Personalized Medicine
Transformative Cancer Care

At NorthShore University HealthSystem (NorthShore) Kellogg Cancer Center, our teams of expert specialists work together to develop individual treatment plans focused on the best possible outcomes for each and every patient.

Kellogg Cancer Center patients have the benefit of experienced and compassionate physicians with expertise in a broad array of cancers, including the most aggressive and complex cancers. With an emphasis on personalized medicine, our collaborative specialists leverage the most advanced science and technology to analyze specific tumor genetics and to prescribe the most appropriate targeted therapies.

Patient survival rates at Kellogg Cancer Center continue to compare favorably with national benchmarks and we continue to be recognized for the superior care provided to our growing patient population. NorthShore has been certified by the American Society of Clinical Oncology (ASCO) Quality Oncology Practice Initiative (QOPI) as a premier medical provider for practicing the highest standards for quality cancer care. The Commission on Cancer has continuously accredited NorthShore as an Academic Comprehensive Cancer Program since 1981.

We also have been designated by BlueCross BlueShield as a Blue Distinction Center for Complex and Rare Cancers. The Blue Distinction program identifies hospitals with proven expertise in specialty care. Our nurses earned the prestigious Magnet designation—the highest honor in nursing from the American Nurses Credentialing Center (ANCC)—and recently earned redesignation, making NorthShore the first hospital system in Illinois to gain this recognition. Our multidisciplinary teams include leading molecular and surgical pathologists. Even the most sophisticated diagnostics are now performed in-house, enabling rapid results and treatment initiation.

Research is a critical component of our mission and a vital element of our clinical program, supported by our academic affiliation with the University of Chicago Pritzker School of Medicine and our important alliance with Mayo Clinic.

We are more grateful than ever to our many philanthropic partners whose ongoing generosity is crucial to our team’s ability to enhance prevention, early detection, innovative treatment and research, and thorough support programming for all those who come to us for cancer care.

At NorthShore Kellogg Cancer Center, each treatment plan is personalized because each patient and each cancer diagnosis is unique. This report highlights our personalized medicine approach and our commitment to transformative cancer care.

Bruce Brockstein, MD
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Kellogg-Scanlon Chair of Oncology

David J. Winchester, MD
Chairman, NorthShore Cancer Committee
Chief, Division of Surgical Oncology
Board of Directors/David P. Winchester, MD, Chair of Surgical Oncology

For more information, visit northshore.org/cancer or call (847) 570-2112

Blue Distinction
Blue Cross Blue Shield
NAPBC
QCP
Personalized medicine—tailoring treatment to each individual patient, and to each individual cancer—is the driving force behind the innovative care offered at NorthShore Kellogg Cancer Center.

NorthShore’s systemwide focus and team approach to personalized medicine align our strengths in genomics, research informatics, medical genetics, pathology and biobanking with outstanding clinical care to improve access and outcomes for patients in real time, right now. Personalized medicine has improved our ability to prevent, diagnose and treat a wide range of cancers.

The many components of the personalized cancer program touch on every case we treat and interact directly through shared resources and data.

**Advanced Laboratory Medicine and Pathology Capabilities**

Personalized cancer care relies on both the precise interpretation and accurate data from the latest diagnostic technology. While today’s advances in genomic testing have given rise to more tailored care, our pathology and laboratory medicine team led by Karen Kaul, MD, PhD, Chair of Pathology and Laboratory Medicine Duckworth Family Chair, has been ahead of the curve for decades in the use of advanced tumor diagnostics and DNA analysis to customize patient care. DNA sequencing of blood and tumors identifies key genetic patterns and mutations, leading to quicker and more accurate diagnosis and treatment recommendations. Whereas patients treated at many other institutions may have to wait weeks for a test to be sent out to a reference laboratory, we are able to conduct most of these studies “in house” with a turnaround time of days, not weeks.

The molecular diagnostics laboratory recently implemented state-of-the-art Next-Generation Sequencing (NGS) to rapidly look at large genomic regions involved in cancer. Our lab’s unique in-house sequencing capability allows us to screen many more cancer genes at once in a single assay. NGS also allows us to run the latest “hot spot” cancer panels, making it possible to more precisely identify rare somatic and germline mutations, cancer drivers, biomarkers and therapeutic targets for malignancies of all types—from lung and colon cancer to rare tumors not yet well characterized. Molecular Diagnostics Director Linda Sabatini, PhD, HCLD, CC, and her team are now working on custom panels, optimizing and validating these tests to ensure thorough understanding of results.

Performing these tests in-house means much faster results and quicker treatment for our patients. Direct communication of test results to physicians through our Electronic Medical Record (EMR) system is seamless and immediate.

NorthShore’s advanced instrumentation also enables our lab professionals to accurately analyze very small samples, including those from needle biopsies, sparing patients from undergoing larger, more-invasive procedures. Patients with advanced lung cancer and others can undergo a fine needle aspiration that will produce enough material for molecular profiling of their tumor.

Clonality assessment is a very powerful NGS tool for patients with leukemia and lymphoma that allows physicians to monitor patients’ progress and to determine, in the case of an apparent relapse, if it is the original malignant process or a new leukemia or lymphoma. These very specific test results help guide personalized treatment and improve patient outcomes.

The molecular diagnostics field is exploding, and NorthShore experts are helping to develop new applications that will continue to benefit patients here and beyond.

(continued)
Program for Personalized Cancer Care

NorthShore has brought significant resources to its pioneering Program for Personalized Cancer Care (PPCC), recruiting exceptional scientists from major medical institutions around the country to lead this new endeavor. Physicians at NorthShore Kellogg Cancer Center are working to individualize and optimize care through targeted cancer screening, prevention, diagnosis and treatment. Already we have developed genomic-based programs for high-risk patients in prostate, breast and colorectal cancer. Other gastrointestinal malignancies—including esophageal, gastric, pancreatic and liver cancers—are among our next targets in development.

The PPCC, led by Jianfeng Xu, MD, DrPH, the Ellrodt-Schweighauser Family Chair of Genomics Research, brings together cancer genomicists, biologists, pathologists, biomedical engineers and biostatisticians—all working on a number of exciting personalized cancer care initiatives. Among the projects our team is leading are:

- Developing sophisticated bioinformatics and computational medicine tools for processing and interpreting “big-data” cancer genomics in our own community as well as through consortia, such as The Cancer Genome Atlas, a National Institutes of Health (NIH) research program;
- Working to create and optimize genomic tests for cancer risk assessment and treatment planning via our state-of-the-art genotyping laboratory; and
- Studying the biology of cancer progression with the aim of developing lower-impact medical approaches and nonsurgical treatment options.

NorthShore’s large and, in many cases, lifelong patient base and our advanced, systemwide EMR allow us to capture, analyze and integrate vast amounts of clinical and genomic patient information. Our dedicated Research Institute, with sophisticated genetic equipment and bioinformatics and biostatistician teams, and our advanced molecular diagnostic pathology laboratory are further strengths that back our PPCC.

From screening to treatment, the PPCC takes a comprehensive approach not found in most health systems. Our program strives to leverage genetic information to improve the accuracy of determining an individual’s risk for developing disease and to better personalize therapies to a patient’s specific condition. Analyzing the genetic makeup of individuals with and without cancer can save lives by greatly improving prevention and early diagnosis.

For example, our research team is already pioneering the development of next-generation genomic screening tools for prostate cancer that could individualize prostate-specific antigen (PSA) screening and reduce the number of prostatic biopsies. In the near future, patients will only need to provide a small sample of blood or saliva to learn of their risk factors for prostate cancer development and/or biopredictors for their prognosis to help customize treatment.

Personalized Oncology Clinic

As genomic analysis is becoming increasingly valuable for many cancer patients, Kellogg Cancer Center now offers a Personalized Oncology Clinic led by Janardan Khandekar, MD., the Board of Directors/Janardan D. Khandekar, MD, Chair of Molecular Medicine. It is part of NorthShore’s Center for Personalized Medicine program, which also has specialty clinics in Pharmacogenetics and High-Risk Breast Cancer.

The molecular and cellular characteristics of many of the more common cancers in different areas of the body share many commonalities and may respond to similar medications. Patients who are not responding to standard therapy and patients with very rare cancers with no known therapies can benefit greatly from having the genetics of their cancer evaluated.

Dr. Khandekar works collaboratively with oncologists and individual patients to review patient-level tumor or germline (inheritable) genetic data and the most recent research. The aim is to optimally guide appropriate treatment, including approved therapies specific to the cancer type, or in some cases, off-label medication uses. This data also is used to guide patients to the best available clinical trial options locally or nationally.

Dr. Khandekar’s expertise in this arena and recognized rapport with cancer patients is a valuable resource for Kellogg Cancer Center oncologists and patients alike.

Administrative Director Annette Sereika, a nurse practitioner with advanced oncology certification, also works directly with referring physicians, patients and insurance companies, serving as a patient advocate to help navigate often complex referral and reimbursement issues.

Promising Clinical Trials

The rapidly growing field of cancer genomics continues to engender promising research, including a host of clinical trials available to Kellogg Cancer Center patients. NorthShore is a
participant in the new National Cancer Institute (NCI) Molecular Analysis for Therapy Choice (MATCH) clinical trial that uses an individual patient’s tumor analysis to look for genetic abnormalities, independent of organ of origin, that are known to respond to a specific targeted drug. The NCI MATCH trial opened in August 2015 and makes available multiple promising drugs, providing a very real potential benefit for our patients.

Additionally, on a tumor site-specific level, nearly half of our own clinical trials are assessing molecularly targeted therapies and/or new immunotherapy approaches.

More such trials in this arena are on the way through our partnerships or participation with the NCI clinical trials groups, a growing number of pharmaceutical companies, and partnerships with the University of Chicago and other institutions.

**Molecular Tumor Board**

The molecular oncology committee evaluates new diagnostic testing and therapies, and regularly interacts with outside agencies to bring the latest genomic breakthroughs to our patients. Led by the Chief of Gastrointestinal Oncology, Robert Marsh, MD, this multidisciplinary committee brings together a broad base of expertise in basic science, clinical care, and research and genetics, and now also functions as a molecular oncology tumor board. This ensures that all cases presented at one of the many disease-specific Kellogg Cancer Center tumor boards also can be analyzed and discussed on a molecular level when needed.

**Center for Medical Genetics**

As one of the largest and busiest adult genetic counseling programs in the country, NorthShore’s Center for Medical Genetics began offering clinical testing for inherited breast cancer risk BRCA1 and 2 shortly after it became clinically available. Our Center is a recognized leader and was quick to adopt new germline testing for inherited cancers, which can help guide management, including treatment and screening options, in order to achieve the best outcomes for individual patients.

