitt's lymphoma are treated with specific and aggressive acute leukemia-type regimens and half of these individuals may be cured of their disease. On the other hand, mantle cell lymphoma has the worst prognosis among lymphomas and the shortest survival. Treatment is palliative and includes chemotherapy and rituximab.

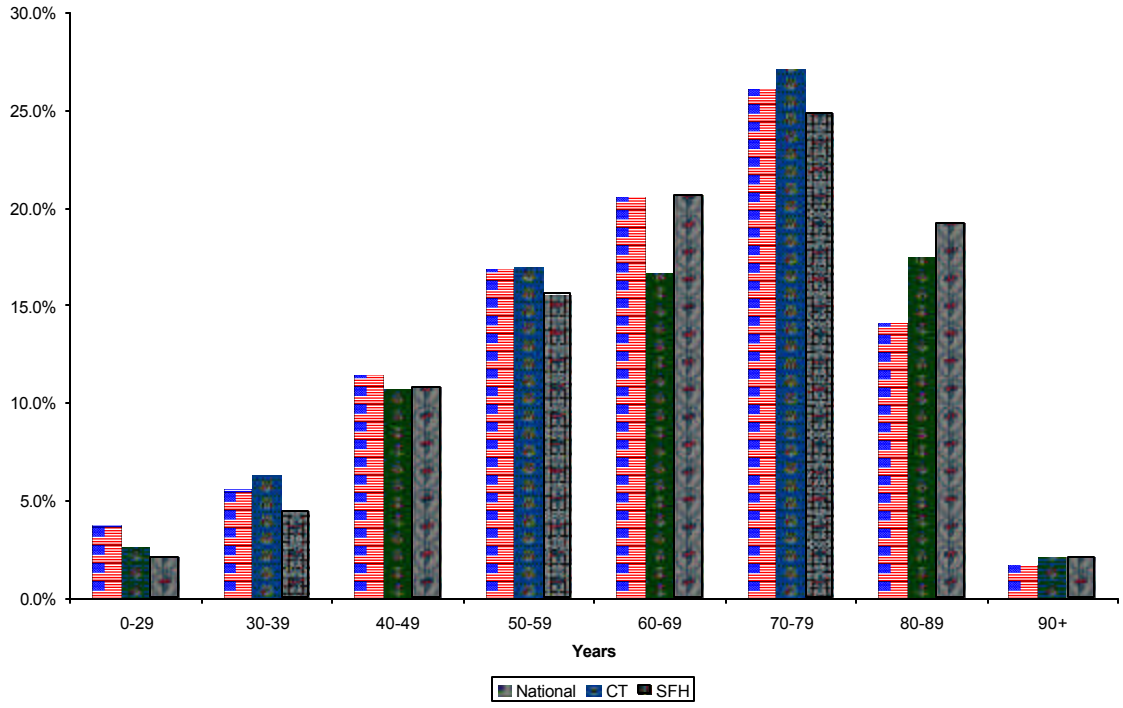
LYMPHOMA AT ST. FRANCIS HOSPITAL:

The age at diagnosis, percent of individuals diagnosed in each decade of patient age, sex ratio, and stage at diagnosis at St. Francis Hospital appear to be comparable to the data observed in the rest of Connecticut as well as in the United States (Figures B-F). Similarly, the type of treatment administered at initial diagnosis or given subsequently are also quite similar in all three groups (Figures G, H). Finally, the composite outcome of patients with NHL at St. Francis Hospital is depicted in Figures I-K.

