We are committed to providing patient-centered, personalized and evidence-based multidisciplinary care. Our holistic focus on each patient will span to include early prevention, the latest screening and detection efforts, a compassionate diagnosis, the most advanced treatment options and coordination to survivorship.

ONCOLOGY SERVICE LINE MISSION STATEMENT
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LETTER FROM THE
Cancer Committee Chair

Cancer treatment has become an extremely exciting and complicated adventure. Multiple new drugs are being developed to treat specific cancers, allowing for personalized treatment. With these new treatments, the traditional management of cancer patients has begun to change considerably. We are no longer looking at chemotherapy in many diseases. We are looking at immunotherapy, check-point inhibitors and specific growth-factor modulators. Because of this, it has become more and more apparent that subspecialization in oncology will need to continue.

In 2016, Mission Hospital began to develop multidisciplinary clinics and to expand them. The traditional clinics developed over the years expanded in 2017 to include lung clinic, multidisciplinary approach to breast cancer, a more expanded gastrointestinal multidisciplinary conference, a head and neck conference, and a neuro-oncology conference and multidisciplinary clinic. As these clinics expand, more specialized care can occur. Protocols can be developed to answer specific questions with new drugs. Being able to incorporate these drugs into treatment requires increased understanding of the diseases and their targets allowing for the potential improvement in outcomes with minimization of side effects.

With the introduction of multidisciplinary care, the support services that are vital to these kinds of approaches need to develop as well. The pathology department has now expanded to include flow cytometry and, with the genetics department, expansion of cytogenetics and the incorporation of cancer genomics. Through the guidance of Lynn Dressler, MD, and the pathology department, genomics has expanded considerably. Most non-small cell lung cancer patients are having studies done quickly to help guide treatment. Breast cancer patients now undergo a multi-gene analysis, looking for predisposing genetic factors aside from the BRCA1 and BRCA2 genes, which have been well known for many years. Large B-cell lymphoma now becomes more defined, identifying patients who have genomic abnormalities that would suggest more intense treatment. A year-long project outlined the identification of patients with colon cancer and endometrial carcinomas that might indeed have the Lynch syndrome. The use of Foundation 1 genomic profiling has increased dramatically with the increased development of drugs. The participation in the National MATCH Trial was an attempt to identify patients with genomic abnormalities and to pair them with drugs that may not have traditionally been developed for those diseases.

In order to move patients along the complicated pathways for management of their diseases, navigation has become an important oncology tool. Nationally, nurse navigators have become an important clinical tool helping to get patients to the correct diagnosis quickly and to move them along a path to the ideal treatment. The navigational program at Mission Hospital has increased in size and will potentially double in size in the next year. These navigators in breast cancer, lung cancer, head and neck cancer, surgical oncology and neuro-oncology are invaluable in assisting in patient care. A similar type of navigation, called Survivorship, takes patients who have gotten through the important treatment modalities and are trying to remain disease free. The Survivorship program, which was initiated by the American College of Surgeons, has an important role, as the number of survivors continue to improve as our treatment in cancer becomes much more effective.
It takes a large number of departments and individuals to manage patients with cancer. A movement toward supportive care (palliative care) has increased nationally. The palliative care program through Four Seasons and CarePartners has been largely a program of hospital patients, but is now moving more into the outpatient setting. This has allowed patients to have improvement in their symptom management. At some point the term “palliative care” may be replaced by “supportive care.” There is supportive spiritual care as well, with now a full-time chaplain caring for patients in the outpatient setting. She is supported also by clinical social work. The stress of cancer affects not only patients, but families and support groups frequently aid both patients and their families.

Pediatric oncology is an important program at Mission Hospital. Their contribution to the region has been immense, allowing some of the sickest children to be managed close to home. Their cooperation with the children’s oncology group (COG) has allowed for national trials to be done here at the pediatric program. A high percentage of pediatric patients go on national trials. This has been a major contribution to the successful treatment of many patients with pediatric leukemia.

The adult research program has continued to struggle, as the number of national trials has decreased. The thrust in research now has been the development of more directed trials with smaller accrual numbers. This has made it difficult to place as many adults as possible in trials. This year again, research has exceeded national expectations for the American College of Surgeons. Research is a major goal of the oncology program.

With more and more patients living longer, the supportive needs aside from survivorship include dietary concerns. The clinical nutrition program has expanded, now with two full-time members. This service has been requested more and more by patients who are going through therapy and patients who have completed therapy. The rehab potential for many patients has increased, and therefore the need for assistance in rehabilitation and strengthening has increased as well. Part of physical therapy includes lymphedema therapy and pelvic floor therapy, both finding more mechanisms for helping patients through their illness.

As the program continues to increase with nearly 3,500 new patients a year, it will take the coordinated efforts of many people to help manage these patients with good, positive outcomes. We can see increasing numbers of multidisciplinary conferences and clinics. We can expect to see greater use of navigators. We will see more reliance on pharmacy support. We will rely on special procedures done in the radiology department. We will need the continued emotional and psychological support of our chaplains and counselors. Sometimes it seems that the development of therapies is moving so quickly that we do not think we can keep up with those changes. However, it will be important to bring order to all these changes and identify the best way to move patients into the most optimal therapy, giving them the best opportunity for long-term survival and cure.

Michael Messino, MD
Cancer Committee Chair, Medical Oncologist
Our Mission is to provide an exceptional patient and family experience during a very difficult time. Mission utilizes the Mission Comprehensive Health Needs Assessment Analysis to discern the community needs for the cancer program.

Mission’s Comprehensive Cancer Program’s principal emphases is on our community-identified health disparities and our patient’s navigation processes during their cancer journey.

Mission’s Comprehensive Cancer Program Community Health Needs Assessment (CCHNA) encompasses the analysis of available data, identifying cancer disparities, cancer risk factors and barriers to care, throughout western North Carolina (WNC) as well as reviewing, current cancer navigation and survivorship processes and resources within our cancer program.

Mission Health comprehensive cancer care extends to all 18 counties of western North Carolina (WNC) and reaches into parts of Georgia, Tennessee, Kentucky and Virginia. Coordinated and integrated care across diverse healthcare systems, local and state boundaries, is essential to successfully delivering quality evidence-based cancer care, especially for those who live in rural areas, have socioeconomic challenges and are facing significant health disparities.