Directed by Peter Hulick, MD, the Center for Medical Genetics now is examining more than 70 genes possibly linked to breast and ovarian cancer help identify and stratify family risk. Dr. Hulick’s team has developed the SIFT (Susceptibility gene Identification in Families with a geneTic predisposition to breast cancer) Registry, which is designed to find new breast cancer susceptibility genes and ultimately to help develop a clinical NGS test. This test will provide a more precise estimate of risk to guide patients at NorthShore’s Breast Cancer Risk Assessment and Prevention Program.

**High-Risk Breast Cancer Program**

NorthShore launched the Breast Cancer Risk Assessment and Prevention Program in 2014 with a generous grant from the North Suburban Health Care Foundation. Katharine Yao, MD, is the director of this multidisciplinary program, which has seen more than 750 patients since it began. The program provides a comprehensive breast health evaluation to determine the risk for breast cancer for any woman concerned about her breast. A personalized breast health care plan, including risk-reduction strategies and counseling on lifestyle modifications, is an important part of the program and empowers women to be proactive for their breast health. The program also coordinates ongoing surveillance for high-risk women and includes a template in the EMR to track data for future research studies. NorthShore offers outreach screening at multiple community events. In the future, we plan to launch a study that evaluates a “genetic risk score” blood test to help us better define a woman’s risk for breast cancer and the most appropriate time to start screening mammograms. Working to get genetic information into the most clinically friendly format that is transparent and beneficial for patients and physicians is a priority, especially as it relates to helping patients and their physicians make decisions about treatment related to cancer risk. The Center also is involved in education and building awareness of genetic risk issues for patients and medical providers.

**Pharmacogenomics**

NorthShore offers one of the few select Pharmacogenomics Clinics nationwide that pre-emptively provides genetic testing to help predict how patients will respond to certain drugs. Led by Mark Dunnenberger, PharmD, BCPF, our expanding Pharmacogenomics Clinic provides us with the resources to determine the best drug treatment for patients, tailored to their specific cancers. Ninety-five percent of patients have at least one variant that is actionable and can be translated to modified therapy.

Germline information can help with specific dosing for some chemotherapy agents and also can be useful in prescribing the most effective supporting medications, including antinausea and antifungal drugs designed to combat side effects.

The potential for continued improvements and enhancement to patient care through pharmacogenomics is tremendous, and NorthShore’s unique clinic provides significant benefits to our patients.

**Genomic Health Initiative**

NorthShore is leading a groundbreaking research study, the Genomic Health Initiative, that is collecting 100,000 DNA samples to understand the correlation between genomics and disease, paving the way to more effectively manage patients’ health on a larger scale, including cancer risk and cancer treatment.

This pioneering initiative builds on the extensive computational resources of NorthShore’s Center for Biomedical and Research Informatics (CBRI), as well as our EMR and biobanks.
Kellogg Cancer Center offers a collaborative, multidisciplinary approach—from customized patient care to a robust clinical research program—to find breakthroughs in preventing, diagnosing and treating a wide range of cancers.

Breast Oncology
Patients with breast cancer continue to make up the largest percentage of Kellogg Cancer Center patients. In recognition of our high-quality, integrated, patient-centered care from an established team of specialists, we received our third accreditation by the America College of Surgeons’ National Accreditation Program for Breast Centers.

NorthShore’s robust clinical research program includes several initiatives, such as the new Avatar clinical trial for triple-negative breast cancers that will allow a personalized approach to this aggressive form of the disease. Our newly established high-risk screening program is introducing a study using a “genetic risk score” to better assess patients at increased risk for breast cancer.

With our ongoing commitment to advancing research, NorthShore’s team of breast cancer specialists has opened a growing array of other clinical trials. James Ward, MD, was recruited in 2015 to lead NorthShore’s breast cancer medical oncology research initiatives. Offering additional therapeutic options to our patients, the new breast seed localization program uses a tiny, radioactive seed implanted into the breast tissue to enable surgeons to more accurately localize nonpalpable tumors. The High-Risk Breast Health Center saw increased patient volume and has developed outreach, patient and community education programs, and guidelines for patients with breast cancer.

Our focus on prevention and early detection, and our state-of-the-art programmatic and research efforts in breast cancer continue to distinguish NorthShore’s comprehensive, multidisciplinary program and collaborative team of specialists as one of the largest academic multispecialty practices in the state of Illinois.

Prostate/Genitourinary Cancer
Under the leadership of NorthShore Urologist Brian Helfand, MD, PhD, the clinical volume and recognition of our early-stage prostate cancer program continue to increase. This past year, NorthShore performed more than 200 prostate cancer surgeries. Patient care is greatly facilitated by dedicated nurse navigator Martha McCurdy, RN, BSN.

With the combined expertise of outstanding scientists in NorthShore’s new Program for Personalized Cancer Care (PPCC), we are introducing a personalized prostate cancer clinic focused on genomic-based risk assessment to individualize all aspects of cancer care—from screening and prevention to diagnosis and treatment. Over the past year, NorthShore has recruited several internationally recognized prostate cancer investigators to lead the new PPCC. Under their leadership, the program will offer personalized prostate cancer risk assessment for all men.

NorthShore’s prostate cancer experts published 49 peer-reviewed manuscripts this year, and received eight external grants of $3.4 million. Our clinical research program continues to grow, with nine open clinical trials for all stages of advanced prostate cancer, supported by three clinical research nurses and one clinical research associate. Other studies include a new trial for patients with metastatic prostate cancer on mindfulness intervention, and open clinical trials focusing on kidney cancer, bladder cancer and treatment based on genetic alterations in tumor tissue.

Daniel Shevrin, MD, serves as Medical Director of the Us TOO prostate cancer education and support group and is a member of the Clinical/Administrative Core and Director of the Advocacy Program.
Gastrointestinal Oncology

This past year has been very successful for the Gastrointestinal (GI) Malignancies Program. We have experienced incremental growth in volume in all areas, benefiting both the clinical and investigational aspects of the program. The weekly multidisciplinary GI Cancer Conference has been partitioned into two separate meetings that include hepatopancreatobiliary/upper GI cases on Tuesday and colorectal/small bowel cases on Friday. This has resulted in a notable increase in the total number of cases reviewed, as well as more focused clinical, radiologic and pathologic expertise at each meeting.

Accrual to clinical and laboratory studies has not only been vetted, but also facilitated by this arrangement. As a result, the program has completed and published a number of important studies, including two key clinical trials in pancreatic cancer. Both of these studies address the use of chemotherapy prior to, rather than following, surgery and will have repercussions both nationally and internationally. These studies originated at NorthShore and included participants at many of the major cancer centers in the country.

A new protocol will evaluate the effect of genomic-targeted cancer screening on cancer-specific mortality. This will complement the many active studies at NorthShore, which leverage our outstanding Electronic Medical Record (EMR) system to ensure the optimal treatment for each and every patient. We are active participants in the national PROSPECT rectal cancer trial, examining preoperative radiation and chemotherapy versus preoperative chemotherapy alone in stage II and III rectal cancers. Additionally, partnership with the University of Chicago has fostered a number of studies. These include: a genotype-guided study based on UGT1A1 expression that examines dosing of irinotecan in FOLFIRINOX, a commonly used regimen; and a second study that examines the effects of the colonic microbiome on anastomotic healing in patients undergoing low anterior resection for rectal cancer. The initial phase of this study is now complete, and it will shortly be opened as a national multicenter trial.

A second key aspect of the program has been the multidisciplinary clinics that take place on Tuesdays and Wednesdays. Patients are often seen by medical oncologists, surgeons, hepatologists and gastroenterologists at the same clinic visit and in the same clinic space, assisted by a dedicated navigator. The convenience and efficiency of this arrangement have been much appreciated by our patients and have facilitated the integration of a personalized medicine approach into treatment planning. Genetic and molecular analysis is now standard practice in most cases; and if the results are complex, they are presented and discussed at our dedicated Molecular Medicine tumor board. Where appropriate, patients also may be referred to our Department of Genetics for counseling and further screening.

This past year, NorthShore established a colon and rectal cancer database with crucial information about patient care and demographics, which will assist in future programmatic development and research. Electronic records and messaging are now thoroughly embedded in the system, and this form of communication between patient visits has been key to a better experience for all.

Lastly, our highly trained and dedicated nurses, pharmacists, technicians, social workers, dieticians and support staff spend hours with each patient and endeavor to make a challenging and life-changing experience one that is less frightening and more tolerable.

Gynecologic Oncology

Gynecologic oncology is aimed at prevention, early detection and improved treatment for ovarian, uterine and other women’s cancers. Led by Gustavo Rodriguez, MD, the Matthews Family Chair of Gynecologic Oncology Research, the division brings together a collaborative team of gynecologic oncologists, geneticists, radiologists, radiation oncologists, pathologists and critical support services, including psychosocial oncology, integrative medicine and nutrition.

Our multidisciplinary team cares for a growing number of patients, leveraging the latest technology and innovative techniques, including robotic surgery and other minimally invasive procedures. Carolyn Kirschner, MD, directs our minimally invasive program, which is the most active in gynecologic oncology in the Chicago area. Elena Diaz Moore, MD, is our newest partner and spearheads palliative care initiatives.

Our outstanding quality of care was recognized again this year with a Professional Research Consultants (PRC) Excellence in Healthcare Top Performer Award and the highly competitive PRC Excellence in Healthcare 5-Star Award.

Jean Hurteau, MD, leads the clinical trials and translational research program. He has received numerous federal grants and served as a principal investigator for translational research projects with the National Cancer Institute-funded Gynecologic Oncology Group (GOG).

A major research initiative focuses on prevention. Dr. Rodriguez and his team have made important discoveries toward the pharmacologic prevention of ovarian and uterine cancer. Building on this success, the Clinical Gynecologic Cancer Prevention Program at NorthShore is now officially open.

Academic affiliation with the University of Chicago continues to strengthen our research and clinical efforts, including joint oversight of a prestigious gynecologic oncology fellowship training program.

Thoracic Oncology

At the heart of NorthShore’s Thoracic Oncology Program (TOP) is a multidisciplinary clinic for patients and a collaborative, multidisciplinary tumor board. Co-directed by medical oncologist Thomas Hensing, MD, and thoracic surgeon John Howington, MD, the program offers the most advanced care for patients with lung cancer and other thoracic malignancies.

Experts from medical and radiation oncology, thoracic surgery, radiology, pulmonary medicine, pathology and pharmacy come together to offer the most sophisticated treatment plans, which help optimize the best outcomes for patients. Support from integrative medicine, nutrition and other services is incorporated in individual care, all seamlessly coordinated with the help of the thoracic nurse navigator.

