Great Lakes Cancer Institute–McLaren Regional Medical Center
2009 Annual Report
(2008 STATISTICAL DATA)

You need to know
Welcome to our 2009 GLCI-McLaren Annual Report. Inside you will find program highlights, meet some of our cancer care professionals, and get to know more about our comprehensive multidisciplinary program. GLCI-McLaren is a nonprofit, comprehensive cancer treatment facility located on the extended campus of McLaren Regional Medical Center in Flint, Michigan. Our program has earned a three-year approval award from the American College of Surgeons (ACOS) Commission on Cancer.

GLCI-McLaren continues to cultivate community relationships for early cancer detection programs and collaborate with the American Cancer Society for patient education, transportation and support services.

Our commitment and passion for moving cancer care forward with research is stronger than ever. In 2008, 279 patients enrolled in research protocols and our physicians were selected to present their research at national professional conferences.

We are proud to have an experienced team of professionals who have dedicated their lives to bringing the latest and best treatments available to fight cancer to our community. It is our belief at GLCI-McLaren; compassionate individualized care goes hand in hand with cutting edge technology and excellence.

Karla Grunow, RN, BSN
Director of Oncology Services
Chairman’s Report

McLaren Great Lakes Cancer Institute continues to expand its comprehensive cancer care program. Over the past 30 years, I have witnessed an explosion in new technologies to diagnose and treat cancer. With new focal imaging programs, targeted chemotherapy, focused radiation, and robotic minimally-invasive surgery, patients are experiencing less side effects and better outcomes. We have contributed to numerous national clinical trials over the past three decades and many patients in our community have benefited from these programs. We have a rich tradition of delivering cutting-edge, ground-breaking treatment to patients in a compassionate fashion. Collaboration with the GLCI Centers and Michigan State University has allowed patients to receive advanced treatments right in their hometown. I am confident we will continue to help ease the pain and suffering and celebrate the survival of our patients.

T. Trevor Singh MD, FACP
Chairman

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Multidisciplinary Care

Multidisciplinary conferences are one of the most significant tools in providing the best care possible. Medical professionals at GLCI-McLaren subscribe to the “team” approach when it comes to determining a best course of treatment. Specialists from radiology, pathology, medical oncology, radiation oncology, and surgical oncology, along with the primary care physician, participate in the conferences, addressing the disease itself, diagnosis, treatment options, and long-term monitoring. Both traditional treatments and open clinical trials are considered. The patient can be comforted knowing that all of their consulting physicians will be in one room discussing their case and reaching a consensus recommendation. The multidisciplinary team at GLCI-McLaren meets weekly to discuss cases and coordinate a personal care plan for each patient employing chemotherapy or immunology, radiation therapy, surgery, or a combination of treatment modalities.

These conferences, referred to as tumor conferences are held on a regular basis throughout the year. There are four different conferences which take place at GLCI-McLaren, based on the type of cancer being addressed.

- Breast conference is held each Wednesday at 7 a.m.
- Thoracic conference meets each Thursday at 7:30 a.m.
- General oncology conference meets each Monday at noon.
- Neurology Oncology conference meets the third Monday of every month at 7:30 a.m.
- Head and Neck conference meets four times each year.
Medical Oncology
Several medical oncology physicians throughout the Greater-Flint area partner with GLCI-McLaren to coordinate custom treatment plans for their patients which may involve multiple modalities of therapy. Medical Oncology and Hematology services are provided by T. Trevor Singh, M.D., FACP; Madan Arora, M.D.; David Eilender, M.D.; and Sunil Nagpal, M.D. The Institute is an approved teaching facility for physicians completing a Hematology/ Medical Oncology fellowship through Michigan State University’s College of Human Medicine.