- Cancer is the first leading cause of death in NC and the second leading cause of death in the United States exceeded only by heart disease.
- Buncombe county population is older than national averages and aging faster, so we will see an increasing percentage of older citizens in coming years.
- Many of our service area counties are predominantly rural.
- NC has a significant number of people living in poverty as well as a high number of people with a low health literacy.
- People living in poor, more rural areas are more vulnerable to cancer due to a host of factors, including lack of health care access.
- Health literacy has been reported as a significant barrier by cancer centers across our state.
- WNC consists of a predominately Caucasian population with a significantly lower proportion of African Americans, American Indians, Asians and Hispanics, than NC as a whole.
- The burden of cancer in NC is, on average, higher than that of the US. North Carolina’s incidence and mortality rates exceed that of national rates for lung, female breast, prostate and melanoma skin cancer. (CoC Skin Cancer Data)
- The overall cancer mortality rate in NC for all cancers, has gone down 19.5% since 1999. This means more patients are alive on an average of five years after being diagnosed with cancer. Mission’s Survivorship program continues to make sure there are multiple resources available to cancer survivors, including survivorship services at numerous cancer centers.
- Many of the cancer centers have reported a growing demand for cancer care and a shrinking cancer workforce. Lay navigation support is being expanded to assist oncology nurse navigators and inpatient nurses to ensure patients and caregivers are connected with local, state and national resources.
- Studies at UNC and Duke Report financial toxicity as a serious barrier and hardship for those initially diagnosed with cancer as well as those who have completed treatment. Mission’s financial burden reports reflect these findings.
- A comprehensive listing of supportive and financial resources has been developed for cancer patients and survivors and is available to patients within the Mission Health SECU Comprehensive Cancer Center.
During the course of the next three years, 2018 to 2021, this community health assessment, will drive Mission’s Cancer Committee and Patient Navigation Program, in the identification and stratification of opportunities for ongoing program goals.

**Purpose/Goal**
The overall goal of Mission’s Comprehensive Cancer Program is improving healthcare outcomes for all cancer patients living in Western North Carolina.

The purpose of this Cancer Community Needs Assessment is to identify the cancer-related healthcare needs of our Western North Carolina community population, the cancer-related health disparities and gaps in cancer-related resources as well as to address barriers both within our state and at Mission’s Comprehensive Cancer Center and develop strategies that guarantee continued positive patient results.

Our goal is to improve the care of our cancer patients by focusing on cancer care navigation, increasing screening opportunities, prevention interventions, nutritional initiatives, education opportunities, and survivorship. Our primary focus, moving forward will be increasing screening rates, cultivating prevention modalities and refining our navigation and survivorship care program.

We anticipate accomplishing these goals by implementing initiatives, improving processes and the expanding identified programs. These practices are the foundation of our comprehensive cancer program that allow us to confirm that our operational strategies, do indeed, meet the needs of all our cancer patients.

**Marika Loveless, RN, MHA, OCN**
Executive Director, Mission Health Cancer Program
Committee Members

PHYSICIANS

Michael J. Messino, MD, Medical Oncology, Chairman
Randall Johnson, MD, Surgery, Cancer Liaison Physician
Ashley Case, MD, Gynecologic Oncology
Cameron Blair Harkness, MD, Gynecologic Oncology
Christopher H. Chay, MD, Medical Oncology
David Hetzel, MD, Gynecologic Oncology
David Schuetze, DO, Pathology
Donald Gajewski, MD, Orthopedic Oncology
Douglas Scothorn, MD, Pediatric Medical Oncology
Eric Kuehn, MD, Radiation Oncology
Ginna Priola, MD, Pediatric Medical Oncology
Gregory Pollack, MD, Medical Oncology
Kellie S. Condra, MD, Radiation Oncology
Krystal Bottom, MD, Pediatric Medical Oncology
Matthew Hull, MD, Radiation Oncology
Michael Parmer, MD, Palliative Care
Paul Ahearne, MD, Surgical Oncology
Peter H. Rosal, MD, Radiology
Praveen Vashist, MD, Medical Oncology
Rachel Raab, MD, Medical Oncology
Raymond Thertuliens, PhD, MD, Medical Oncology
Sesalie Smathers, MD, Radiation Oncology
Trevor Austin, MD, Medical Oncology
Wieslawa Pekal, MD, Medical Oncology

NON-PHYSICIANS

Jonathan Bailey,
VP, Administration
Marika Loveless, MHA, RN,
Administration
Alice Myer, LCSW,
Hope Women’s Cancer Center
Anna Eller, RN,
Nurse Educator
Carey Baumgarten, LCSW,
SECU Cancer Center
Camilla Shanahan, MS, CGC,
Genetics
Cathi Durham, MBA, MHA,
Business Development
Cathy Trimbly,
Regional Accreditation Specialist
Carol Logan-Thompson, MSN, RN,
Lung Nurse Navigator
Darren Coleman, MSN, RN,
Inpatient Oncology
Denise Steuber, RN,
Survivorship Coordinator
Donna Borowski,
Nicotine Cessation – System Wellness
Elizabeth Tilley, MA,
ACS Representative
Gillian Bell, PharmD,
Personalized Medicine
Janet Magruder, RN,
Breast Nurse Navigator
John Coletti,
Physics – Radiation Therapy
Kerry Crandall, MS, CGC,
Genetics
Kimberly Brittingham,
H&N/Neuro Nurse Navigator
Jeffrey Whitridge, RD,
Clinical Nutrition
Jolynn Sessions, PharmD,
Pharmacy
Jon Brown,
VP, Information Technology
Joseph Bonkowski, Pharm D,
Director Pharmacy
Laura Kerzwick, BSRT,
Radiation Therapy
Laurie Stradley,
System Wellness
Linda Nall, RN,
Integrative Health
Lisa Guyton,
Nurse Educator
Lynn Dressler, D.Ph.,
Personalized Medicine
Leslie Verner, RN,
Research
Melanie Clark, RN,
Pediatric Oncology
Michelle Mulvey, RN,
Integrative Health
Mike Heilig, DPT,
Rehab Services
Pearl Abernathy, RN,
Research
Ruste Wilke,
Performance Improvement
Stephanie Porter, RN,
Outpatient Infusion & Research
Terri Cooper M.Div.,
Chaplain
Jency Tucker,
Interim Manager IT Oncology
Cancer Program Highlights

Cancer Care of WNC, PA, (CCWNC) provides access to state of the art care in the Mission Cancer Program. Led by Dr. Michael Messino, the practice brings 28 years of experience supporting cancer care in Asheville and the surrounding WNC region with practice sites in Brevard, Franklin, McDowell, and Spruce Pine, and Sylva. CCWNC has met the complexities and medical advances in the treatment of cancer with continued growth of sub-specialized care. Sub-specialized areas of focus include breast, lung, head and neck, GI, GU, and neurological malignancies. Guideline development and sub-specialized care for both malignant and non-malignant blood related disorders, including coagulation defects, is led by Dr. Greg Pollack and Dr. Mohan Thakuri. Providing disease focused evidenced based care in areas of medical management, symptom support, immunotherapy, and oral oncolytics, CCWNC serves the cancer program and community with a team based approach.