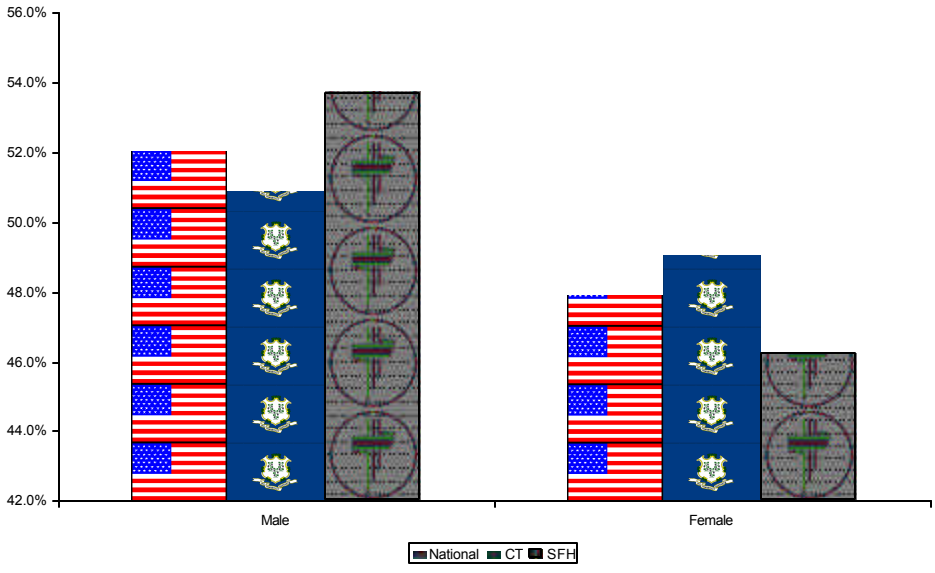
FUTURE DIRECTIONS:

The use of newer prognostic models and gene microarray analysis may better identify individuals with higher or lower risk in each subset of NHL. This could potentially have a considerable impact on therapy. Novel agents with unusual mechanisms are also being studied including a number of monoclonal antibodies, radioimmunoconjugates, and targeted therapies and could completely alter the landscape of lymphoma management in the future,

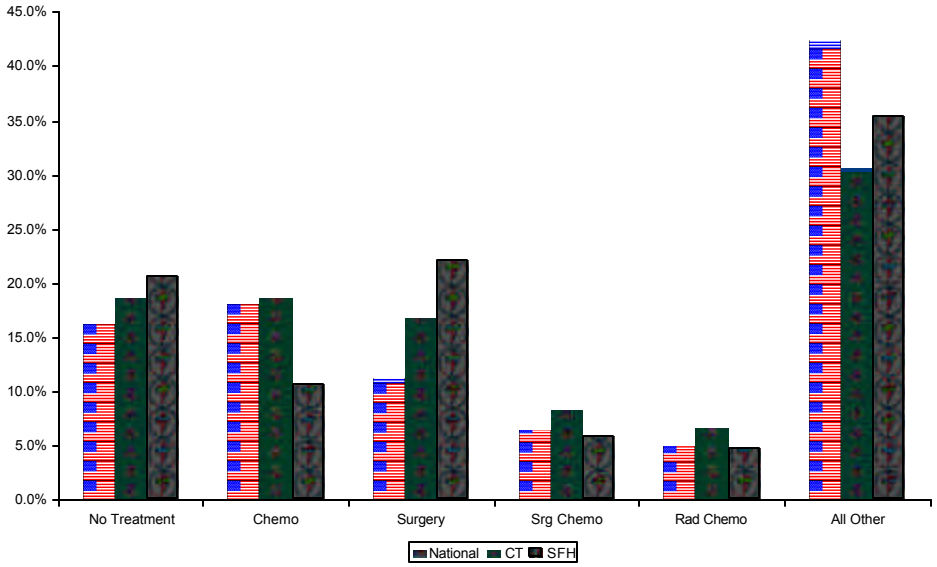
NHL 1998-2004 Cancer Registry/SEER Data
Age at Diagnosis