Medical Oncology Treatments:
- Biologic Therapy
- Chemo/Hormonal Therapy
- Clinical Trials
- Targeted Therapy
- Genetic Counseling

Genetic Counseling
Certain inherited genetic traits control the tendency to develop some forms of cancer. At GLCI-McLaren, the medical oncology office offers genetic counseling and hereditary cancer testing for melanoma, colon, breast and ovarian cancer.
Radiation Oncology

A precise, expert course of radiation treatment is available to patients at GLCI-McLaren through its technologically-advanced systems and a custom plan, developed in coordination with other cancer specialists and primary care givers. Our radiation treatment team includes board certified radiation oncologists, physicists, physician assistants, radiation therapists, dosimetrists and oncology nurses. The Chairman of the Radiation program Hesham Gayar, M.D., along with fellow radiation oncologists Jack Nettleton, M.D., and Edward Naill, M.D., provide skilled care utilizing state-of-the-art radiation delivery modes found at the nation’s premier cancer centers. GLCI-McLaren’s radiation oncology services have expanded to neighboring facilities in Lapeer and Owosso.

Image guidance and radiation delivery systems include:

- Image-Guided Radiation Therapy (IGRT): available through ultrasound, conebeam CT, or TomoTherapy
- Intensity Modulated Radiation Therapy (IMRT): available using Tomotherapy or the latest Varian technology
- Brachytherapy: including low dose rate permanent seed implantation, high dose rate computer-guided treatment and placement of fiducial marker seeds

Radioimmune therapy and targeted radiation are also available.
**Electronic Medical Records**

Our Radiation Oncology department has successfully implemented electronic charting and treatment data transfer. Now, through the use of electronic medical records and digital imaging, the flow of information between members of the treatment team is paperless and filmless. This allows for accurate data transmission and quicker treatment implementation.
Select surgeons now utilize the daVinci robotic surgical system for qualifying cancer cases. The daVinci enables surgeons with a clearer field of vision and increased surgical dexterity, resulting in less pain and a quicker recovery time for patients compared to open surgery.

Surgical Oncology
Due to the availability of the most innovative technology, many skilled surgeons select McLaren Regional Medical Center as their hospital of choice. McLaren is equipped to accommodate some of the most advanced cancer cases.

McLaren Regional Medical Center and the Great Lakes Cancer Institute offer a surgical oncology fellowship for physicians pursuing a permanent career in surgical oncology, specializing in the management of all solid tumors. The two-year fellowship program is under the direction of Sukamal Saha, M.D., FACS, FRCS, a renowned surgical oncologist who pioneered the technique of sentinel lymph node mapping for colon cancer.

Sukamal Saha, MD, and Mehul Soni, MD
Inpatient Oncology

The Oncology Unit at McLaren Regional Medical Center is supported by a highly skilled, interdisciplinary team of experienced and caring oncology health care professionals. The Unit, located on the eleventh floor of the Medical Center, accommodates 36 patients.

The staff is committed to caring for patients recovering from oncologic surgeries, immunocompromised patients, patients receiving chemotherapy, radiation and brachytherapy.

Staff from 11 South were recognized for achieving the biggest jump in patient satisfaction scores over the past year for the third quarter of fiscal year 2008-2009.

Staff members from Inpatient Oncology handed out sunscreen packets to employees during a summer barbeque lunch to spread the message that skin cancer is preventable.
Support Services

Diagnostic Capabilities
Great Lakes Cancer Institute has excellent imaging technology at the McLaren Imaging Center and at McLaren Regional Medical Center. The McLaren Imaging Center is designated as a Breast Imaging Center of Excellence by the American College of Radiology. The designation indicates the center’s full accreditation in mammography, stereotactic breast biopsy, breast ultrasound and ultrasound-guided breast biopsy.

Imaging Services:
- Positron Emission Tomography/Computed Tomography (PET/CT)
- Digital Mammography
- Magnetic Resonance Imaging (MRI)
- CAD (Computer-Aided Detection)

Pathology Services
Diagnostic pathology represents the foundation of cancer care. Pathologists provide important diagnostic and staging information used for optimal treatment. At McLaren our team of experienced board-certified pathologists includes subspecialists in cytopathology, hematopathology, dermatopathology and genitourinary pathology. All newly diagnosed cancers have an automatic second opinion within the department to assure the quality of our care. Up to date methods including flow cytometry and PCR are available in the department to provide optimal diagnostic services.
Support Staff
An extended team of support is available for patients with cancer. Beyond those that provide treatment, there are resources to aid in the healing and recovery process.
- A registered dietician counsels patients on nutrition during and after treatment.
- A social worker provides patients with assistance in addressing any special needs that arise with a cancer diagnosis.
- Spiritual support is available to patients and their families with chaplain representation in many faiths.
- Physical, occupational, and recreational therapists provide care to those with restricted physical function following a physically debilitating medical situation. Rehabilitation services are offered in Flint, Fenton and Flushing.