Access to care and symptom management is provided by a dedicated medical oncology triage clinic supported by an oncology trained advanced practitioner, oncology certified nurses, and a medical oncologist. This triage team is instrumental in reducing hospitalizations and emergency room visits. The team care model also supports the inpatient service with 24 hour coverage by oncology trained advanced practitioners and medical oncologist. The practice supports the first survivorship clinic in the region, founded in 2010 and continuing to grow and meet the standards for national certification. For the past seven years, CCWNC has maintained the ASCO quality oncology practice initiative certification (QOPI), consistently scoring above 90% on the overall adjuvant score. Providing greater visibility to oncology care across disciplines, in 2017, the practice joined the efforts of the cancer program to provide care within a unified EMR, including electronic chemotherapy/immunotherapy regimen ordering. Ongoing initiatives include advancing palliative and supportive care services and access to a broader range of clinical trials within the cancer program.

<table>
<thead>
<tr>
<th>Sub Specialized Care</th>
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<tbody>
<tr>
<td>Lung Cancer</td>
<td>Dr. Charles Bryan</td>
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<tr>
<td>Malignancies of the genitourinary system (bladder, ureter, kidney, testicular, prostate)</td>
<td>Dr. Christopher Chay</td>
</tr>
<tr>
<td>Head and Neck Malignancies</td>
<td>Dr. Shantae Lucas</td>
</tr>
<tr>
<td>Breast Cancer</td>
<td>Dr. Rachel Raab</td>
</tr>
<tr>
<td>Malignancies of the GI tract (including colon, rectum, stomach, anal, esophagus, liver, biliary tree, gall bladder, and pancreas)</td>
<td>Dr. Martin Palmeri Dr. Trevor Austin</td>
</tr>
<tr>
<td>Hematological malignancies (including acute and chronic leukemia, lymphoma, myeloma and coagulation defects)</td>
<td>Dr. Greg Pollack and Dr. Mohan Thakuri</td>
</tr>
<tr>
<td>Non-Malignant hematological disorders, including sickle cell disease</td>
<td>Dr. Wieslawa Pekal</td>
</tr>
</tbody>
</table>

| Medical Oncology Leadership                                                        |                                                               |
| Director Medical Oncology                                                         | Dr. Michael Messino                                           |
| Director of Infusion Services                                                      | Dr. Greg Pollack                                              |
| Research Medical Director                                                          | Dr. Christopher Chay                                           |
| Breast Cancer Medical Director                                                     | Dr. Rachel Raab                                                |
| Medical Director of Government & Community Relations                              | Dr. Martin Palmeri                                             |

Tena W. Messer, MSN, ANP-C, ACON
Cancer Care of WNC
Regional Executive Director
Cancer Registry Report

The cancer registry maintains a complete database of cancer cases diagnosed and/or treated at Mission Health since January 2000. Since that time, approximately 53,532 patients have presented to Mission Health for diagnosis or treatment of some type of malignancy. All living patients in the registry are required to be followed throughout their lifetime. Long-term follow-up is essential to evaluate outcomes of cancer care. Accurate follow-up data enables the program to compare outcomes with state, regional or national statistics. The data analysts (Registrars) regularly review inpatient visits, outpatient discharge and other external sources to obtain current information on our patients. Letters are also sent to the managing physicians and patients to obtain updated information.

Statistical information gathered from the registry is used by area physicians, the American Cancer Society, the North Carolina Central Cancer Registry, the National Cancer Data Base and local hospitals to review trends and outcomes for cancer patients. Monitoring survival statistics and disease recurrence helps improve the standard of care for patients who have cancer, certain diseases of the blood and lymphatic systems and non-malignant brain tumors, as well as providing data to prompt new research studies and clinical trials. Hospital administration and medical staff benefit from using cancer registry data for resource planning, physician recruitment and cancer program marketing, among other uses.

Each year, complete and accurate data for all requested analytic cases are submitted to the National Cancer Data Base (NCDB). Data submitted to the NCDB are used to provide feedback to assess the quality of patient care. This feedback enables cancer programs to compare treatment and outcomes with state, regional and national patterns of care.

The NCDB is a nationwide oncology outcomes database used as a clinical surveillance mechanism to monitor changes and variation in patterns of cancer care and patient outcomes. The NCDB data are useful benchmarks for patient care and continuous quality improvement for cancer programs.

Tara Lewis, Analyst
Cancer Data Services

Laura Kerzwick, BSRT, (R) (T)
Interim Manager, Cancer Data Services
Manager of Radiation Therapy
Patient and Family Advisory Council Coordinator
2000 - 2017

Mission Health System
Annual Cancer Volume

The statistics presented below for Mission Health are based on the actual number of new cancer cases seen at our facilities in 2017 with the exception of carcinoma in situ of the cervix, squamous cell and basal cell skin cancers and...
Mission Hospital Cancer Registry is designed to collect, manage, analyze and report complete information on cancer patients newly diagnosed and/or treated at Mission Hospital. Every single eligible case abstracted must meet the quality criteria established by the Facility Oncology Registry Data Standards (FORDS). Statistical information gathered from this data is used by area physicians, the American Cancer Society, the North Carolina Central Cancer Registry, the National Cancer Data Base and local hospitals to review trends and outcomes for cancer patients. Monitoring survival statistics and disease recurrence helps improve the standard of care for patients who have cancer, certain diseases of the blood and lymphatic systems and nonmalignant brain tumors, as well as providing data to prompt new research studies and clinical trials. Hospital administration and medical staff benefit from using cancer registry data for resource planning, physician recruitment and cancer program marketing, among other uses.