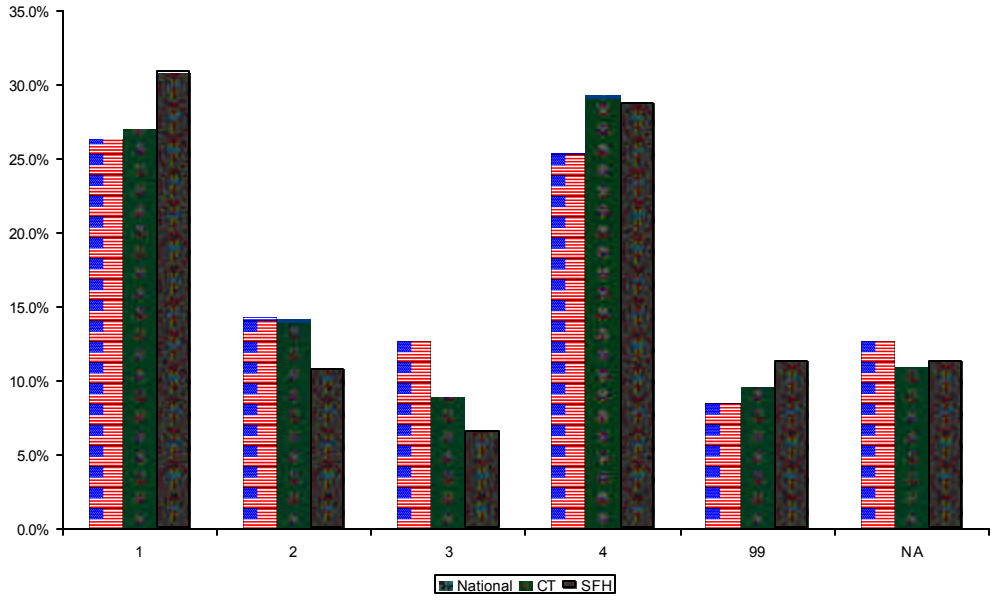
NHL 1998-2004 Cancer Registry/SEER Data
Sex