American Cancer Society
The American Cancer Society (ACS) is an integral source of support and information for our patients. An ACS volunteer staffs a dedicated patient resource area at GLCI-McLaren. The patient resource area includes print materials and online resources. Additional services and programs coordinated through ACS include transportation to receive treatment, the Reach for Recovery program, and the Look Good Feel Better beauty and emotional healing program.

Lymphedema Clinic
Complete Decongestive Therapy (the Gold Standard for lymphedema treatment), is provided by Physical Therapy in collaboration with GLCI as part of the Breast Cancer Program. Lymphedema education is discussed as part of the weekly Breast Cancer Conference. Treatment requires physician referral, and is provided to each patient on an individual basis and tailored to that patient’s symptoms. Components are: manual lymphatic drainage, compression bandaging, training and education in self-care, precautions & contraindications, and a home exercise program. The Lymphedema Clinic is held at the McLaren Physical Therapy site in Flushing. Since the inception of the program in June of 2008, 20 patients have received treatment, 14 of those in 2009.
**Art Therapy**  
Through creating art and reflecting on the art products and processes, patients can increase awareness of self and others, cope with symptoms, stress and traumatic experiences; enhance cognitive abilities; and enjoy the pleasures of making art.

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**Healing Through Art**  
In 2009, Roxanne Caine, Director of Fund Development for the McLaren Foundation, announced that an Art Therapy program has been given the “green light”. Initiating an Art Therapy program at MRMC was contingent on securing enough financial support from the community to cover the program’s operating expenses. The art therapy program is expected to be launched in 2010.

*Guests browse silent auction to support the Art Therapy program.*

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**DVDs Provide Customized Patient Education**  
Providing cancer patients with the information they need to actively participate in their healing is now easier thanks to a new DVD program available through the Great Lakes Cancer Institute. GLCI is producing individual patient DVDs to arm patients with facts specific to themselves or their diagnosis, treatment and cancer care plan.

The customized DVDs are already available for breast and lung cancers. Production is underway on DVDs for prostate, colon and lymphoma cancers. This gives patients a tool made just for them that offers real options specific to their illness. The DVDs are available through grants from the McLaren Health Care Foundations and the American Cancer Society.

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**Support Groups**  
Support groups can be a valuable source of empowerment, education and friendship when faced with a diagnosis of cancer. Support groups specific to certain cancers meet on a regular basis at McLaren.

- US Too Prostate Cancer Support  
- Community Breast Cancer Support  
- Multiple Myeloma Support  
- New Tomorrows Grief Support
You need to know

Community Outreach

Combating the devastating effects of cancer in society is best fought on multiple fronts. Along with providing treatment, GLCI is actively involved in prevention and early detection through several community events. In 2009, GLCI was involved in the following cancer awareness activities:

- **Colorectal Cancer Screenings** held in March resulted in 448 fecal occult blood test kits being requested and mailed to Flint area homes. GLCI-McLaren experienced a 48.2% return rate on mailed kits. Fourteen people who took the test were notified that their results were positive for blood in the stool. GLCI and McLaren hospitals covered the cost of the screenings.

- **Free Prostate Screenings** were held at GLCI in June and September. 195 men were screened at the June event which was supported by local television news station WJRT, with several announcements and a live broadcast from GLCI on the day of the screening. Over 100 men were screened for signs of prostate cancer in September.

The Cancer Survivor Celebration is an occasion for our cancer patients to commemorate their individual journey with cancer. At this festive event, guests are treated to live music, refreshments, an uplifting keynote speaker and are able to visit with physicians and members of the treatment team. Approximately 350 people attend each year.
Physicians from across the state attended a professional conference held at McLaren Regional Medical Center to discuss the treatment of prostate cancer. The conference entitled, “Management of Prostate Cancer: Current Standards, Future Trends” was hosted by the Great Lakes Cancer Institute, McLaren Regional Medical Center and Michigan State University. The event featured a panel of distinguished physicians from the specialties of radiation oncology and urology.