The Cancer Registry maintains a complete database of cancer cases diagnosed and/or treated at Mission Hospital since January 2000. Since that time, approximately 41,000 patients have presented to Mission Hospital for diagnosis or treatment of some type of malignancy, with an additional 3,445 cases accessioned in 2014. All living patients in the registry are required to be followed throughout their lifetime. Long-term follow up is essential to evaluate outcomes of cancer care. Accurate follow up data enable the program to compare outcomes with state, regional or national statistics. The data analysts (Registrars) regularly review inpatient visits, outpatient discharge and other external sources to obtain current information on our patients. Letters are also sent to the managing physicians and patients to obtain updated information.

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The statistics presented below for Mission Health are based on the actual number of new cancer cases seen at our facilities in 2017 with the exception of carcinoma in-situ of the cervix, squamous cell and basal cell skin cancers and intraepithelial neoplasia cases. Also excluded from the statistical analysis are cases that were diagnosed and received all treatments at other facilities prior to referral to any of Mission’s facilities at the time of progression of disease.

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<tr>
<th>PRIMARY SITE</th>
<th>ANALYTIC CASES</th>
<th>STAGE AT DIAGNOSIS</th>
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<td></td>
<td>Total Cases</td>
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<td>ALL SITES</td>
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<td>BLOOD &amp; BONE MARROW</td>
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<td>LEUKEMIA</td>
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<td>PRIMARY SITE</td>
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<td>STAGE AT DIAGNOSIS</td>
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<td></td>
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<tr>
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<td>BRAIN &amp; CNS</td>
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<td>BRAIN (BENIGN)</td>
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<tr>
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<tr>
<td>ENDOCRINE</td>
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<td>LYMPHATIC SYSTEM</td>
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<tr>
<td>UNKNOWN PRIMARY</td>
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<td>OTHER/ILL-DEFINED</td>
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</tbody>
</table>

**Analytic Case:**
A case that was diagnosed at Mission or cases in which all or part of the first course of therapy was given at Mission after the reference date.

**Non-Analytic Case:**
A case involving a patient who was diagnosed and treated elsewhere or was diagnosed and treated prior to the reference date. These patients are excluded from the survival statistics.

Tara Lewis, Analyst
Cancer Data Services
Chaplaincy Services

Mission Cancer Care is devoted to the holistic care for patients and their families who enter the world of cancer care. With that intention a part-time Chaplain position was employed at the SECU Cancer Center in 2017.

The Chaplain provides confidential and non-judgmental spiritual and emotional support to patients, their families and the staff who care for them. The role of the Chaplain is to provide a place of sanctuary where people wrestle with, rejoice in and discover their relationship to the sacred through whatever face of holy they might need. Chaplaincy Care understands that the spiritual and emotional components of living with illness and its meaning are vitally important to the healing process and the individual’s quality of life. Understanding this, our mission is to assist patients, families and staff as they face the emotional and spiritual impact of illness and crisis. Chaplains help people deal with issues of fear, loneliness, and ethical values, questions of meaning, hopelessness and hope.

Our Chaplain is specially trained to provide holistic spiritual care to persons of all faiths, including those without any religious affiliation. The Chaplain is available for pastoral counseling, crisis intervention, prayer, facilitating quality-of-life decision-making, and bereavement counseling.

Programs offered by the Chaplain in 2017 included:

- Daily rounds in patient treatment areas.
- Monthly Peer Support Sessions for staff.
- Advance Directives for patients, families and staff.
- Tour of SECU Cancer center for adult cancer patients with young children, “Families Facing Cancer Together”.
- Chaplain for Camp Bluebird
- Rituals of Reflection and Remembrance
- Attendance in Departmental staff meetings in Cancer Center and CCWNC
- Member of Mindfulness Committee
At the Fullerton Genetics Center, we have established a Hereditary Cancer Screening Program to help identify individuals at higher risk of developing certain cancers because of their genetic makeup. Working with the local medical community, we hope to decrease the incidence of cancer and/or increase diagnosis in the early stages when cancer is most treatable.

We are the only genetic center located in Western North Carolina and provide services to individuals from Murphy to Hickory as well as neighboring areas in Tennessee, Georgia and South Carolina. In the field of cancer care, we understand newly diagnosed patients may need results of genetic testing to help determine their plan of care. Therefore we have established an appointment system that allows us to schedule those individuals on an urgent basis upon request to help provide the best care possible.

Genetic counselors collaborate with the cancer center in many ways, including:

- weekly breast cancer care conferences and GI tumor board meetings to help in the provision of true multidisciplinary care
- care process model development for breast cancer screening
- decision tree for lynch syndrome tumor testing
- NCCN guidelines based medical management
- best practice for genetic test ordering
- cancer genetic counseling by telehealth to patients in rural communities
As genetic testing expands it requires professionals with the background and experience to understand the available tests, costs, and benefits to determine the best approach to genetic testing for each individual. Families considering genetic testing also frequently require psychosocial support, decision-making support and resources unique to hereditary conditions. The Staff at the Fullerton Genetic Center is uniquely qualified to provide this service.

We are available to meet with patients at the request of referring physicians to review their personal and/or family history of cancer. We discuss the genetics of cancer, and whether their history is suggestive of a hereditary cancer syndrome. If so, we discuss the most appropriate and cost-effective testing options, and the benefits and limitations of genetic testing. If the patient elects to proceed with testing, we coordinate the process and provide thorough follow up on the results. Because genetic testing has implications for both the individual patient as well as their extended family, we spend time discussing the importance of sharing this information with their family and provide templates patients can use to share results with extended family members. Genetic counselors ensure that patients have a good understanding of complicated information, are making informed decisions that right for their family, provide detailed follow up education and support, and are available for any future questions that may arise.

The Clinical team currently includes: 2 Medical Geneticists and 5 board certified master’s level trained genetic counselors, all of whom keep abreast of the most up to date information about the genetics of cancer by attending national conferences and having monthly journal clubs. As our knowledge of cancer genetics has increased, so has the number of patients requesting genetic counseling. To meet this growing population of patients, the genetics center has secured funding to add another genetic counselor to the team; allowing for a shorter wait time and increased access to genetic counseling.