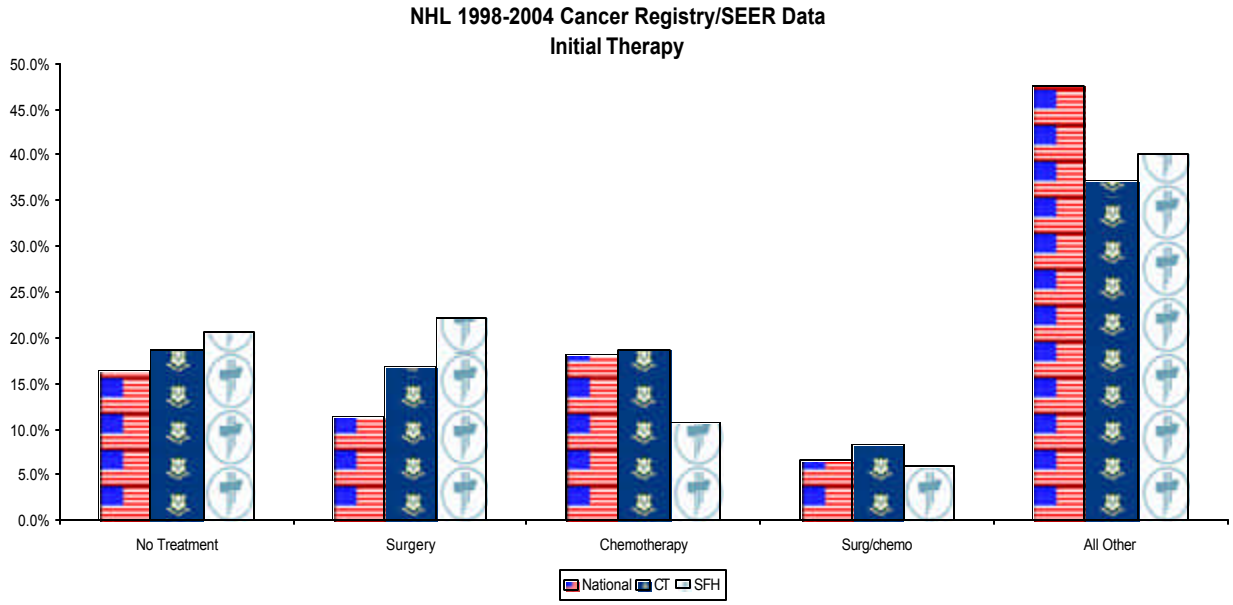


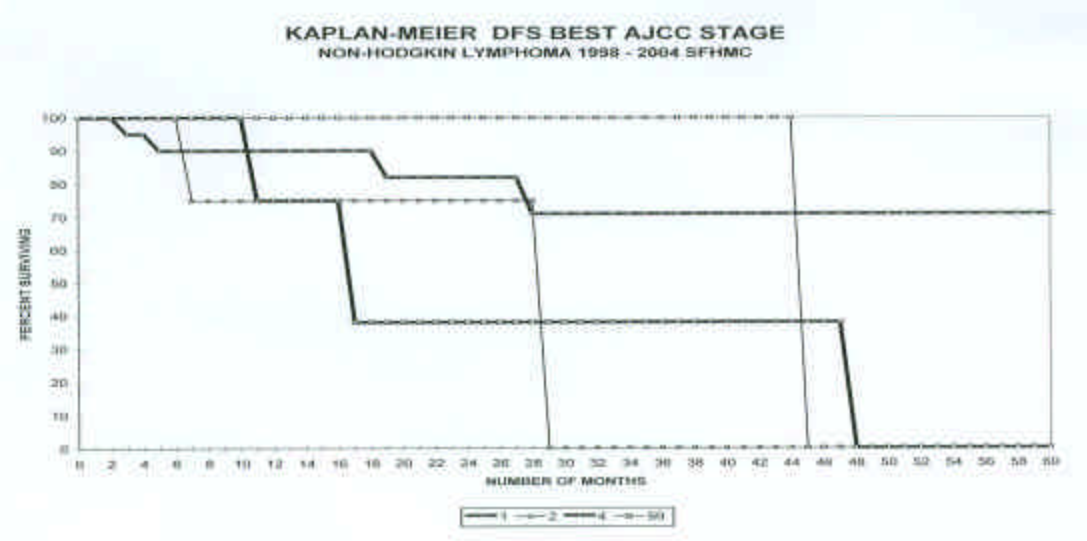
NHL 1998-2004 Cancer Registry/SEER Data
Treatment