Each year during October, the Genesee County Cancer Connection, a partnership of three area hospitals, hosts free breast cancer screenings in the community. McLaren physicians perform an average of 30 to 40 clinical breast exams at GLCI-McLaren each year. Assistance for those in need of a follow-up mammogram is provided.

In 2009, GLCI donated over $10,000 to the American Cancer Society through support of their Daffodil Days flower sale, Relay For Life and Making Strides Against Breast Cancer walk. Staff, patients and friends of GLCI had a strong presence at several of the events, by walking or manning informational tables.

News anchor and prostate cancer survivor, Bill Harris (left) interviewed fellow prostate cancer survivor Don Kooy, President and CEO of McLaren Regional Medical Center (right).
GLCI Physician
Encourages HPV Vaccine

A vaccine that can prevent one type of cancer exists and one physician is working diligently to spread the word. The vaccine, introduced in 2006, aims to reduce cervical cancer cases by preventing Human Papillomavirus (HPV), the first virus known to cause cancer. Dale Wilson, M.D., gynecologist and member of the Great Lakes Cancer Care Network visits with sex educators in schools and with parent groups to discuss the threat of HPV in adolescents and young adults. Dr. Wilson’s outreach focuses on raising awareness of the threat of cancers associated with this sexually transmitted disease, discuss the features of the vaccine and provide evidence-based information about both to improve the health of the community.

Advancing Detection

Routine screening by Pap tests is also important to reduce cervical cancer. The Pap test has been refined by using liquid-based thin-layer technology. McLaren’s Laboratory has been using the SurePath™ liquid-based Pap system for 12 years. To further improve the accuracy of the test, our Department of Pathology utilizes the Focal Point™ slide profiler. The system uses computerized image recognition technology as another “set of eyes”, in addition to the registered cytotechnologist, to evaluate cellular abnormalities, offering physicians and their patients an additional level of confidence in the accuracy of test results.
Research

GLCI-McLaren is committed and passionate about advancing cancer treatment standards through research. This commitment to improving cancer care resonates throughout all levels of our team, from the physicians and staff to the administration. We proudly offer our patients the unique opportunity to participate in the fight against cancer through research studies designed by our own faculty as well as national clinical trials.

Many of the oncologists on staff serve as investigators for National and Institutional studies. For a description of the individual studies taking place at GLCI-McLaren, visit mclarenregional.org/cancer.

National Clinical Trials

Breast
- NSABP B40
- NSABP B42
- NSABP B-43
- NSABP B44-BETH TRAIL
- ECOG PACCT-1/TAILORx
- REFLEXOLOGY
- CALGB 40503
- RTOG 0413
- ACOSOG Z-1041
- ACOSOG Z-1071
- ACOSOG Z-1072

Colorectal
- E5202
- N0147
- NSABP FC-4

Head and Neck
- RTOG 0614
- LORHAN REGISTRY

Lung
- ECOG 1505
- RTOG 0127
- RTOG 0617

Prostate
- RTOG 0415

Other Sites
- ECOG 2805
Institutional Prospective & Retrospective Studies

Many noteworthy oncologic prospective and retrospective clinical studies have been developed by our physicians. This research is compliant with the guidelines set forth by the Institutional Review Board and the Federal Government.

Institutional studies currently underway involve the following sites:
- Breast
- Colon and Rectal
- Head and Neck
- Kidney
- Lung
- Prostate
- Vocal Cord
- Bone Marrow
- Liver
- Ovary
- Uterine

Spear-headed by Dr. Sukamal Saha, our pioneering research initiatives have lead to a multitude of oral and poster presentations throughout the year at international and national meetings. We have had the honor to receive several research awards, including “Poster of Exceptional Merit” at the American College of Surgeons (ACS) annual meeting, and special selection for the “Poster Discussion” presentation at the annual American Society for Therapeutic Radiology and Oncology (ASTRO) meeting. Manuscript publications for 2009 can be found in prestigious peer reviewed journals such as The American Journal of Surgery and Annals of Surgical Oncology; as well as in published book chapter form.
### 2008 Data Summary