**Trend in Cancer Referrals**

<table>
<thead>
<tr>
<th>Year</th>
<th># of Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>168</td>
</tr>
<tr>
<td>2013</td>
<td>208</td>
</tr>
<tr>
<td>2014</td>
<td>270</td>
</tr>
<tr>
<td>2015</td>
<td>370</td>
</tr>
<tr>
<td>2016</td>
<td>473</td>
</tr>
<tr>
<td>2017</td>
<td>586</td>
</tr>
</tbody>
</table>

Fiscal Year (October 1 - September 30)
Source: Allscripts by appointment type, October 2017
Mission Fullerton Genetics Laboratory

The Mission Fullerton Genetics Laboratory provides a variety of genetic and genomic testing for the people of western North Carolina and beyond. The laboratory is recognized nationally and internationally for expertise in chromosomal microarray analysis, next generation sequencing, single gene mutation analysis, and classical chromosome analysis. As new technologies change how diagnosis and treatments are delivered, the laboratory is positioned to be a leader in this new era of genomics and targeted therapies. Mission Fullerton Genetics Laboratory is the only hospital-based genetics laboratory in western North Carolina.

Recent oncology additions to the laboratory’s test menu include chromosome analysis for bone marrow samples and microsatellite instability testing of tumor samples. The laboratory has continued plans for growth and expansion of its oncology services in the near future, including BCR-ABL testing by quantitative PCR to monitor treatment response in Chronic Myelogenous Leukemia (CML) patients and the FDA-approved UroVysion FISH assay to detect bladder cancer.

The diagnostic laboratory team includes 3 American Board of Medical Genetics and Genomics certified laboratory geneticists, one bioinformaticist, 10 genetic technologists, and 3 clinical support staff team members. The team is committed to staying abreast of the genetic literature in order to provide the most up-to-date information available and works closely with the Genetics Clinic to provide quality services, information, and support to patients, families, physicians and other healthcare professionals. The Center is in a unique position as a regional genetics center and offers the personalized care that patients and their families want and need.

Kerry Crandall, Genetic Counselor
Camila Shanahan, Genetic Counselor
Monica Basehore, Ph.D., FACMG
Director Fullerton Genetics Lab
The Gastroenterology Oncology program at Mission Hospital is a multidisciplinary team that draws on the expertise of specialized surgeons, medical oncologists, radiation oncologists, gastroenterologists, radiologists, pathologists, geneticists, and nutritionists. The team’s mission is to deliver the highest quality patient care by providing the most advanced therapies with the goal of improving survival and quality of life. The Multidisciplinary Gastroenterology Oncology program focuses on the treatment of gastrointestinal malignancies including cancers of the liver, bile duct, pancreas, gallbladder, esophagus, stomach, small bowel, colon and anus.

The multidisciplinary conference started in 2016 under the leadership of Dr. Paul Ahearne, who completed a fellowship in Surgical Oncology at M.D. Anderson Cancer Center in Texas. The Multidisciplinary GI Oncology conference is every Monday at 7:00 AM.

The goals for 2018 include:

1. Refinement of the referral and coordination of care process
2. Achieve National Accreditation as a Rectal Surgery Program
3. Developing a larger portfolio of clinical research trials

The Multidisciplinary Gastroenterology Oncology Program is united in our goal to provide cutting edged patient centric care to the citizens of Western North Carolina.

Paul Ahearne, MD
MMA Regional Surgical
Gastroenterology Oncology Program
Head and Neck Cancer Program

Mission’s Head and Neck Cancer Program was one of the most active of the SECU’s site-specific cancer programs in 2017, marked by continued development and growth in patient volumes. Treatment of head and neck malignancy remains one of the most multidisciplinary of all cancer treatments, often involving a combination of surgical, medical, and radiation oncology care. In addition, because of the complicated nature of treatments and myriad of potential short-term and long-term treatment effects, specialties such as Speech Therapy, Physical Therapy, Lymphedema Therapy, Nutrition, Pharmacy, Social Work, Chaplaincy, and Palliative Care are often also intimately involved in the care of these patients. This multidisciplinary team approach begins at diagnosis, extends through active treatment, and continues in the post treatment recovery period and beyond.

Because of the wide variety of medical and supportive care required by these patients, Mission launched a multidisciplinary Head and Neck Conference in late 2016. 2017 was the first year in entirety during which this weekly conference was routinely held. It is attended by all the involved specialties and allows for prospective patient case presentation and evaluation, facilitating formation of consensus, coordinated treatment plans for newly diagnosed head and neck cases. The conference also allows for active monitoring of patients that are currently under treatment and is useful for multidisciplinary evaluation of patients in the follow up period. Included in the weekly meeting is review of pertinent radiographic studies and evaluation of available treatment protocols for individual patients.

In 2017, the Head and Neck Cancer program, also saw the addition of a fulltime head and neck nurse navigator to help facilitate patient access to care and improve overall coordination of treatments. Several new chemotherapy and radiation protocols also became available to offer these patients, and a significant expansion in systemic treatment options, specifically immunotherapy.

<table>
<thead>
<tr>
<th>Month</th>
<th>New</th>
<th>Follow Up</th>
<th>Currently Under Treatment</th>
<th>Total Cases Presented</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
<td>9</td>
<td>1</td>
<td>29</td>
<td>39</td>
</tr>
<tr>
<td>February</td>
<td>7</td>
<td>0</td>
<td>40</td>
<td>47</td>
</tr>
<tr>
<td>March</td>
<td>9</td>
<td>1</td>
<td>78</td>
<td>88</td>
</tr>
<tr>
<td>April</td>
<td>5</td>
<td>1</td>
<td>62</td>
<td>68</td>
</tr>
<tr>
<td>May</td>
<td>9</td>
<td>0</td>
<td>54</td>
<td>63</td>
</tr>
<tr>
<td>June</td>
<td>9</td>
<td>0</td>
<td>79</td>
<td>88</td>
</tr>
<tr>
<td>July</td>
<td>10</td>
<td>0</td>
<td>61</td>
<td>71</td>
</tr>
<tr>
<td>August</td>
<td>7</td>
<td>2</td>
<td>59</td>
<td>67</td>
</tr>
<tr>
<td>September</td>
<td>12</td>
<td>4</td>
<td>64</td>
<td>80</td>
</tr>
<tr>
<td>October</td>
<td>15</td>
<td>2</td>
<td>68</td>
<td>85</td>
</tr>
<tr>
<td>November</td>
<td>5</td>
<td>1</td>
<td>53</td>
<td>59</td>
</tr>
<tr>
<td>December</td>
<td>8</td>
<td>2</td>
<td>57</td>
<td>67</td>
</tr>
<tr>
<td><strong>ANNUAL TOTALS</strong></td>
<td><strong>105</strong></td>
<td><strong>14</strong></td>
<td><strong>704</strong></td>
<td><strong>822</strong></td>
</tr>
</tbody>
</table>

Ongoing goals of the Mission Head and Neck Cancer Program include:

- Evaluation of new treatment protocols as they become available.
- Consideration of new and evolving treatment technologies
- Continued improvement in the delivery and coordination of multidisciplinary care.
- Exploration of feasibility of a multidisciplinary head and neck cancer clinic.