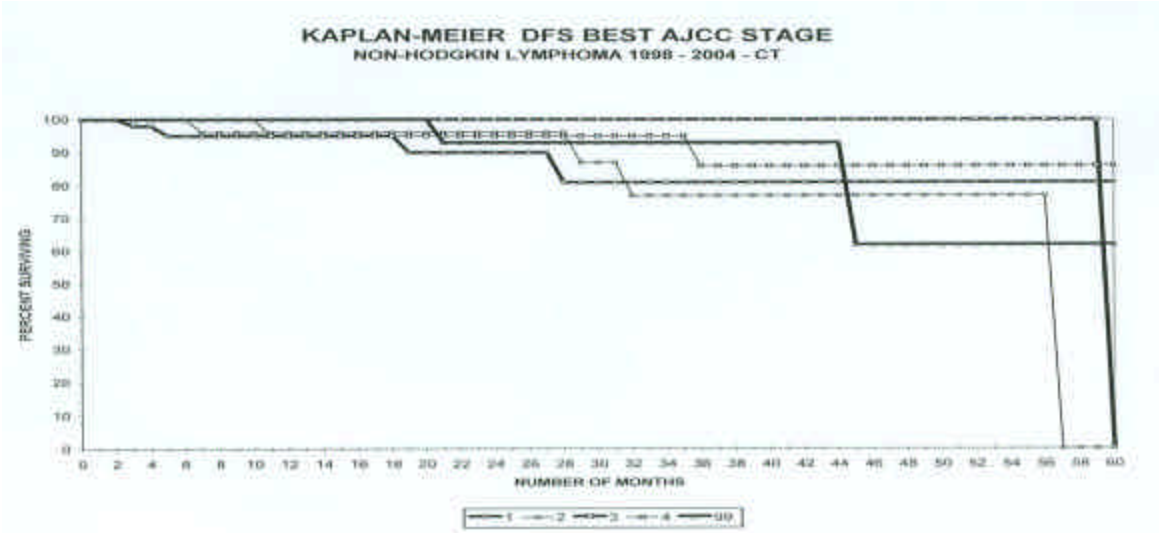


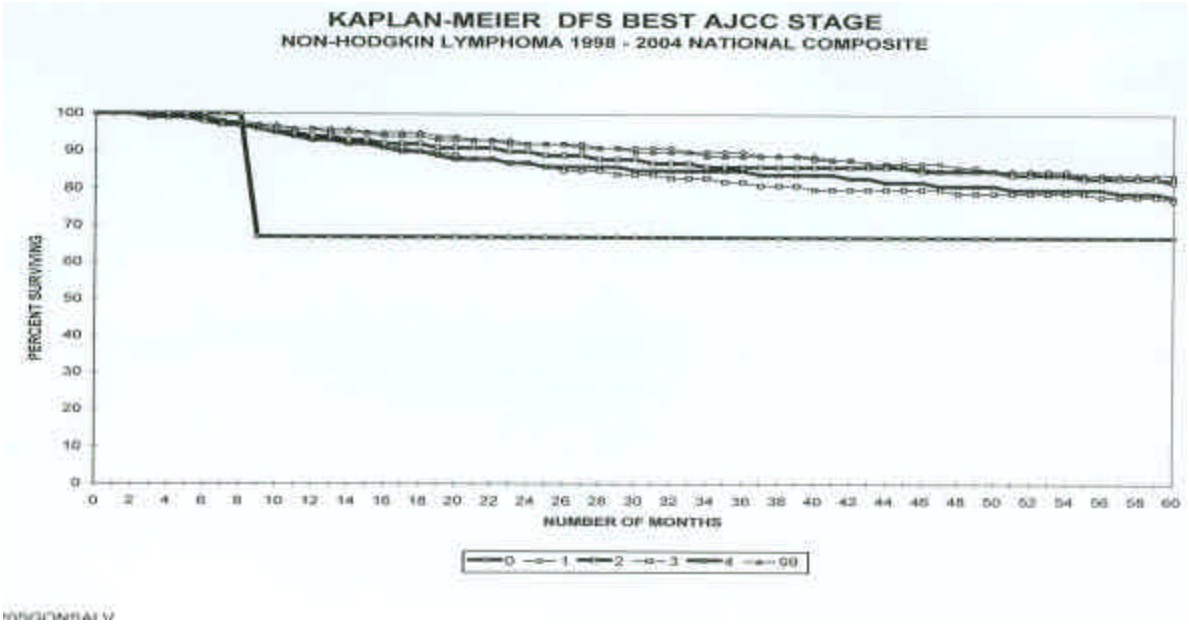
NHL 1998-2004 Cancer Registry/SEER Data
Stage at Diagnosis (99=Unknown)




NHL 1998-2004 Cancer Registry/SEER Data
Initial Therapy
50.0%
45.0%
40.0%
35.0%
30.0%
25.0%
20.0%
15.0%
10.0%
5.0%
0.0%
No Treatment
Surgery
Chemotherapy
Surg/chemo
All Other
National
CT
SFH


KAPLAN-MEIER DFS BEST AJCC STAGE
NON-HODGKIN LYMPHOMA 1998 - 2004 SFHMC
PERCENT SURVIVING
NUMBER OF MONTHS


KAPLAN-MEIER DFS BEST AJCC STAGE
NON-HODGKIN LYMPHOMA 1998 - 2004 - CT
PERCENT SURVIVING
NUMBER OF MONTHS


KAPLAN-MEIER DFS BEST AJCC STAGE
NON-HODGKIN LYMPHOMA 1998 - 2004 NATIONAL COMPOSITE
PERCENT SURVIVING
NUMBER OF MONTHS