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Number of Cases Reviewed</td>
<td>2,263</td>
</tr>
<tr>
<td>Total Number of Completed Cases</td>
<td>1,438</td>
</tr>
<tr>
<td>Total Number of Analytic Cases (diagnosed and/or treated at McLaren)</td>
<td>1,347</td>
</tr>
<tr>
<td>Total Number of Cases Reportable to State Michigan Cancer Registry</td>
<td>121</td>
</tr>
<tr>
<td>Total Number of Cases Reviewed Which Were Non-Reportable</td>
<td>704</td>
</tr>
<tr>
<td>Primary Site</td>
<td>Total (%)</td>
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<tr>
<td>--------------------------------------</td>
<td>-----------</td>
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<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>ORAL CAVITY &amp; PHARYNX</td>
<td>23 (1.6%)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>DIGESTIVE SYSTEM</td>
<td>198 (13.8%)</td>
</tr>
<tr>
<td>RESPIRATORY SYSTEM</td>
<td>245 (17.0%)</td>
</tr>
<tr>
<td>BONES &amp; JOINTS</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>SOFT TISSUE</td>
<td>13 (0.9%)</td>
</tr>
<tr>
<td>SKIN EXCLUDING BASAL &amp; SQUAMOUS</td>
<td>23 (1.6%)</td>
</tr>
<tr>
<td>BREAST</td>
<td>268 (18.6%)</td>
</tr>
<tr>
<td>FEMALE GENITAL SYSTEM</td>
<td>76 (5.3%)</td>
</tr>
<tr>
<td>MALE GENITAL SYSTEM</td>
<td>280 (19.5%)</td>
</tr>
<tr>
<td>URINARY SYSTEM</td>
<td>91 (6.3%)</td>
</tr>
<tr>
<td>EYE AND ORBIT</td>
<td>1 (0.1%)</td>
</tr>
<tr>
<td>BRAIN &amp; OTHER</td>
<td>31 (2.2%)</td>
</tr>
<tr>
<td>NERVOUS SYSTEM</td>
<td></td>
</tr>
<tr>
<td>ENDOCRINE SYSTEM</td>
<td>39 (2.7%)</td>
</tr>
<tr>
<td>LYMPHOMAS</td>
<td>56 (3.9%)</td>
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<tr>
<td>MULTIPLE MYELOMA</td>
<td>25 (1.7%)</td>
</tr>
<tr>
<td>LEUKEMIAS</td>
<td>29 (2.0%)</td>
</tr>
<tr>
<td>MESOTHELIOMA</td>
<td>3 (0.2%)</td>
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<tr>
<td>MISCELLANEOUS</td>
<td>36 (2.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>1,438</td>
</tr>
</tbody>
</table>
2008 Statistical Data

Data Summary

The Cancer Registry staff accessioned 1,438 cases in 2008, 1,347 of which were analytic (diagnosed and/or treated at McLaren Regional Medical Center and Great Lakes Cancer Institute (GLCI) – McLaren, Owosso, and Lapeer Campuses. This is a significant increase of 8.4% when comparing the total number of cases from 2007.

The highest incidence of cancer seen at McLaren & GLCI during 2008 was breast and prostate at 19% each, lung at 16%, and colorectal at 8%. This trend continues when compared to previous years.

Gender distribution reveals that 694 patients (52%) were female while 653 patients (48%) were male.

The majority of patients came from Genesee County (73%), followed by Lapeer County (10%) and Shiawassee County (9%). Additional counties representing the remaining 8% include Saginaw, Oakland, Tuscola, Clinton, Iosco, Sanilac, Roscommon, among several others.

Additional statistics and graphs follow representing McLaren’s 2008 data.

2008 Distribution of Top Five Malignancies

1,347 Analytic Cases

- Breasts 19%
- Lung 16%
- Prostate 19%
- Colorectal 8%
- Other 35%
- Bladder 3%
This graph illustrates age distribution at the time of initial diagnosis for the 2008 analytic cases. The majority of males and females were diagnosed between the ages of 60-69.

This graph represents the AJCC Stage Distribution for 2008 analytic cases which indicates the majority of males were diagnosed with Stage II disease while the majority of females were diagnosed with Stage I.
This graph represents the age distribution at the time of initial diagnosis for the four most common cancer sites seen at McLaren in 2008. The majority of breast cancer patients were diagnosed between the ages of 60-69 while colorectal, lung, and prostate patients were diagnosed between the ages of 70-79.