Eric Kuehn, MD  
Cancer Conference Physician Coordinator  
Radiation Oncologist
The Integrative Healthcare department at Mission Cancer Care offers evidence-based, holistic nursing interventions provided by trained, licensed medical professionals to patients receiving treatment at the SECU Cancer Center and Hope Women’s Cancer Center. This is a free service. The staff consists of Registered Nurses who are also trained in Healing Touch and Massage Therapy. The department sees about 300-330 patients a month. The therapies available include: breathing techniques, Healing Touch, guided imagery, simple massage therapy, and Aromatherapy.

- **Breathing techniques** include a variety of breathing patterns that can help improve physical, mental and spiritual wellbeing.

- **Healing Touch** is an energy therapy based on current nursing theory used to promote relaxation, healing and the balancing of mind, body and spirit. The practitioner uses a light therapeutic touch focusing on areas of discomfort, tension and illness or injury.

- **Guided Imagery** is a range of techniques that involve using the imagination to create a healing environment in the body. It can improve relaxation and coping with medical procedures and treatments, help alleviate pain and may decrease the need for additional medications.

- **Massage therapy** is the use of hands directly on the body and can relieve muscle tension, increase circulation, and promote relaxation. Studies show massage can decrease pain and anxiety and elevate mood.

- **Aromatherapy** is the use of essential oils and can encourage relaxation and healing. Aromatherapy is often helpful in reducing anxiety, stress and nausea. It has also been shown to improve mood, increase calmness and decrease insomnia.

The modalities offered have been shown to help decrease pain, nausea, and anxiety, and increase relaxation related to treatment. The nurses see the patients that come in for outpatient treatment in Radiation Therapy and Infusion Therapy.
In 2017 the Integrative Healthcare department

• Distributed a patient satisfaction survey with a 100% satisfaction rating.

• Helped to co-create a mindfulness committee. This committee began the Healing Garden project, set to be completed by June 2018. An unused space was redesigned for a healing garden that patients and staff can utilize to rest and rejuvenate.

• Began an aromatherapy project so that pediatrics and Hope Women’s cancer center nurses can have access to aromatherapy for their patients when the IH nurses are not immediately available. The staff will receive an in-service and complete a competency in the administration of essential oils.

Patient Testimonials:

“I look forward to coming to chemo because I know I get to see Integrative Health”

“My neuropathy in my feet is always better after my foot massage”

“The peppermint aromatherapy helps my nausea, I can’t be without it.”

“Thank you for helping me remember to relax through this process”

“I have never relaxed all my life, but you all have helped me to learn this”

“This is something that I can do at home”

“I love this department and that I have holistic options”

“Knowing that Integrative Health was available is why I chose to continue my chemo treatments”

“I am so relaxed I could go to sleep”

“You made a bad experience good”

Linda Nall, Team Leader
Integrative Healthcare Department
Cancer Program
Navigation and Community Outreach Programs

In 2017, our Navigation Services continued to grow with the addition of a Head and Neck/Neurology Navigator, making a total of five Navigators with the two Breast Navigators and two Thoracic Navigators. Our Navigators assist with the coordination of care for their patients, help patients make informed decisions about their care and treatment, along with customizing education for each patient’s diagnosis. Access to care was identified as one of our community cancer population needs. In order to propitiate that need, our Navigators continually review community, state and federal resources available and work diligently to connect our patients with the appropriate resources.

Cancer conferences are required for hospital cancer program approval by the American College of Surgeons. These conferences are important education and clinical opportunities; they provide an opportunity for health care professionals to discuss diagnosis and treatment options to optimize patient management thereby, promoting positive patient outcomes. Our weekly multidisciplinary conferences and multidisciplinary clinics are coordinated and facilitated by our Navigators, who are an integral part of our medical team.

As the chart below indicates, our cancer patient volumes have increased in proportion to the number of patients followed from diagnosis to survivorship.

<table>
<thead>
<tr>
<th>Navigator Services</th>
<th>Total New Patients</th>
<th>Patients followed by Navigators</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thoracic</td>
<td>384</td>
<td>516</td>
</tr>
<tr>
<td>Breast</td>
<td>316</td>
<td>556</td>
</tr>
<tr>
<td>Head and Neck</td>
<td>204</td>
<td>324</td>
</tr>
</tbody>
</table>

The main focus of the Cancer Center Team is to continually provide care of and emotional support to, our patients. As our Cancer Center continues to grow, additional Navigators will be added.

Denise Steuber, BSN, RN
Supervisor Oncology Navigator Program
Neuro Oncology Clinic and Program

In November 2017, the Neuro oncology program at Mission Hospital was launched. A specialist-focused on neuro-oncology leads this multidisciplinary conference that includes representation from neurology, medical oncology, neuro-radiology, radiation oncology, neurosurgery, and pathology. Research genetics and nurse navigation support this unique clinical program.

The formation of the multidisciplinary conference, a clinic itself, began seeing patients in mid-November 2017, with Dr. Jeannette Larson in the Department of neurology who completed a fellowship in neuro-oncology and Dr. Michael Messino, medical oncology Cancer Care of Western North Carolina.

The focus of the Neuro-Oncology program has been both primary brain tumors and management of multiple types of metastatic lesions to the central nervous system. Because the program at Mission Hospital tends to average about 70+ primary brain tumors a year, incorporation of metastatic lesions and other lesions of the central nervous system have been a large part of the program.

In regards to research, there are primary brain tumor protocols to which patients are being registered and the hope is to expand this to include new treatments for metastatic lesions to the brain. There has been a very good cooperation with the brain tumor program at Duke Hospital which focuses on primary brain tumors.

Patients are presented to the Neuro-Oncology Clinic via Neuro-Oncology Conference or direct referral to the Neuro-Oncology Program. Pathology and Radiology films are reviewed. Patients are then either seen in the multidisciplinary clinic or recommendations are made to the primary physician. All radiographs of patients undergoing treatment are reviewed in chronologic fashion as they go through treatment to ensure therapy is adjusted after any changes in radiographic studies. Treatments are based on clinical data for primary brain tumors consisting initially with surgery and radiation and chemotherapy, and for the most updated data regarding metastatic lesions including the use of CyberKnife stereotactic radiation therapy. The providers in the neuro-oncology clinic are able to place appropriate patients on treatment with tumor treating fields using the FDA approved Optune system.