The team also includes medical oncologists Nicholas Campbell, MD, and Ariel Polish, MD, and meets weekly to discuss new cases and develop personalized treatment plans. NorthShore is on the cutting edge of rapidly evolving treatment approaches, using molecular diagnostics to determine genetic profiles of individual tumors and tailored therapeutics, and completing a majority of novel diagnostics tests in-house.

Multimodal strategies combining surgery, chemotherapy, radiation and sophisticated medications ensure optimal outcomes. A wide array of clinical trials at NorthShore gives patients access to the latest drugs and treatment options. NorthShore’s thoracic oncology
biorepository and database facilitate sophisticated outcomes and translational research.

Our program emphasizes early detection, lung cancer screening and smoking cessation, and includes Dr. Howington, Ki Wan Kim, MD, and Seth Krantz, MD, who perform minimally invasive, video-assisted thoracoscopic surgery, or VATS lobectomy.

**Neurologic Oncology**

NorthShore is home to the first and most well-established neuro-oncology program in the Chicago area. Our multidisciplinary team provides progressive diagnostic and treatment options for patients with primary tumors of the brain and spinal cord, metastases, paraneoplastic syndromes and neurologic complications of cancer treatment.

Strong research initiatives are a foundation of our program, giving patients access to the latest drugs and innovative treatment options. Ongoing trials include rapidly expanding targeted therapies that are improving the standard of care for many patients with brain tumors. Principal investigators include Neuro-Oncologists Ryan Merrell, MD, and Nina Martinez, MD; and Neurosurgeon Julian Bailes, MD.

NorthShore Neurological Institute was one of only six sites in the country enrolling patients in a new targeted therapy Phase I study evaluating an investigational antibody-drug conjugate for patients with newly diagnosed glioblastoma multiforme (GBM), the most common and aggressive type of malignant primary brain tumor. Preliminary results were reported at numerous meetings during the year, including the American Society of Clinical Oncology and the Society for Neuro-Oncology.

**Interventional Radiology**

NorthShore’s Interventional Radiology group includes six specialist physicians, three physician assistants, and more than 40 dedicated nurses and technologists who perform image-guided, minimally invasive cancer therapies aimed at optimizing cancer outcomes, improving quality of life and reducing hospital stay. We offer the latest and most advanced developments in the rapidly evolving and expanding field of interventional oncology.

NorthShore’s interventional radiologists work in close collaboration with a team of oncologists, surgeons and radiation oncologists to provide customized care unique to each individual’s specific condition. This includes state-of-the-art diagnostic imaging equipment and some of the newest facilities in the area to deliver the highest level of minimally invasive care. Therapies include Y-90 radioembolization and chemoembolization of both primary and metastatic liver tumors, which provide options when chemotherapy is no longer effective or surgery is not feasible.

**Lung Cancer Screening Saves Lives**

An early adopter of this life-saving test, NorthShore offers low-dose computed tomography (CT) scans for men and women at high risk of developing lung cancer. An active participant in the International Early Lung Cancer Action Project (I-ELCAP), the Kellogg Cancer Center has been a leader in this critical early detection effort.

Based on a demonstrated improved lung cancer survival rate with the use of CT screening, as of January 1, 2015, most insurance companies are now required to cover low-dose CT scans for those at risk. Lung cancer is the leading cause of cancer in the United States and the leading cause of cancer-related death in men and women worldwide. Early detection through CT scanning is a proven strategy to improve outcomes and increase survival rates.

Candidates for lung cancer screening are 55–77 years old; have a smoking history of one pack a day for at least 30 years (or equivalent, such as two packs a day for 15 years or three packs a day for 10 years); and are current smokers or those who have quit within the last 15 years.

Lung cancer screening begins with a visit with a NorthShore physician (including patients’ primary care physicians) to provide information about the screening and determine eligibility. The low-dose CT scan is quick and noninvasive. Results of the scan are reviewed by leaders of Kellogg Cancer Center’s Thoracic Oncology Program, and personalized recommendations—including follow-up testing and treatment plans—are discussed with individual patients.

The majority of lung cancers are diagnosed in later stages. With this vital screening tool, we hope to change those odds and provide our patients with the hope that comes with early detection. High-risk patients who would like to schedule an appointment or want more information can call 224-251-LUNG (5864).
We also specialize in radiofrequency, microwave and cryoablation of solid tumors in organs that include the liver, kidneys, bones, lungs and other soft tissues. These are alternative treatments to surgical resection, especially for patients at high risk for surgery.

Interventional radiology involves image-guided biopsies to diagnose and stage disease as well as implant vascular access, such as tunneled catheters and ports, so patients can safely receive chemotherapy. Many of these procedures are performed on an outpatient basis and focus on preserving a patient’s quality of life as well as improving overall outcomes.

**Hematology and Hematologic Malignancies**

The Hematologic Malignancy Program at NorthShore offers the latest care for patients with acute and chronic leukemia, myeloma, Hodgkin and non-Hodgkin lymphoma. Led by Lyne Kaminer, MD, the Virginia and James Cozad Chair of Hematology, the program offers full hematology coverage across the NorthShore hospital system, and recently added our newest member, Jagoda Jasielec, MD, with an expertise in myeloma.

This year, the program was reaccredited by the Foundation for the Accreditation of Cellular Therapy. This comprehensive accreditation process reviews the competency of the high-dose chemotherapy program, blood bank, stem cell collection, safe administration of chemotherapy, supportive care and teamwork.

We also were accepted as part of the Center for International Blood and Marrow Transplant Research (CIBMTR), enabling NorthShore to be part of an international database to compare our results to national and international standards.

Our hematologists are experts in several research initiatives, including six new studies this year. In addition to CIBMTR, these initiatives include a Phase III randomized trial for adult patients with acute lymphoblastic leukemia (ALL), two new studies for patients with chronic lymphocytic leukemia (CLL), and two disease registry studies.

Our close collaboration with the Pathology Department continues, with a weekly hematopathology conference to review bone marrow biopsies, lymph nodes specimens and treatment plans. We are developing molecular panels to evaluate for specific, targeted therapy in acute leukemia and myelodysplastic syndromes, and introducing a new flow cytometer to monitor disease response and sustained remission.

**Head and Neck Oncology**

NorthShore’s Head and Neck Oncology group includes a collaborative team of specialists that focuses on maximizing cancer-related survival and improving quality of life by minimizing both short- and long-term side effects of treatment. In addition to individual patient education, we continue to raise awareness of the need for the HPV vaccine for boys and girls to prevent HPV-related head and neck cancers and cervical cancer.

Our program also emphasizes functional organ preservation using chemoradiation or transoral minimally invasive procedures as an alternative to traditional open surgery when appropriate. In collaboration with head and neck cancer-specific speech and language pathologists, we focus on a patient’s functional preservation.

Fellowship-trained head and neck surgeon Mihir Bhayani, MD, offers specific experience in robotic surgery, and is complemented by colleagues in otolaryngology with training in surgery for sinus, larynx and ear tumors. Ricky Wong, MD, joined NorthShore’s Department of Neurosurgery this year and is an addition to our team for complicated skull base tumors.

Several new and ongoing clinical and translational research projects include a unique, multidisciplinary project to examine the risk factors for the recurrence, metastasis or death from otherwise harmless skin squamous carcinomas using a large biorepository. Additionally, a novel immunotherapy trial for patients with the most advanced head and neck cancers and numerous projects examining national trends in head and neck cancers and its impact on outcome are completed or underway.

NorthShore continues to sponsor a Head and Neck Cancer Support Group, affiliated with SPOHNC, which meets regularly for patients and caregivers.

**Melanoma and Other Skin Cancers**

NorthShore’s multidisciplinary program offers the depth and breadth of experience to use complicated new therapeutics in treating malignant melanoma. In the last five years, significant advances have been made in treating this disease, and NorthShore’s team has the expertise and support to bring these advances to our patients.

New molecularly targeted therapies are available for nearly half of patients with metastatic melanoma whose tumors carry specific mutations in the BRAF gene. NorthShore’s molecular pathologists can test for this in our own lab so patients can begin appropriate treatments within days.

Melanoma has been the cancer most positively impacted by advances in immunotherapy for cancer, with the checkpoint inhibitor drugs ipilimumab, pembrolizumab and nivolumab now routinely used. We were able to bring early access to these drugs through clinical trials and have developed significant experience treating patients with these medications. A small group of patients who may experience unique autoimmune side effects have access to NorthShore specialists in endocrinology, gastroenterology, dermatology and rheumatology.

Patients also have access to dermatologists Ross Levy, MD, and Gregg Menaker, MD, who are experienced in Mohs micrographic surgery. Several new and ongoing clinical and translational research projects include a unique, multidisciplinary project to examine the risk factors for the recurrence, metastasis or death from otherwise harmless skin squamous carcinomas using a large biorepository. Additionally, a novel immunotherapy trial for patients with the most advanced head and neck cancers and numerous projects examining national trends in head and neck cancers and its impact on outcome are completed or underway.

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Increased Access for Our Patients

In addition to our three hospital locations—Evanston, Glenbrook and Highland Park—the Kellogg Cancer Center provides high-level, compassionate care at its Gurnee and Skokie Ambulatory Care Centers, as we constantly strive to increase convenience and flexibility for our growing patient base. The Gurnee and Skokie locations will serve as extensions of the comprehensive services offered at the three Kellogg Cancer Center locations and also offer patients other conveniences including on-site lab and radiology services.

This year, Ariel Polish, MD, joined colleagues Matthew Adess, MD, Bruce Brockstein, MD, Britt Hanson, DO, and Teresa Murray Law, MD, in providing hematology and oncology consultation and follow-up services in Gurnee. NorthShore Gurnee Ambulatory Care Center is located at 7900 Rollins Road, Suite 1100, just west of the Gurnee Mills shopping center, increasing access for patients and referring physicians in Lake County.

Another new addition to the Division of Hematology-Oncology, Jagoda Jasielec, MD, is now accepting new patient consultations, joining gynecologic-oncologist Jean Hurteau, MD at the Skokie Ambulatory Care Center on the campus of NorthShore Skokie Hospital.

All of our Kellogg Cancer Center locations and extensions are dedicated to providing the highest level of care delivered by experienced teams of multidisciplinary specialists.

Offering our patients care close to home is a priority and our increased services in both Gurnee and Skokie reflect that commitment. Specialists including from left, Drs. Ariel Polish, Jagoda Jasielec, Bruce Brockstein, Barbara Loris, Britt Hanson and gynecologic oncologist Jean Hurteau provide expert oncology care and treatment to patients at our Ambulatory Care Centers.

surgery. Jason Waldinger, MD, offers a pigmented lesion clinic for patients with multiple nevi and high-risk skin. David J. Winchester, MD, the Board of Directors/David P. Winchester, MD, Chair of Surgical Oncology, performs complex isolated limb perfusions and isolated limb infusions to treat melanoma that has spread within an arm or leg. We are initiating a weekly multidisciplinary clinic, combining the expertise of NorthShore physicians, including medical and surgical oncologists, in treating melanoma and other skin cancers.