Breast = 255 Cases
Colorectal = 101 Cases
Lung = 221 Cases
Prostate = 250 Cases

This graph depicts the AJCC Stages of the four major cancer sites diagnosed at McLaren during 2008. The majority of breast and colorectal cancer patients were diagnosed with Stage I disease. The majority of lung cancer patients were diagnosed with Stage IV disease while the most prevalent stage among prostate cancer was Stage II.

Breast = 255 Cases
Colorectal = 101 Cases
Lung = 221 Cases
Prostate = 250 Cases
The most frequent treatment given to breast cancer patients was the multimodality treatment approach consisting of surgery, radiation and hormone. The second most common treatment combination with equal distribution was surgery, radiation, chemo, and hormone and surgery, radiation, and chemo.

The primary treatment for colorectal cancer was surgery followed by the treatment combination of surgery, radiation, and chemo.

The majority of lung cancer patients received multimodality treatment consisting of radiation and chemotherapy. Surgery alone was the second most common treatment modality.

The most frequent treatment approach for prostate cancer was surgery alone followed by radiation.
Non-Hodgkin’s Lymphoma Survival Study

Data Comparison of McLaren Regional Medical Center 1999-2008 and National Cancer Data Base 2000-2005

Non-Hodgkin’s lymphoma was the sixth most common cancer diagnosed in the United States in 2008 with over 66,000 estimated new cases and was the seventh leading cause of death from cancer in the United States in 2008 with over 19,000 estimated deaths. This was according to the 2008 American Cancer Society Cancer Facts and Figures. The incidence rates of non-Hodgkin’s lymphoma have doubled since the early 1970s with the incidence in men being higher than women. In the last several years, this increased incidence has been predominantly in women.

There are a number of environmental risk factors that may be associated with this increased incidence including pesticides, herbicides, and infectious agents such as EBV, HIV, hepatitis viruses, and other infectious agents such as H-pylori bacteria. Autoimmune diseases and immunosuppressive drugs have also been associated with an increased incidence of non-Hodgkin’s lymphoma.

Although our early detection, staging, sub-classification, and treatments have improved, non-Hodgkin’s lymphoma remains a major health problem in the United States.

This study compares McLaren data from 1999-2008, which consists of 303 cases, to the National Cancer Data Base (NCDB) data from 2000-2005, and includes 3,607 cases. The years 2000-2005 were the only years available for comparison from the NCDB Hospital Comparison Benchmark and Survival Reports at the time this study was performed. The NCDB data includes 14 teaching/research facilities in the State of Michigan. These are all Class 1 cases, which are those patients diagnosed and treated at the reporting facility. McLaren’s primary site distribution was included as well as a comparison of gender, distribution of age at diagnosis, stage, initial treatment, and five-year observed survival. Then the histology sub-classification was reviewed to determine whether changes have occurred when looking at two separate five-year periods, 1999-2003 and 2004-2008.

McLaren’s primary site distribution reveals that in the period 1999-2003, 73% of cases
were considered nodal lymphomas while 27% were extranodal lymphomas. For the period of 2004-2008, the distribution changed somewhat revealing an increase in the number of extranodal lymphomas at 40% and 60% nodal lymphomas. Information related to primary site was not available from NCDB.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>NHL – Nodal</td>
<td>73%</td>
<td>60%</td>
</tr>
<tr>
<td>NHL – Extranodal</td>
<td>27%</td>
<td>40%</td>
</tr>
</tbody>
</table>

Gender was equally distributed among McLaren patients at 50% while NCDB data reflects 52% male and 48% female.

<table>
<thead>
<tr>
<th>Gender</th>
<th>MRMC</th>
<th>NCDB</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>50%</td>
<td>52%</td>
</tr>
<tr>
<td>Female</td>
<td>50%</td>
<td>48%</td>
</tr>
</tbody>
</table>

The distribution of age at diagnosis reveals that the majority of patients for both MRMC and NCDB were among the 70-79 age-group. The second most common age group was 60-69 for both data sets.