The Neuro-Oncology clinic and program goals for 2018, are to expand the research program, improve radiographic techniques to determine the difference between radionecrosis and metastatic recurrent tumor, standardization of treatment of primary brain tumors after failure of initial therapy, and expansion of genomic understanding for treatment of metastatic carcinoma to the brain.

Michael Messino, MD
Medical Oncologist
Jeanette Larson, MD
NeuroOncologist
Mission Health Oncology Nursing

Mission Cancer Program’s Oncology Nurses are committed to operational excellence as we fulfill our Mission to provide quality patient care on an outpatient and inpatient basis. Our Oncology Nurses are driven by Professional Oncology Standards as we provide care for our patients. Nurses complete an ONS Chemotherapy Certification Course prior to being granted privileges to administer chemotherapy to patients. Chemotherapy Education is provided to patients from the Nurse Practitioners. There are monthly educational series presented with selected topics related to the care of the oncology patient. The SECU Outpatient Infusion area has 36 chairs and 6 beds with 1 isolation room. HOPE Cancer Center has 12 chairs and 1 bed with experienced oncology nurses providing care to the patients. Cancer is a life changing event and a hospitalization compounds the anxiety and distress of a patient. Inpatient oncology nurses recognize the unique needs and challenges faced by the patients and their families. There are also Pediatric Oncology Trained Nurses that specialize in the treatment and care of our Oncology Pediatric patients. All Pediatric Oncology Nurses are APHON Certified.

Mission Cancer Program has an Outpatient Infusion Center with nurses that provide a multitude of services including but not limited to:

- Chemotherapy
- IV Fluids-Supportive Care
- Blood Transfusions
- Antibiotic Therapy
- Antimicrobial Therapy
- Iron Therapy
- Monoclonal Therapy
- Bladder Chemotherapy Instillation
- Other Nonchemotherapy Medications

Oncology Nursing Certification has been achieved by 55% of the Oncology Nurses. In 2017, the Oncology Program implemented a new Electronic Medical Record (EMR) which has promoted integration of information across the continuum of Oncology. Outpatient Infusion Nurses participate in a daily huddle with a Multidisciplinary team that provides communication to the team. Oncology Nurses at Mission provide specialized treatment to each patient treating each patient with knowledgeable, comprehensive and compassionate care that addresses the physical, psychosocial and emotional needs of our patients and their families.

Marika Loveless, RN, MHA, OCN
Executive Director, Mission Health Cancer Program

Melanie Clark, MSN, RN
Manager
Mission Cancer Oncology
Nutrition Program

**Nutrition Services**

An old proverb, “the proof is in the pudding,” best describes the year in review of the oncology nutrition program at Mission Cancer. There were multiple improvements of the oncology nutrition program over the previous year. A new electronic medical record, an evidenced-based nutrition screening, a dedicated oncology nutrition care process and a detailed oncology medical nutrition therapy form are just a few. These improvements translated into an increase in direct patient care services as well as an increase in staff to the oncology nutrition program.

Below is the Nutrition Program Statistics:

<table>
<thead>
<tr>
<th>Process</th>
<th>2016</th>
<th>2017</th>
<th>Total Increase</th>
<th>% Increase in direct patient care services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial nutritional consults</td>
<td>316</td>
<td>427</td>
<td>111</td>
<td>35</td>
</tr>
<tr>
<td>Follow up nutritional consults</td>
<td>651</td>
<td>864</td>
<td>213</td>
<td>33</td>
</tr>
<tr>
<td>Impact: .5 FTE hired</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In 2016, the current full time dietitian / nutritionist expected to see a 5% increase in the number of nutrition consults and an 8% increase in nutrition follow up consults, by end of year 2017. Since August 2017, with the addition of the part time dietitian / nutritionist, or an additional 28 hours of clinical coverage per week, the nutrition consults increased by 30% and nutritional follow up consults increased by 25%.

Nutrition screening is performed every 30 days, for early identification of patients at risk for malnutrition. In 2017, Mission Cancer, implemented a new electronic medical record, Cerner Oncology, in all Mission Health System regional hospitals. This technology allows the oncology nutritionist’s documentation to be more robust by utilizing a malnutrition screening tool viewed within the nursing documentation screen. Cerner Oncology, utilizes the Nutrition Dietetic Practice Group’s care process model, which permits documentation of assessments, diagnoses, interventions, monitoring and evaluations (ADIME). This standard nutrition language streamlines the methodology of clinical communication, thereby improving patient care. Implementation of this leading edge electronic medical record, enabled the oncology nutritionist achieve their goals of delivering evidence-based quality patient care, while ensuring positive patient outcomes in conjunction with aligning with Mission Health System’s BIG(GER) Aim.

**Jeffrey Whitridge, MS, RDN, CSO, LDN**  
Certified Specialist in Oncology Nutrition  
Clinical Nutritionist Educator

**Nicole Rankin, MS, RDN, LDN**  
Clinical Nutritionist Educator
Palliative (Supportive) Care

As our success with curing cancer continues to improve, the focus of improving our patients' experience throughout the course of their therapy becomes more important with each person treated. The side effects of therapy, be it surgical, radiation or chemotherapy are often an emotional and physical journey in getting to the best outcome. Palliative care is a service that focuses on symptom control and goals of care that can make the journey smoother, more tolerable and patient directed.

During the past year we have seen an increased interest in, and utilization of palliative focused services. The medical team, including social worker, nutritionist, pharmacist, and chaplain are providing services to the patients in our cancer center. As a continuing commitment to this service, the leadership group is developing an integrated medical model that will be available later this summer. This integrate medical model will include a board certified palliative care physician working with palliative care advance practice nurses (NPs) and coordinating with the interdisciplinary team to bring the best quality and comfort to patients and their families on this journey.

The palliative care team also sees patients in the hospital if needed and supports the care of patients in that location.

The goal of the palliative care service is to walk the path of treatment with the patient and to make it as smooth and integrated as possible through symptom control, supportive services, and coordination of care with the rest of the team.