Medical Genetics

As one of the largest and busiest adult genetic counseling programs in the country, NorthShore’s Center for Medical Genetics began offering clinical testing for inherited breast cancer risk BRCA1 and 2 shortly after it became clinically available.

We are a recognized leader and were quick to adopt new germline testing for inherited cancers, which can help guide management, including treatment and screening options, to achieve the best outcomes for patients.

Directed by Peter Hulick, MD, the Center is examining more than 70 genes possibly linked to breast and ovarian cancer to identify and stratify family risk. Dr. Hulick’s team has developed the SIFT (Susceptibility gene Identification in Families with a geneTic predisposition to breast cancer) Registry. This registry is designed to find new breast cancer susceptibility genes and will help develop a Next-Generation Sequencing (NGS) clinical test to provide a more precise risk estimate to guide patients at NorthShore’s High-Risk Breast Cancer Program.

The Center works collaboratively with our medical informatics team, building the infrastructure to help collect and track genetic information in our Electronic Medical Record (EMR) system and to enhance the process for tracking follow-up with individual patients.

Providing genetic information in the most clinically friendly format that is transparent and beneficial for patients and physicians continues to be a priority, especially as it relates to helping patients and their physicians make decisions about treatment related to cancer risk. The Center also is involved in education and building awareness of genetic risk issues for patients and medical providers.

Radiation Oncology

NorthShore’s team of radiation oncologists offers the latest technologies and years of experience for advanced cancer care. The Department of Radiation Medicine is accredited by the American College of Radiology for each of NorthShore’s treatment locations at Evanston, Glenbrook and Highland Park Hospitals.

NorthShore was one of the first Chicago-area medical centers to introduce radionuclide therapy for prostate cancer bone metastases using the alpha-emitting radionuclide radon-223. It has been a leader in developing accelerated partial breast irradiation (APBI) for patients with early-stage breast cancer, reducing the time for treatment from six and a half weeks to three weeks. More than 800 women have been treated to date, and approximately 300 women have been followed for five or more years, with results comparable to standard therapy.

NorthShore’s stereotactic body radiation therapy program continues to grow as an option for patients, offering pinpoint precision to target radiation treatment on tumors or lesions close to critical structures in the body. Stereotactic body radiation enables doctors to treat a range of conditions, including benign and malignant brain tumors; metastatic tumors or recurrent brain tumors; functional brain disorders; and tumors of the head and neck, lung, liver, prostate and spine. This treatment is particularly viable for patients who cannot undergo traditional surgery because of illnesses, for tumors that are located in inoperable areas or for procedures that present increased risk of harming critical structures near the tumor. The therapy is especially effective for patients with early-stage lung cancer who are deemed to be poor operative risks.

For more information, visit northshore.org/cancer or call (847) 570-2112.
Active Clinical Trials

NorthShore patients have access to a broad array of clinical trials and potentially life-saving new treatments. Among our many current trials are:

Brain Tumors
ACT IV CDX101-04 International, randomized double-blind controlled study of mizolastine/GM-CSF with adjuvant temozolomide in patients with newly diagnosed, surgically resected, EGFVIII- positive glioblastoma
A071101 Phase II randomized trial comparing the efficacy of heat shock protein-peptide complex-96 (SPRPC-96) (NSC #725085, Alliance NO #15380) vaccine given with bevacizumab or bevacizumab alone in the treatment of surgically resectable recurrent glioblastoma multiforme (GBM)
A221101 Phase II randomized, double-blind, placebo-controlled study of armodofinil (AreaVi) to reduce cancer-related fatigue in patients with glioblastoma multiforme
AbbrVie/M12-356 Phase I study evaluating the safety and pharmacokinetics of ABT-414 in combination with radiation plus temozolomide or temozolomide alone for subjects with glioblastoma multiforme
NI07C Phase III trial of postoperative stereotactic radiosurgery (SRS) compared with whole brain radiotherapy (WBRT) for resected metastatic brain disease

Breast Cancer
LATTE Long-term anastrozole versus tamoxifen treatment effects
UC13-1-000 Carboplatin, gemcitabine and mitoplatin for advanced breast cancer and recurrent or persistent epithelial ovarian cancer
EH14-308 A011106 ALTernate approaches for clinical stage II or II estrogen receptor positive breast cancer NeoAdjuvant TrEatment (ALTERNATE) in postmenopausal women: Phase III study
AbbVie M12-914 Phase III randomized, placebo-controlled trial of carboplatin and paclitaxel with or without the FAPR inhibitor veliparib (ABT-888) in HER2-negative metastatic or locally advanced unresectable BRCA-associated breast cancer
NSABP B-55 Randomized, double-blind, parallel group, placebo-controlled multi-center Phase III study to assess the efficacy and safety of Olaparib versus placebo as adjuvant treatment in patients with germline BRCA 1/2 mutations and high-risk HER2 negative primary breast cancer who have completed definitive local treatment and neoadjuvant or adjuvant chemotherapy
TNBC AVATAR Feasibility/pilot study of genomics-guided therapeutic drug selection for triple negative breast cancer (TNBC) using a patient-driven molecular xenograft
EA1131 Randomized Phase III postoperative trial of platinum based chemotherapy versus observation in patients with residual triple-negative basal-like breast cancer following neoadjuvant chemotherapy
NSABP B-51 A randomized Phase III clinical trial evaluating postmastectomy chest wall and regional nodal XRT and post-lumpectomy regional nodal XRT in patients with positive auxiliary nodes before neoadjuvant chemotherapy who convert to pathology negative auxiliary nodes after neoadjuvant chemotherapy

Cancer Control
REFLEXOLOGY Home-based symptom management via reflexology for breast cancer patients

Gastrointestinal Cancer
UC12-0033 Genotype-guided dosing study of mFOLIRINXOX in previously untreated patients with advanced gastrointestinal malignancies
RTG0 1112 Randomized Phase III study of sorafenib versus stereotactic body radiation therapy followed by sorafenib in hepatocellular carcinoma
Celgene ABI-007-PANC-003 Phase II, multicenter, open-label, randomized study of nab-paclitaxel plus gemcitabine versus gemcitabine alone as adjuvant therapy in subjects with surgically resected pancreatic adenocarcinoma
AstraZeneca D081FC0001 (POLO) Phase III, randomized, double-blind, placebo-controlled, multicenter study of maintenance Olaparib monotherapy in patients with gBRCA mutated metastatic pancreatic cancer whose disease has not progressed on first line platinum-based chemotherapy

Gynecologic Cancer
GO00238 Randomized trial of pelvic irradiation with or without concurrent weekly cisplatin in patients with pelvic-only recurrence of carcinoma of the uterine corpus
GO00274 (The Outback Trial) Phase III trial of adjuvant chemotherapy as primary treatment for locally advanced cervical cancer compared to chemo-radiation alone
GO0277 Phase II randomized trial of gemcitabine (NSC #613227) plus docetaxel (NSC #625850) followed by doxorubicin (NSC #123127) versus observation for uterus-limited, high-grade uterine leiomyosarcoma
GO0288B Randomized Phase II/III study of paclitaxel/carboplatin/mitomycin (NSC #91465) versus paclitaxel/carboplatin/placemento as initial therapy for measurable stage III or IV, stage MB, or recurrent endometrial cancer
UC13-1323 Phase II study of XL184 (cabotinib) in recurrent or metastatic endometrial cancer
UC13-1325 Randomized placebo-controlled Phase II trial of metformin in conjunction with chemotherapy followed by metformin maintenance therapy in advanced stage ovarian, fallopian tube and primary peritoneal cancer adjuvant treatment
MD Anderson 2013-0340 Prophylactic salpingectomy with delayed oophorectomy, risk-reducing salpingo-oophorectomy, and ovarian cancer screening among BRCA-mutation carriers: A proof-of-concept study
GO0275 Phase III randomized trial of pulse actinomycin-D versus multi-day methotrexate for the treatment of low-risk gestational trophoblastic neoplasia
GO0264 Randomized Phase II trial of paclitaxel and carboplatin versus blemiron, etoposide and cisplatin for newly diagnosed advanced-stage and recurrent chemo-naive stage sex con-trastional tumors of the ovary

Head and Neck Cancers
HCN Tissue bank tissue/body fluid procurement and clinical data collection for patients with malignancies of the head and neck area and/or pre-malignant changes
AstraZeneca D4193C00001 (HAWS) Phase II, multicenter, single-arm, global study of MED14736 monotherapy in patients with recurrent or metastatic squamous cell carcinoma of the head and neck (SCCHN)
RT0G 1216 Randomized Phase II/III trial of surgery and post-operative radiation delivered with concurrent cisplatin versus docetaxel versus docetaxel and cetuximab for high-risk squamous cell cancer of the head and neck
AstraZeneca D4193C00003 (CONDOR) Phase II randomized, open-label, multicenter, global study of MED14736 monotherapy, tremelimumab monotherapy and MED14736 in combination with tremelimumab in patients with recurrent or metastatic squamous cell carcinoma of the head and neck (SCCHN)

Hematology
E2905 Randomized Phase II trial comparing the frequency of major erythroid (M/E) treatment with lenalidomide (Revlimid) alone and in combination with osetopin alfa (Procrit) in subjects with lower intermediate-1 risk MDS and symptomatic anemia
CALGB 95801 Phase II trial of response-adapted therapy based on positron emission tomography (PET) for bulky stage I and stage II classical Hodgkin lymphoma (HL)
CS0904 Randomized Phase II trial of ofatumumab and bendamustine versus ofatumumab, bortezomib (NSC #681239, IND # 58443) and bendamustine in patients with untreated follicular lymphoma CALGB 8461 Cytogenetic studies in acute leukemia
CALGB 9966 The CALGB leukemia tissue bank
C20202 Assessment of novel molecular markers in acute myeloid leukemia
S1001 Phase II trial of PET-directed therapy for limited-stage diffuse large B-cell lymphoma (DLBCL)
Celgene Connect MM The Multiple Myeloma Disease Registry
GSK: HOMER OMB113676 Phase II randomized, open-label single study of single agent ofatumumab versus single agent rituximab in indolent B-cell non-Hodgkin lymphoma relapsed after rituximab-containing therapy
Connect MDS AML The Myelodysplastic Syndromes (MDS) and Acute Myeloid Leukemia (AML) Disease Registry
S1203 Randomized Phase III study of standard cytarafture plus daunorubicin (7+3) therapy or idarubicin with high dose cytoaraine (A) versus IA with vindostat (NSC-701852) (IA-A), in younger patients with previously untreated acute myeloid leukemia (AML)
E1912 Randomized Phase III study of brutinib (PCI-32765)- based therapy versus standard fludarabine, cyclophosphamide, and rituximab (FCR) chemotherapy in untreated patients with chronic lymphocytic leukemia (CLL)
Incyte INCB-MA-PV-401 Prospective, noninterventional study of disease progression and treatment of patients with polyomavirus vera in United States academic or community clinical practices (REVEAL)
A0401202 Randomized Phase III study of bendamustine plus rituximab versus rituximab plus rituximab and rituximab in untreated older patients (≥ 65 years of age) with chronic lymphocytic leukemia (CLL)
E1910 Phase III randomized trial of Binatumomab for newly diagnosed BCR-ABL-negative B line acute myeloid leukemia in adults
CIBMTR Research database for hematopoietic cell transplantation, other cellular therapies and marrow toxic injuries