**Distribution of Age at Diagnosis**

Comparison of MRMC Data from 1999-2008 and NCDB Data from 2000-2005
The comparison of AJCC Stage distribution in the graph below shows that 39% of MRMC patients were diagnosed with Stage IV, followed by Stage I at 27%. Twenty-six percent of cases from NCDB had an unknown stage. Secondly, Stage I and Stage IV had equal distribution at 25%. Only four percent of McLaren patients had an unknown stage, which is significantly lower than NCDB data.
Initial treatment of non-Hodgkin’s lymphoma reveals that the majority of patients at McLaren received treatment in the “Other” category, which consists of various combinations of treatment. The “No Treatment” category was the second most frequent option. This may be due to the fact that patients were asymptomatic and only required observation at the time of diagnosis or patients may have elected to receive no treatment. NCDB data reflects an equal distribution at 21% of the “Other” category and “No Treatment” followed by chemo alone at 17%.
The five-year survival is very similar among the McLaren and NCDB data sets with McLaren’s survival rate being slightly higher at 53.3% and NCDB at 52.8%.

### Five-Year Observed Survival for Non-Hodgkin’s Lymphoma

Comparison of MRMC Data from 1999-2003 and NCDB Data from 1998-2001

<table>
<thead>
<tr>
<th>Survival Period</th>
<th>MRMC</th>
<th>NCDB</th>
</tr>
</thead>
<tbody>
<tr>
<td>At Diagnosis</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>1 Year</td>
<td>77.4%</td>
<td>75.5%</td>
</tr>
<tr>
<td>2 Years</td>
<td>66.3%</td>
<td>66.3%</td>
</tr>
<tr>
<td>3 Years</td>
<td>58.5%</td>
<td>60.9%</td>
</tr>
<tr>
<td>4 Years</td>
<td>55.5%</td>
<td>56.8%</td>
</tr>
<tr>
<td>5 Years</td>
<td>53.5%</td>
<td>52.8%</td>
</tr>
</tbody>
</table>

The histology sub-classification of non-Hodgkin’s lymphoma was reviewed (as shown on the following page). The number of cases that are “not otherwise specified” have decreased both at McLaren and at the National Cancer Data Base over roughly the last 10 years. At McLaren, the number of marginal zone lymphoma diagnoses have doubled in the period from 2004-2008 compared to 1999-2003. Looking at the NCDB data from the period of 2004-2005 versus 2000-2003, there was only a slight increase from 6.1% to 6.9%. Although the numbers at McLaren are small, 12 cases in 2004-2008 compared to 6 cases from 1999-2003, is a noticeable increase. This increase might be due to improved sub-classification techniques alone or may be the result of previous exposure to environmental factors such as hepatitis C with a delayed development of lymphoma. Hepatitis C has been associated recently with an increased incidence of marginal zone lymphoma. Since hepatitis C might be present in as much as five percent of the population, this lymphoma might become more prevalent if this is, in fact, a direct association.
The observation seen in our patients as it relates to marginal zone lymphoma at McLaren could be investigated as a collaborative study at multiple centers to confirm or refute this hypothesis. Other examples of potential research opportunities to further our understanding and improve the treatment of cancer abound here, at McLaren. In summary, McLaren’s data is very similar when compared to NCDB data. As far as the increase in the number of marginal zone lymphomas diagnosed at McLaren, additional studies could be performed to determine if the cause is related to environmental exposures or better diagnostic techniques.

<table>
<thead>
<tr>
<th>Histology</th>
<th>First Five-Year Period</th>
<th>Second Five-Year Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malignant Lymphoma, NOS</td>
<td>11%</td>
<td>4%</td>
</tr>
<tr>
<td>Malignant Lymphoma, Non-Hodgkin’s, NOS</td>
<td>8%</td>
<td>8%</td>
</tr>
<tr>
<td>Small Lymphocytic</td>
<td>12%</td>
<td>7%</td>
</tr>
<tr>
<td>Malignant Lymphoma, NOS</td>
<td></td>
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</tr>
<tr>
<td>Mantle Cell Lymphoma</td>
<td>5%</td>
<td>3%</td>
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<tr>
<td>Large Cell, Diffuse</td>
<td>32%</td>
<td>37%</td>
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<tr>
<td>Malignant Lymphoma, NOS</td>
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</tr>
<tr>
<td>Follicular Malignant</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>Lymphoma, Marginal</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Zone B-Cell, NOS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Specified Types</td>
<td>7%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Prepared by:

David S. Eilender, MD,
Medical Oncologist

Cathy Sudborough, CTR,
Oncology Data Coordinator
## Cancer Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debbie Amey</td>
<td>American Cancer Society</td>
<td></td>
</tr>
<tr>
<td>Frederick Armenti, MD</td>
<td>Thoracic Surgery</td>
<td></td>
</tr>
<tr>
<td>Maden Arora, MD</td>
<td>Medical Oncology</td>
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</tr>
<tr>
<td>Lisa Ash, CPHQ</td>
<td>Quality Management</td>
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</tr>
<tr>
<td>Elizabeth Bowie, RN</td>
<td>Research Manager</td>
<td></td>
</tr>
<tr>
<td>Raymond Demers, MD</td>
<td>CEO / Medical Director</td>
<td></td>
</tr>
<tr>
<td>David Eilender, MD</td>
<td>Medical Oncology</td>
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</tr>
<tr>
<td>Lisa M. Salmons</td>
<td>McLaren Visiting Nurse &amp; Hospice</td>
<td></td>
</tr>
<tr>
<td>Hesham Gayar, MD</td>
<td>Medical Director of Radiation Oncology</td>
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<tr>
<td>Karla Grunow, RN</td>
<td>Director of Oncology Services</td>
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</tr>
<tr>
<td>Christian Hutanu, MD</td>
<td>Internal Medicine Resident</td>
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<tr>
<td>Linda Lawrence, MD</td>
<td>Medical Director of McLaren Imaging</td>
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<tr>
<td>Jack Nettleton, MD</td>
<td>Radiation Oncology</td>
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<tr>
<td>Venkatasiva Peram, MD</td>
<td>Medical Oncology</td>
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</tr>
<tr>
<td>Ann Roat, RD</td>
<td>Registered Dietician</td>
<td></td>
</tr>
<tr>
<td>Katherine Robertson-Cain, RN</td>
<td>BSN</td>
<td>11 South Nurse Manager</td>
</tr>
<tr>
<td>Harold Rutila, MD</td>
<td>Urology</td>
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<tr>
<td>Sukamal Saha, MD</td>
<td>Surgical Oncology</td>
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<tr>
<td>Kathi Sruggs, RN</td>
<td>Case Management</td>
<td></td>
</tr>
<tr>
<td>T. Trevor Singh, MD</td>
<td>Cancer Committee Chair</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medical Director of Medical Oncology</td>
<td></td>
</tr>
</tbody>
</table>
Deborah Smith, PharmD
Clinical Pharmacist

Cathy Sudborough, CTR
Oncology Data Coordinator

Brent Wheeler
Vice President of Support Services

David Wiese, MD
Anatomical/Clinical Pathology

Kimberly Wright, CTR
Cancer Registrar
GLCI Locations

Great Lakes Cancer Institute (GLCI) is pleased to offer comprehensive cancer care in several mid-Michigan cities. For detailed information about the Great Lakes Cancer Institute, visit the GLCI website at www.glci.com

**Great Lakes Cancer Institute – Bay City**
Bay Regional Medical Center West:
3250 E. Midland Rd., Bay City MI 48706
Bay Regional Medical Center Main:
1900 Columbus Ave., Bay City MI, 48708

**Great Lakes Cancer Institute – Owosso**
721 N. Shiawassee, Owosso, MI 48867

**Great Lakes Cancer Institute – McLaren**
4100 Beecher Rd., Flint, MI 48532

**Great Lakes Cancer Institute – Mount Clemens**
1000 Harrington Blvd. Mount Clemens, MI 48043

**Great Lakes Cancer Institute – Lapeer**
1375 N. Main St. Lapeer, MI 48446

**Great Lakes Cancer Institute – Clarkston**
5680 Bow Pointe Dr., Clarkston, MI 48346

**Great Lakes Cancer Institute – Breslin Center**
401 W. Greenlawn Ave., Lansing, MI 48911