Pilot Study Pilot study of the impact of early palliative care on quality of life in recurrent ovarian, fallopian tube and primary peritoneal cancer
Gog 0281 A Randomized Phase II/III trial to assess the efficacy of trametinib (GSK 1120212) in patients with recurrent or progressive low-grade serous ovarian or peritoneal cancer

For more information, visit northshore.org/cancer or call (847) 570-2112
Lung Cancer

RT04 0839 Randomized Phase II study of preoperative chemoradiotherapy +/- panitumumab (INDA 110152) followed by consolidation chemotherapy in potentially operable locally advanced stage IIA, N2(2) non-small cell lung cancer
S1400 Phase III/II biomarker-driven master protocol for second-line therapy of squamous cell lung cancer
AbbVie M11-089 Randomized, double-blind, multicenter, Phase II trial comparing veliparib plus carboplatin and paclitaxel versus placebo plus carboplatin and paclitaxel in previously untreated advanced or metastatic squamous non-small cell lung cancer (NSCLC).
AbbVie: M14-359 Randomized, open-label, multicenter, Phase II trial comparing veliparib plus carboplatin and paclitaxel versus investigator’s choice of standard chemotherapy in subjects receiving first-line cytotoxic chemotherapy for metastatic or advanced non-squamous non-small cell lung cancer (NSCLC) and who are current or former smokers.
Colgeine ABI-007-NSCLC-005 Safety and efficacy of nab-paclitaxel (Abraxane®) in combination with first-line treatment in elderly subjects with advanced non-small cell lung cancer (NSCLC); A Phase IV, randomized, open-label, multicenter study.
AstraZeneca D4191C00001 A Phase II randomized, double-blind, placebo-controlled, multicenter, international study of MED14736 as sequential therapy in patients with locally advanced, unresectable non-small cell lung cancer (Stage III) who have not progressed following definitive, platinum-based, concurrent chemoradiation therapy (PACIFIC).
CLOVIS C00168-020: A Phase II, open-label, multicenter, randomized study of rociletinib (CD-1686) monotherapy versus single-agent cytotoxic chemotherapy in patients with mutant EGFR non-small lung cancer (NSCLC) after failure of at least one previous EGFR-directed tyrosine kinase inhibitor (TKI) and platinum-double chemotherapy.
AstraZeneca D4191C00004: A Phase III open-label, randomized, multicenter, international study of MED14736, given as monotherapy or in combination with temozolomide, determined by PD-L1 expression versus standard of care in patients with locally advanced or metastatic non-small cell lung cancer (Stage IIB-IIIB) who have received at least two prior systemic treatment regimens including one platinum-based chemotherapy regimen and do not have known EGFR TK activating mutations or ALK rearrangements (ARTIC).

Esophageal junction (GEJ) adenocarcinomas

EAY131-H Phase II study of dabrafenib and trametinib in patients with tumors with BRAF V600E or V600K mutations (excluding melanoma and thyroid cancer)
EAY131-V Phase II study of sunitinib in patients with tumors with c-Kit mutations (excluding GIST, renal cell carcinoma or pancreatic neuroendocrine tumor).

Breast Surgery

099 Mentor postapproval study of mentor MemoryGel® breast implants in women undergoing breast augmentation or reconstruction.
EH08-094 Prospective study of nipple-sparing mastectomy: Oncologic and reconstructive outcomes
EH09-387 Retrospective analysis of breast MRI performed at NorthShore University HealthSystem for newly diagnosed breast cancer
EH11-124 Development and maintenance of a comprehensive breast reconstruction registry at NorthShore University HealthSystem
EH12-321 An Investigation of disparities in the delivery of breast reconstruction among older patients who undergo mastectomy
EH13-168 Interactive 3D stereoscopic imaging during surgery
EH14-020 Plotting and in-vist visit decision aid for contralateral prophylactic mastectomy decision making
EH14-045 A retrospective review of pain control using Exparel versus bupivacaine pump in implant-based breast reconstruction.
EH14-218 Does contralateral prophylactic mastectomy improve satisfaction and psychosocial health?
EH14-346 Effects of preoperative breast MRI on surgical outcomes, costs and quality of life of women with breast cancer—alliance A005114/ACRIN 669
EH15-142 Regional variation of breast surgery in SEER-Medicare
EH15-297 Randomized Phase III trial comparing axillary lymph node dissection to axillary radiation in breast cancer patients (cT1-3 N1) who have positive sentinel lymph node disease after neoadjuvant chemotherapy—alliance A011202 National Cancer Data Base—Breast Surveillance, Epidemiology and End Results (SEER)—Breast

Colorectal Surgery

EH10-333 Phase III prospective randomized trial comparing laparoscopic-assisted resection versus open resection for rectal cancer; Z0651 version A3
EH12-468 N1048 Phase III trial of neoadjuvant FOLFOX and platinum-double chemotherapy
EH13-459 Phase II/III biomarker-driven master protocol for advanced (stage IIIA, N2+) non-small cell lung cancer
EH14-218 Definition of the role of microbes in the pathogenesis of intestinal anastomotic leak via serial endoscopic surveillance

Genitourinary Cancer

EH13-088 Mind-body health in uro-oncology
EH13-031 Genomic markers In transitional cell cancer of the bladder, renal pelvis and ureter; Sample acquisition for methods development and discovery
EH14-285 Fat and its relationship to prostate, bladder and kidney cancer
EH15-240 Urologic oncology: Costs and complications
EH09-043 Multi-phase study of active surveillance for men with clinical stage T1c or T2a localized prostate cancer
EH10-089 Periprostatic fat as a biomarker of prostate cancer progression
EH10-379 3-dimensional transrectal ultrasound for prostate cancer diagnosis and surveillance
EH11-211 ACCESS-PCa (Advancing Quality Care, Education and Symptom Support—Prostate Cancer)
EH12-433 Genetics of prostate cancer aggressiveness
EH13-049 Compliance and outcomes with penile rehabilitation in men after prostate cancer treatment
EH13-250 Cancer susceptibility: The IPCG Study (International Consortium for Prostate Cancer Genetics)

Pancreatic Cancer

EH08-197T Clinical pancreatic cancer database
EH09-474 Analysis of predictors of postoperative morbidity and long-term survival following pancreatic surgery
EH11-302 Predictors of malignancy of neuroendocrine tumors of the pancreas
EH12-060 Genomics of pancreatic cancer
EH12-118 Retrospective analysis of clinical and pathological features in patients with ampullary carcinoma
EH13-296 Retrospective analysis of association of sarcopenia with frailty and surgical outcomes in patients with pancreatic pathology
EH13-362 Outcomes of pancreatic cancer
EH14-399 Survival differentiators in pancreatic cancer National Cancer Data Base—Pancreas

Thyroid Cancer

EH11-069 Use of partial-wave spectroscopy to determine whether follicular thyroid lesions are benign or malignant
EH12-310 Occurrence of BRAF mutation in thyroid cancer
EH14-263 Epigenetic chromatin conformation changes in peripheral blood to differentiate benign versus malignant thyroid lesions
National Cancer Data Base—Thyroid and Adrenal
EH14-058 The establishment of a multidisciplinary comprehensive database of patients for thyroid nodular disease
A broad array of support services designed to help cancer patients and their families through all phases of their care is an important element of Kellogg Cancer Center’s comprehensive and patient-focused treatment.

Nurse navigators and other members of the Kellogg Cancer Center team help patients access what they need most from nutrition and psychosocial support to ongoing patient education and financial counseling. Holistic support enables optimal emotional and physical health and cultivates healing throughout the entire cancer journey.

Nutrition and Dietary Guidance
Nutrition counseling is an important aspect of care for our patients. We know that proper nutrition is critical to good health, and we also understand that maintaining a healthy diet can be especially challenging for some patients undergoing cancer treatment.

Registered dietitians with special experience and certification in oncology are available for patient consultations and will work with individuals and families to develop nutrition goals and help devise meal plans throughout therapy. This support is offered at no cost to patients and can be vital in helping maintain nutritional reserves and combating appetite and weight-loss problems that frequently occur as an effect of the cancer or its treatment.

Kellogg Cancer Center’s nutrition team participates in community outreach and education events as increasing evidence points to nutrition and healthy weight as important factors in prevention of many cancers or improved outcomes after treatment. We maintain active partnerships with the Cancer Wellness Center and a variety of support groups and work to educate the public about the relationship between nutrition and cancer.

Psychosocial Support
A cancer diagnosis can be a life-changing event for individual patients as well as for their families and friends. Kellogg Cancer Center’s dedicated Psychosocial Oncology Program has experienced clinicians who can provide emotional support and help in accessing internal and external assistance programs addressing logistic and practical needs for those facing cancer. When needed, our team can refer expeditiously for psychological and psychiatric assistance.

The Psychosocial Oncology Program offers psychotherapy and assessment, crisis intervention and referrals for issues including transportation, home care, financial assistance and related issues all designed to help patients cope with their illness and maintain quality of life. The psychosocial team collaborates with Kellogg Cancer Center physicians and nurses ensuring seamless continuity of care.

We offer a variety of valuable support groups for patients and caregivers, and our partnership with the Cancer Wellness Center provides additional support and educational programming. Our alliance with Imerman Angels, a nonprofit organization that matches patients and caregivers with one-on-one mentors, allows our patients to serve as mentors and be matched with mentors with similar age and type of cancer. We also partner with the American Cancer Society, offering further support to our patients and their families with a broad array of services, including educational materials, transportation to and from treatment, and wigs and other hair-loss products. All NorthShore cancer patients are screened for distress. Any patient who self-identifies or scores at a level of significant distress will be seen for a follow-up with a member of the psychosocial team.

Like the rest of our oncology programs, the psychosocial team also aims to improve knowledge and outcomes through its involvement in clinical research.

Financial Advocacy
The financial burdens associated with cancer care often add to the stress of a cancer diagnosis and its treatment. We recognize this, and in response have a well-established assistance program. Our Patient Financial Advocates meet with patients who need assistance with a variety of financial issues. Our specially trained advocates work with a team of precertification specialists who work to have

(continued)
treatment plans preauthorized for payment and can answer questions about bills and charges. They also assist in the precertification of some diagnostic tests.

For patients who demonstrate significant financial need, our advocates coordinate reduced-cost care through state programs, the hospital’s charity care program, or in some cases working directly with pharmaceutical companies or other private foundations. We have been able to assist patients with acquiring often extremely expensive oral cancer treatment medications, saving our patients millions of dollars of out-of-pocket costs over the past several years. Our Patient Financial Advocates work closely with social workers and the entire Kellogg Cancer Center team.

**Dedicated Oncology Pharmacy**

Nationally certified and specially trained oncology pharmacists staff a dedicated oncology pharmacy in each Kellogg Cancer Center. The pharmacy team works closely with physicians and nurses and understands the specific needs of cancer patients, as well as potential side effects or interactions of medications, and is committed to providing excellent treatment. Our oral chemotherapy pharmacy is an important resource for patients. Our pharmacists help with education recommendations regarding changes in medications and monitoring managing side effects and other symptoms. The oncology pharmacy plays a key role in many quality improvement projects and clinical trial management at NorthShore. It also has been a national leader in computerized physician chemotherapy ordering, and patient quality and safety especially as related to oral chemotherapy.

**Patient Education**

Dedicated resource centers—including the Myra Rubenstein Weis (MRW) Health Resource Center at NorthShore Highland Park Hospital and the Kellogg Cancer Resource Center at NorthShore Evanston Hospital, established in memory of patient Ira Korman, offer great information vehicles and opportunities for patient education. Computer stations include carefully curated links to appropriate websites, and specially selected books, periodicals and DVDs are available for patients and families to check out.

New patients meet with a collaborative nurse to review their individual treatment plan and develop a relationship that encourages them to ask questions throughout their care. Comprehensive patient education materials are also important resources for Kellogg Cancer Center patients.

NorthShore’s “Understanding Cancer” educational programs are one element of our community outreach and education efforts. Held several times throughout the year, these physician-led programs provide the community with cancer-related information from cutting-edge diagnostic options to minimally invasive surgical techniques, modern treatment options and genetic factors. Following the presentations, participants have the opportunity to ask questions and obtain answers from a panel of Kellogg Cancer Center physicians.

**LIFE Cancer Survivorship**

NorthShore’s Living in the Future (LIFE) Cancer Survivorship Program is entering its tenth year, celebrating the ninth anniversary of its founding and first LIVE STRONG Foundation grant award. The program is one of the first programs in our region to establish survivorship as a distinct phase of care in the cancer continuum. It offers free services to all Kellogg Cancer Center patients.

Under the direction of Carol Rosenberg, MD, the LIFE Program helps survivors plan for post-treatment life based on the unique risks, exposures and needs of each individual. The NorthShore LIFE model of care provides one-on-one care in the creation of a survivorship care plan, MRW Survivorship 101 seminars and specialized group support. Dr. Rosenberg is the lead author of “Promotion of self-management for post treatment cancer survivors: Evaluation of a risk adapted visit” published in the Journal of Cancer Survivorship in July 2015. The article chronicles the short- and long-term benefits to survivors who participated in the LIFE Program and highlights the LIFE Program as an exemplary model for survivorship care. Data from this study of the LIFE program reveal that the LIFE program helps survivors construct a useful understanding of their cancer experience and promotes long-term self-management.

Dr. Rosenberg has also created the Living in the Future Cancer Survivorship course with the philanthropic support of the Coleman Foundation. The curriculum, now in its fourth year, provides emerging healthcare professionals, as well as those who are established in practice, with knowledge and skills related to survivorship care. This curriculum is one of the first of its kind in the nation to provide the formal integration of a cancer survivorship course into the core learning experiences for physicians in training and thus prepares the next generation of physicians for helping their cancer patients thrive and move forward, living in the future.

**Integrative Medicine**

At NorthShore, Integrative Medicine combines conventional Western medicine with safe, evidence-based complementary medicine approaches—something that growing numbers of cancer patients are finding beneficial. Kellogg Cancer Center patients have access to experienced integrative medicine practitioners specializing in acupuncture, traditional Chinese medicine and therapeutic massage.

Our Integrative Medicine team has special training in oncology and works collaboratively with the Kellogg Cancer Center team, communicating regularly through the shared Electronic Medical Record (EMR) system.

Integrative therapies, including acupuncture and body work, have been linked with improving a range of factors affecting quality of life for cancer patients including increased energy, strength, appetite, restful sleep, digestive function, pain relief, and diminished nausea and dry mouth. Laser acupuncture is also available for cancer patients, which can be particularly beneficial for those dealing with lymphedema or other contraindications to needles. Low-level laser acupuncture offers a safe and effective, needle-less form of treatment with similar benefits to traditional acupuncture. Carefully chosen nutritional supplements, vitamins and herbs may also be added to support one’s immune and digestive health, while also making up for lack of nutrients that may be identified during the patient visit.

Led by Medical Director Leslie Mendoza Temple, MD, NorthShore’s Integrative Medicine Program is an active member of the international Academic Consortium for Integrative Medicine and Health and one of the largest and longest tenured programs in the country. Thanks to ongoing philanthropic support, NorthShore is able to offer some free and sliding-scale integrative services to patients who would not otherwise be able to afford these treatments, which are not always reimbursed by insurance.
Academic Leadership Roles and Awards 2014–2015

Kellogg Cancer Center physicians are active in a broad range of regional and national organizations.

Charles Brendler, MD
• Executive Research Director, Program for Personalized Cancer Care

Bruce Brockstein, MD
• Member, Head and Neck Committee, Eastern Cooperative Oncology Group, 2000–present
• UpToDate (Online Textbook), Chapter Editor, Head and Neck Cancer, 2000–present
• Myra Rubenstein Weiss Awardee for Contributions to Oncology, 2014

Elena Diaz, MD
• Journal Ad Hoc Peer Reviewer, Gynecologic Oncology, 2014–present

David Grinblatt, MD
• Member, Alliance for Clinical Trials in Oncology, Community Oncology Committee
• Scientific Advisory Committee, Connect CLL Registry
• Scientific Advisory Committee, MDS/AML Patient Registry

Thomas Hensing, MD
• Lung Cancer Initiative Advisory Council, Respiratory Health Association
• Member, Alliance Respiratory Committee
• Planning Committee Member, 2014 Chicago Multidisciplinary Symposium in Thoracic Oncology
• Planning Committee Member, Community Oncology Tract, 2015 ASLC Meeting
• Scientific Committee Member, ASCO Thoracic Oncology Track
• Co-Chair, Lung Oncology Group in Chicago (LOGIC)

Invited Lectures:
• Faculty Speaker: “Lung Cancer—Non-Small Cell Local-Regional/Small Cell/Other Thoracic Cancers” and “Faculty Case Question & Answer Panel,” 2015 Best of ASCO Chicago Meeting, Chicago, IL, Aug. 29, 2015
• Keynote Speaker: “Personalized Therapy of Lung Cancer: Update on the Role for Genomic Profiling.” American Lung Association 2015 LUNG FORCE Expo, Dury Lane Convention Center, Oakbrook Terrace, IL, April 30, 2015
• Speaker: General Session IV: Molecular Therapy for Advanced Disease: Challenging Case Discussion/ Q&A—“Case-Based Discussion on Molecular Therapeutics.” Chicago Multidisciplinary Symposium in Thoracic Oncology, Chicago, IL, Oct. 21, 2014

Michael Howard, MD
• Journal of Surgical Oncology, Manuscript Reviewer, 2013–present
• Plastic and Reconstructive Surgery, Breast Section, Manuscript Reviewer, 2007–present
• LEAP Foundation, Medical Mission Volunteer, Instructor, Surgical Disaster Response Team, 2000–present
• Bright Pink, Founding Member, Board of Directors, Expert Panel Member, 2007–present

National Presentations/Invited Lectures:
• “Pan Control Using Liposomal Bupivacaine versus Bupivacaine Pain Pump and a Control Group in Implant Based Breast Reconstruction Patients.” American Association of Plastic Surgeons, 94th Annual Meeting, Scottsdale, AZ, April 2015
• “Incorporating Nipple-Sparing Mastectomy (NSM) into Your Practice,” ASPS Instructional Course, Chicago, IL, October 2014

Jean Hurteau, MD
• Member of the Development Therapeutics Committee of NRG/Gynecologic Oncology Group, 2012–present
• Member of the Rare Tumor Committee of NRG/ Gynecologic Oncology Group, 2012–present
• Member of the International Committee of the Society of Gynecologic Oncology, 2013–present

National Presentations:
• Ovarian Germ Cell Tumors: Surveillance versus Treatment. Presented at the NRG/GOG National Cooperative Group CME Symposium, San Diego, CA, Feb. 6–9, 2014
• Surveillance for Germ Cell Tumors in the Adult. Presented at the annual SGO winter meeting in Breckenridge, CO, Feb. 20–22, 2014
• Society of Gynecologic Oncology Early Career Educational Summit; Clinical Trial Update in Cervical, Vulvar and Gestational Trophoblastic Disease. Chicago, IL Dec. 12–13, 2014
• Rare ovarian tumors. Presented at the annual Society of Gynecologic Oncology (SGO) meeting in Salt Lake City, UT, Feb. 19–21, 2015

Karen Kaul, MD
• Annual Reviews in Pathology, Editorial Board, 2011–present
• American Board of Pathology, Appointed Trustee, 2011–present
• American Board of Pathology, ACGME Residency Review Committee, 2012–present; ACGME Molecular Genetics Pathology Fellowship Milestones Committee, 2013–2014; Secretary, Executive Committee, 2015–present
• American Board of Medical Specialties, Member, Physician Scientists & Continuing Certification Committee, 2014–present
• American Society of Clinical Pathology, Member, Ad Hoc Working Group on GME, 2012–present
• Association for Molecular Pathology, 2010–present, Member, Joint Journal Oversight Committee; 2014–2015, Awards Committee, 2014–2015
• College of American Pathologists, Laboratory Test Utilization Group, 2013–present
• PROCS (Pathology Residency Program Directors), Member PROCS Council, 2009–present; Council of Medical Specialty Societies/OPDA representative, 2009–present; Training Residents in Genomics (TRIG) Joint Committee, 2010–present

Scientific Review Activities:
• Ad Hoc Member, NIH/NCI PO1 reviewer, 2001–present
• SBIR Review Panels, various (Panel Chairperson 2010–present), 2008–present
• Peer Reviewer, Prostate Cancer Foundation, 2010–present
• Peer Reviewer, University of Chicago CTSA Pilot Program, 2011–present

Karen Kaul, MD (continued)

Editorial activities:
• Ad Hoc Reviewer: Cell Growth and Differentiation, Pediatric Pathology, Cancer, Clinical Microbiology Reviews, Tubercle, Archives of Pathology and Laboratory Medicine, Clinical Chemistry, American Journal of Clinical Pathology, 1990–present

Lectures:
• The Lab’s Role in Cost and Care Transformation. Mayo Annual Outreach Symposium, Rochester, MN, September 2014
• Pathology Maintenance of Certification. The Chicago Pathology Society, Chicago, IL, October 2014
• Next Gen Pathology; Our role in the cost and care transformation. Association of Pathology Chairs, Regional Meeting, Maui, Oct. 23, 2014
• Molecular and Genomic Pathology; Perspective of the American Board of Pathology and the ACGME. CAP Personalized Healthcare Committee, Oct. 27, 2014

Janardan Khandekar, MD
• Associate Editor for the Journal of Surgical Oncology
• Internal Advisory Committee—SPOR for prostate cancer

Invited Lecture:
• Association of Physician Assistants in Oncology (APAO)—17th Annual Conference, Sept. 11, 2014

Carolyn Kirschner, MD
• Membership Committee, Society of Gynecologic Oncologists, 2011–present
• Patient Advocacy Reporting System, 2011–present

Teresa Murray Law, MD

Invited Lecture:

Erik Liederbach, Breast Cancer Research Fellow

Robert Marsh, MD
• Member, GI Committee, Eastern Cooperative Oncology Group
• Editorial work: Southern Medical Journal, Cancer, Rogers Medical Intelligence Solutions CME Programs, American Journal of Clinical Oncology, Journal of the Pancreas, Lancet Oncology, European Journal of Surgical Oncology, Public Library of Science

Leslie Mendoza, MD
• Chair, Medical Cannabis Advisory Board, Illinois Department of Public Health (mcpp.illinois.gov)
• Co-Chair, Policy Working Group for the Academic Consortium for Integrative Medicine & Health (www.imconsortium.org)

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Sharpe SM, Talamonti MS, Wang E, Bentrem DJ, Roggin KK, Prinz RA, Marsh RD.


Talamonti MS. Screening strategies for pancreatic cancer in high-risk patients: opportunities to make a real impact but many questions and challenges still ahead. JAMA Surg. 2015 Apr 8; [Epub ahead of print]. doi: 25583232


Over the past year, the number of available oral chemotherapy agents has continued to grow, and the utilization of these medications is still on the rise. The American Society of Clinical Oncology’s Cancer Care in America Report describes the perfect storm, including an increased demand for cancer care unable to be matched by the slower growth of the number of oncologists. Other articles describe “financial toxicity” arising from the immensely high costs of the new oral chemotherapy agents. Kellogg Cancer Center pharmacy recognizes these global issues and is placing prioritized effort on addressing the challenges associated with oral chemotherapy. The diagram below summarizes the four key areas we feel require the greatest focus.

The specialized pharmacies within the Kellogg Cancer Center provide vital support in obtaining prior authorization and financial assistance for patients receiving oral chemotherapy. Our specialized outpatient oncology pharmacists call their patients who have recently started a new oral chemotherapy regimen. Last year they placed more than 300 follow-up calls. Through these follow-ups, the pharmacists can identify patients who are taking their oral chemotherapy medications incorrectly or those experiencing toxicity from the drugs, and can notify the patient’s multidisciplinary team.

Kellogg Cancer Center Pharmacy has developed a verification process to enhance safety of oral chemotherapy prescribing. This Electronic Medical Record (EMR) feature allows for a pharmacist to assess all oral chemotherapy prescriptions, regardless of where they are sent and filled. Since implementing this project, the Kellogg Cancer Center pharmacy has reviewed nearly 7,000 oral chemotherapy prescriptions. More than 75 of these prescriptions required a major intervention.

To add to the complexity of oral chemotherapy treatment, some insurance plans require patients to fill their prescriptions at specific pharmacies, excluding the Kellogg Cancer Center pharmacy from the medication use process. To provide these patients with the same level of follow-up, our team also implemented a monitoring program that includes specially built EMR tools to allow for a thorough assessment of adherence and toxicity related to oral chemotherapy. More than 200 follow-up calls have been placed since implementing this enhanced workflow. The follow-up calls have helped us identify more than 60 patients experiencing an adverse event, 14 patients with barriers to adhering properly to their oral chemotherapy regimen and six drug interactions.

NorthShore has developed enhanced EMR tools for oral chemotherapy monitoring. Comprehensive oral chemotherapy treatment plans have been created and include all pertinent regimen-specific monitoring parameters, recommended laboratory monitoring and frequency of follow-up visits, as well as an oral chemotherapy monitoring order. The oral chemotherapy monitoring order will serve as an EMR alert to notify staff of patients due for a follow-up call. The order also serves as a documentation tool as it has prebuilt questions to help the clinician consistently assess and address adherence and side effects related to oral chemotherapy.

**TREATMENT PLANS**
- Include regimen-specific monitoring parameters, lab orders, supportive care meds and frequency of monitoring/follow-up appointments
- Follow up monitoring order “trigger” built into plan allows for identification of patients and documentation

**PHARMACIES**
- Dedicated specialty pharmacy with specialized pharmacists in each center
- Access to comprehensive EMR and multidisciplinary team
- Financial advocacy team, including pharmacist

**MONITORING PROGRAM**
- EMR tool to monitor for regimen-specific adherence and toxicity
- Follow-up call placed seven to 10 days after starting and with each cycle thereafter
- Findings communicated to multidisciplinary team and documented in EMR

**ORAL CHEMO QUEUE**
- Verification of all oral chemo orders following consistent standards by specialized oncology pharmacist
- Verification documented, including pharmacy interventions
2014 Cancer Data Summary

Incidence of Cancer 2014
In 2014, 4,034 new cancer cases were accessioned into the NorthShore Cancer Registry. Of those, 3,779 cases (94 percent) were analytic. By definition, analytic cases are those patients newly diagnosed with malignant neoplasm and/or who have received all or part of their first course of treatment at one of our four hospitals. The remaining 255 cases (6 percent) were non-analytic. Non-analytic cases are patients initially diagnosed and treated at another facility who now are receiving treatment for progression or recurrence of their disease at NorthShore. Details by site are provided in Table 1.

Class of Case 2014
Class of Case divides cases into two groups, analytic cases (Class 00–22) and non-analytic cases (Class 30–49).

Class 00–14, which account for 3,292 cases, were those malignancies diagnosed at one of our four Hospitals. Once diagnosed with cancer, 3,067 (93 percent) of our patients remained at NorthShore for their treatment. Class 20–22, totaling 487 cases, were diagnosed elsewhere and referred here for treatment. Class 30–40, a total of 255 cases, were diagnosed and treated elsewhere and referred here for treatment of a recurrence or progression of their disease.

Overall Top Five NorthShore Sites
Breast cancer continues to be our top site representing 22 percent of the total analytic cases seen at NorthShore. The next most frequent cancers seen were: lung (9 percent), prostate (8 percent), melanoma (6 percent) and colon (5 percent). These top five sites represent 50 percent of all newly diagnosed cases.

Distribution by American Joint Commission on Cancer (AJCC) Stage for the Top Five Sites Seen at NorthShore
Cancer diagnoses are classified into four or five stages depending on the site. Each stage represents how far the tumor has spread from the organ or site of origin, where an increasing value represents more tumor involvement or extension. Ninety percent of our breast cancers were diagnosed at an early stage (stages 0, 1 and 2), reflecting the National (86 percent) trend toward early detection. Forty-one percent of our lung cancers (National: 32 percent), 90 percent of our prostate cancers (National: 88 percent), 92 percent of our melanoma (National: 82 percent) and 55 percent of our colon cancers (National: 50 percent) were also diagnosed with early stage disease. For each of the top sites seen at NorthShore, detection at an early-stage was higher than that seen nationally. National data was supplied by the 2015 NCDB, Commission on Cancer, ACoS Benchmark Reports, using 2012 data—the latest year available. Data for NorthShore is from diagnosis year 2014. See Table 2.
Table 1: Incidence of Cancer—2014 Data Summary

<table>
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<tr>
<th>Primary Site</th>
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<th>Non-Analytic</th>
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<th>Percentage</th>
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<td>Tongue</td>
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<td>1%</td>
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<td>Salivary Glands</td>
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<td>Floor of Mouth</td>
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<td>3</td>
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<tr>
<td>Gum &amp; Other Mouth</td>
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<td>14</td>
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<td>Nasopharynx</td>
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<td>Tonsil</td>
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<td>Oropharynx</td>
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<tr>
<td>Hypopharynx</td>
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<tr>
<td>Digestive System</td>
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<td>Esophagus</td>
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<td>23</td>
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<td>Stomach</td>
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<td>Small Intestine</td>
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<td>Rectum &amp; Rectosigmoid</td>
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<td>8</td>
<td>99</td>
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<td>Anus, Anal Canal &amp; Anorectum</td>
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<tr>
<td>Liver &amp; Intrahepatic Bile Duct</td>
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<td>Gallbladder</td>
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<td>Peritoneum, Omentum &amp; Mesentery</td>
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<tr>
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<tr>
<td>Bones &amp; Joints</td>
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<tr>
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<tr>
<td>Skin Excluding Basal &amp; Squamous</td>
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<td>Melanoma-Skin</td>
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<td>Other Non-Epithelial Skin</td>
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<tr>
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<tr>
<td>Total</td>
<td>815</td>
<td>26</td>
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Table 2: Stage of Diagnosis—2013/2014 Data

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<th>NCDDB (%)</th>
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<tr>
<td>I</td>
<td>47.0%</td>
<td>41.9%</td>
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<td>II</td>
<td>22.2%</td>
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<td>III</td>
<td>6.1%</td>
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<td>IV</td>
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<td>3.9%</td>
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<tr>
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Comparison of National Cancer Data Base (NCDB) to NorthShore Data

Breast

<table>
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<th>NCDDB (%)</th>
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<tr>
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<td>0.4%</td>
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<tr>
<td>I</td>
<td>30.6%</td>
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<td>II</td>
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<tr>
<td>III</td>
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<td>19.5%</td>
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Lung

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<tr>
<td>I</td>
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<tr>
<td>II</td>
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<tr>
<td>III</td>
<td>9.8%</td>
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<tr>
<td>IV</td>
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Prostate

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Melanoma

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<tr>
<td>I</td>
<td>46.1%</td>
<td>42.4%</td>
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<tr>
<td>II</td>
<td>5.5%</td>
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<td>4.5%</td>
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Colon

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</thead>
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<td>5.8%</td>
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<tr>
<td>I</td>
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<tr>
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<tr>
<td>III</td>
<td>26.3%</td>
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<td>Total</td>
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Totals may not equal 100 due to rounding.
Source: 2015 NCDB, Commission on Cancer
*2013 latest data available as of 9/15/2015
### Physician Teams

#### Brain & Spine/Neurologic
- Julian E. Bailes, MD
- Shakeel Chowdry, MD
- Nina Martinez, MD
- Ryan Merrell, MD
- Ricky Wong, MD

#### Breast
- Ermilo Barrera, MD
- Michael Howard, MD
- Lawrence Krause, MD
- Teresa Murray Law, MD
- Barbara Loris, MD
- Douglas Merkel, MD
- Catherine Pesce, MD
- Mark Sisco, MD
- Elaine Lee Wade, MD
- James Ward, MD
- David J. Winchester, MD
- Katharine Yao, MD

#### Genitourinary
- (Bladder, Kidney, Prostate, Testicular)
- Michael Blum, MD
- Charles Brendler, MD
- Peter Colegrove, MD
- Britt Hanson, DO
- Brian Helfand, MD, PhD
- Thomas Keeler, MD
- Teresa Murray Law, MD
- Michael McGuire, MD
- Kristian Novakovic, MD
- Sangtae Park, MD, MPH
- Ariel Polish, MD
- Daniel Shevin, MD
- James Ward, MD

#### Endocrine
- Janardan Khandekar, MD
- Tricia Moo-Young, MD
- Richard Prinz, MD
- David J. Winchester, MD
- Katharine Yao, MD

#### Gynecologic
- (Cervical, Endometrial/Uterine, Ovarian, Vaginal)
- Elena Diaz, MD
- Jean Hurteau, MD
- Jean Hurteau, MD
- Carolyn Kirschner, MD
- Gustavo Rodriguez, MD

#### Head & Neck
- (Larynx, Mouth, Throat, Thyroid)
- Mihr Bhayani, MD
- Bruce Brockstein, MD
- Nicholas Campbell, MD
- Aaron Friedman, MD
- Thomas Hensing, MD

#### Gastrointestinal
- (Colon, Esophageal, Liver, Pancreatic, Stomach)
- Matthew Adess, MD
- John Linn, MD
- Marshall Baker, MD
- Robert Marsh, MD
- Joseph Muldoon, MD
- Jennifer Obel, MD
- James Spitz, MD
- Mark Talamonti, MD
- Michael Ujiki, MD

#### Lung/Thoracic
- Nicholas Campbell, MD
- Alla Gimelfarb, MD
- Thomas Hensing, MD
- John Howington, MD
- Ki Wan Kim, MD
- Seth Krantz, MD
- Ariel Polish, MD

#### Medical Genetics
- Peter Hulick, MD

#### Melanoma/Skin Cancer
- Ermilo Barrera, MD
- Bruce Brockstein, MD
- Britt Hanson, DO
- Bernhard Ortel, MD
- Jason Waldinger, MD
- David J. Winchester, MD
- Katharine Yao, MD

#### Radiation Oncologists
- William Bloomer, MD
- Ranjeev Nanda, MD
- Vathsala Raghavan, MD
- Arif Shaikh, MD

#### Sarcoma/Bone
- Ermilo Barrera, MD
- Bruce Brockstein, MD
- Mark Talamonti, MD
- David J. Winchester, MD

---

### For more information, visit [northshore.org/cancer](http://northshore.org/cancer) or call (847) 570-2112
**Physician Directory**

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<thead>
<tr>
<th>Name</th>
<th>Expertise</th>
<th>Locations</th>
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<tbody>
<tr>
<td>Matthew Adess, MD</td>
<td>Medical Director, Highland Park Kellogg Cancer Center, GI Oncology, Benign and Malignant Hematology</td>
<td>GBK, GR, HPK</td>
</tr>
<tr>
<td>Julian E. Bailes, MD</td>
<td>Chair, Department of Neurosurgery, Co-Director, NorthShore Neurological Institute, Brain and Spine Tumor Surgery</td>
<td>EVS, HPS</td>
</tr>
<tr>
<td>Marshall Baker, MD, MBA</td>
<td>Expertise: Pancreatic Cancer and Disease Management; Liver and Biliary Surgery, Oncologic Surgery, General Surgery</td>
<td>EVS, GBM, VH</td>
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<tr>
<td>Ermilo Barrera, MD</td>
<td>Expertise: Breast Cancer and Disease Management, Melanoma, Sarcoma</td>
<td>GBB, GBM</td>
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<tr>
<td>William Bloomer, MD</td>
<td>Chair, Department of Radiation Oncology, Breast Cancer, Prostate Cancer, Lung and Gastrointestinal Cancer</td>
<td>EVS, HP</td>
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<tr>
<td>Mihir Bhayani, MD</td>
<td>Expertise: Head and Neck Cancers</td>
<td>EVK, NMB, VH</td>
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<tr>
<td>Michael Blum, MD</td>
<td>Expertise: Urologic Oncology, Sexual Dysfunction, Infertility</td>
<td>EV, HPS</td>
</tr>
<tr>
<td>Charles Brendler, MD</td>
<td>Vice Chairman, Research Department of Surgery, Program for Personalized Cancer Care, Prostate Cancer and Prostate Health</td>
<td>GB</td>
</tr>
<tr>
<td>Bruce Brockstein, MD</td>
<td>Division Head, Hematology/Oncology, Medical Director, Kellogg Cancer Center, Head and Neck, Melanoma, Sarcoma</td>
<td>EVK, GR, HPK</td>
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<tr>
<td>Nicholas Campbell, MD</td>
<td>Expertise: Lung Cancer, Esophageal Cancer, Head and Neck Cancers</td>
<td>EVK, HPK</td>
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<tr>
<td>Shakeel Chowdhry, MD</td>
<td>Expertise: Brain and Spine Tumor Surgery, Stereotactic Radiosurgery</td>
<td>EVS, GB</td>
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<tr>
<td>Peter Colegrove, MD</td>
<td>Expertise: Sexual Dysfunction, Urologic Oncology, Incontinence, Prostate Health</td>
<td>EVS, GB</td>
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<tr>
<td>Elena Diaz, MD</td>
<td>Expertise: Cervical Cancer, Endometrial Cancer, Fallopian Tube Cancer, Ovarian Cancer, Uterine Cancer, Vaginal Cancer, Vulvar Cancer</td>
<td>EVK, HPK</td>
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<tr>
<td>Aaron Friedman, MD</td>
<td>Expertise: Benign and Malignant Laryngeal Tumors, Vocal Cord Cancer</td>
<td>EVS, NMB</td>
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<tr>
<td>Alla Gimelfarb, MD</td>
<td>Expertise: Benign and Malignant Hematology</td>
<td>GBK</td>
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<tr>
<td>David Grinblatt, MD</td>
<td>Expertise: Benign and Malignant Hematology</td>
<td>EVK, GBK</td>
</tr>
</tbody>
</table>

(continued)
 Locations

Chicago Lake Shore Medical Office (CH)  
680 North Lake Shore Drive, Suite 924  
Chicago, IL 60611

Des Plaines Medical Office (DP)  
9031 W Golf Road, Suite 302  
Des Plaines, IL 60016

Evanston Breast Center (EVB)  
2650 Ridge Avenue, Evanston, IL 60201

Evanston Hospital (EH)  
2650 Ridge Avenue, Evanston, IL 60201

Evanston Kellogg Cancer Center (EVK)  
2650 Ridge Avenue, Evanston, IL 60201

Evanston Specialty Suites (EVS)  
1000 Central Street, Evanston, IL 60201

Glenbrook Breast Center (GBB)  
2050 Pfingsten Road, Suite 130  
Glennview, IL 60025

Glenbrook John and Carol Walter Ambulatory Care Center (GB)  
2180 Pfingsten Road, Glenview, IL 60026

Glenbrook Kellogg Cancer Center (GBK)  
2180 Pfingsten Road, Suite 1000  
Glenview, IL 60026

Glenbrook Medical Building (GBM)  
2050 Pfingsten Road, Suite 128  
Glenview, IL 60025

Gurnee Ambulatory Care Center (GR)  
7900 Rollins Road, Gurnee, IL 60031

Highland Park Ambulatory Care Center (HPS)  
757 Park Avenue West, Highland Park, IL 60035

Highland Park Breast Center (HPB)  
777 Park Avenue West, Suite B400  
Highland Park, IL 60035

Highland Park Hospital (HPH)  
777 Park Avenue West, Room 1260  
Highland Park, IL 60035

Highland Park Kellogg Cancer Center (HPK)  
757 Park Avenue West, Suite 1810  
Highland Park, IL 60035

Highland Park Medical Building (HP)  
767 Park Avenue West, Suite B100  
Highland Park, IL 60035

Highland Park Medical Office (HPM)  
1160 Park Avenue West, Suite 1-North, Highland Park, IL 60035

Lake Bluff Medical Building (LB)  
71 Waukegan Road, Suite 700  
Lake Bluff, IL 60044

Mount Prospect Medical Building (MP)  
1329 Wolf Road, Mount Prospect, IL 60056

Northbrook Medical Building (NMB)  
501 Skokie Boulevard, Northbrook, IL 60062

NorthShore Medical Group (HPM)  
1160 Park Avenue West, Suite 1N  
Highland Park, IL 60035

NorthShore Medical Group (SKM)  
9933 Woods Drive, Suite 200, Skokie, IL 60077

NorthShore Neurological Institute (EVM)  
1000 Central Street, Suite 880  
Evanston, IL 60201

Skokie Ambulatory Care Center (SK)  
9650 Gross Point Road, Suite 3000  
Skokie, IL 60076

Vernon Hills Specialty Suites (VH)  
225 North Milwaukee Avenue  
Vernon Hills, IL 60061

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Kellogg Cancer Center

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Surgical Oncology

Kristina Drabkin, DO  
Physical Medicine & Rehabilitation

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Hematology Oncology

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Co-Director, Thoracic Oncology Program  
Head of Quality, Kellogg Cancer Center  
Deputy Division Head, Division of Hematology and Oncology  
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Ryan Merrell, MD  
Program Director, Neuro-Oncology

Kristian Novakovic, MD  
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Edi Gruber, LCSW  
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Judy Lawrence, RN-BC, CHPN  
NorthShore Hospice

Holley May, MS, CGC  
Certified Genetic Counselor  
Medical Genetics

Kelly Tinnes  
Health Systems Manager  
American Cancer Society

Maureen Vance, RN, BSN  
Clinical Nurse Manager  
Evanston Kellogg Cancer Center

Lisa Zoberman, RD, CSO, LDN  
Oncology Nutrition  
Kellogg Cancer Center

*All academic affiliations are with the University of Chicago Pritzker School of Medicine

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