Michael D Parmer, DO, CPE, FAAHPM
Mission Health System Medical Director for Post-Acute and Palliative Care Services
Patient and Family Advisory Council

Patient and Family Advisory Council (PFAC) Mission Statement:
The Mission Cancer Center Patient and Family Advisory Councils will ensure that patients have a voice in their own Cancer Journey. We will accomplish this by strengthening communication to do the following:
- Create a partnership with patients, care partners, and the healthcare team to provide excellence in prevention, treatment, education, and research
- Provide integration of care and services
- Provide access to cancer related information, education, and support to minimize apprehension and fear

PFAC Vision Statement:
To partner with the Mission Cancer Program to create an exceptional experience for patients and their care partners.

Breast and Thoracic Patient and Family Advisory Council (BPFAC/TPFAC)
Implemented in 2016, the BPFAC met on a monthly basis through June 2017 at which time we scheduled meetings on a quarterly or as needed basis for breast patient specific consideration. In May 2017 the orientation for a Thoracic PFAC kicked off with a focus on lung cancer patients and families. Our goal is to form a multi-diagnosis PFAC by 2019.

The following items were accomplished by the Thoracic PFAC as a result of the walk-about debrief and monthly meetings over the initial 8 month commitment:
- Suggestions about healthier choices in the patient kitchen for snacks/meals while undergoing treatment in Outpatient Infusion
- Coach staff to include family and care partners in patient’s care – raising awareness
- Consultation to create welcoming entrance in Radiation Therapy
- Consultation for artwork ideas and creating a welcoming atmosphere throughout the center
- Vetting ideas for Lung Cancer Awareness events
- Provide feedback for planning of Healing Garden
- Provide feedback on Palliative Care
- Provide feedback on Lay Navigation and Survivorship
- Provide feedback on Thoracic Program educational packet and option for educational classes in a group setting
- Provide feedback on diagnostic
- Provide feedback on delivery of diagnosis
- Provide feedback on the Multi-Disciplinary Clinic
TPFAC Steering Committee:

Physician Champion: Oliver Binns, MD
Administrative Representative: Marika Loveless, Executive Director Cancer Program
Linda Hummel, VP Quality and Safety
PFAC Coordinator: Laura Kerzwick, Manager of Radiation Therapy
Clinical liaisons:
Denise Steuber, RN, Survivorship Coordinator
Kim Alexander, RN, Patient Navigator
Patient Experience Representative: CJ Merrill, RN, Patient Experience Officer

Thoracic PFAC Advisors:
The TPFAC is comprised of a dedicated group of patient and family members who have experienced many different aspects of care and services at Mission Cancer Center and who volunteer their time, with their expertise and input, to make that care even better. They include:
• Fran Barrett
• Malina Blanton
• Abe Goren
• Jane Goren
• Angela Hopper
• Susan Kieffer
• Shirley Pope

Laura Kerzwick, BSRT, (R) (T)
Patient and Family Advisory Council Coordinator
Pediatric Hematology-Oncology at Mission Hospital

The Pediatric Hematology-Oncology program at Mission Health (located at the Zeiss Children’s Cancer Center in the SECU Cancer Center) is the only program in Western North Carolina dedicated to caring for children, adolescents and young adults with cancer and blood disorders. Approximately 25-30 newly diagnosed cancer patients are treated at this facility each year by a multidisciplinary team.

The Pediatric Hematology-Oncology team consists of 3 Board-Certified Pediatric Hematologist-Oncologists, 2 Nurse Practitioners, a dedicated group of Pediatric Oncology-trained nurses, social workers, child-life specialists, a pediatric oncology pharmacist and an experienced office staff. This program is able to treat all varieties of childhood cancer (including leukemias, lymphomas and solid tumors) and benign blood disorders (including sickle cell anemia, hemophilia and blood clots) at this facility, enabling patients and their families to receive state of the art care close to home. In addition, the program has close collaborative relationships with major research centers such as Duke University and the University of North Carolina at Chapel Hill.

Listed below are some of the awards and programs that are offered in the Pediatric Hematology-Oncology program at Mission Health.

Research
The Pediatric Hematology-Oncology program is also part of Mission Children’s Hospital, and patients who are admitted to the hospital are treated on a dedicated unit at Mission Hospital, where they are cared for by a nursing staff specially trained to care for children with cancer.

The Pediatric Hematology-Oncology program at Mission Hospital is a full-member of the Children’s Oncology Group (COG), the world’s largest organization dedicated to the treatment and cure of all forms of childhood cancer. Mission Hospital is the only COG member institution in Western North Carolina. Over 90% of children in the US diagnosed with cancer are treated at a COG member institution. The efforts of the Children’s Oncology Group have improved the survival of children with cancer to 80%.

Because of our membership in COG, children in Western North Carolina who are diagnosed with cancer can receive the most effective known treatments close to home, without having to leave family and friends to travel halfway across the country.

There are currently over 65 clinical trials open at Mission Hospital, covering a broad range of childhood cancers. These clinical trials include development of new treatments for cancer, management of side effects of cancer treatments, and investigations into the origins of childhood cancer.

Patient Satisfaction
Mission Health caregivers make a difference every day in big and small ways. Some caregivers have gone above and beyond in the areas of service excellence, quality, teamwork and leadership—these caregivers have been recognized by their leaders, peers and national healthcare institutions. Annually, Profession Research Consultant (PRC), a national healthcare marketing firm recognizes hospitals, health systems, units and individual providers that rank in the top percentiles nationally for patient experience and Overall Quality of Care. Mission Health was recognized in three categories—4-Star, 5-Star and Overall Top Performer—for excellence in patient experience and quality of care. A 5-Star Performers are healthcare facilities, providers, outpatient service lines and inpatient units that score in the top 10 percent (at or above the 90th percentile) for excellent scores. The Pediatric Hematology-Oncology program has received this prestigious distinction in 2013, 2015, 2016 and the Top Performer Award in 2017. These scores are determined by patients and families that are seen and/or treated in the pediatric hematology-oncology clinic.
**Sickle Cell**
The Mission Pediatric Sickle Cell Program provides comprehensive care to children and young adults with sickle cell disease. We are a recognized treatment center by the state of North Carolina and serve approximately 30 patients in the western North Carolina region. Our clinic provides routine care as well as acute care and blood product transfusions and is staffed with pediatric-trained nurses, child-life specialists, social workers, and nurse practitioners and physicians specifically trained to treat pediatric patients with sickle cell disease.

**Transition to Adult Care**
The purpose of the transition program from a pediatric setting to an adult setting is to provide quality of care along a continuum targeting disease specific follow up, surveillance of potential late effects of treatment in a multidisciplinary setting, and health promotion with a future goal to decrease overall health care expenditure and improve quality of life. Approximately 66% of survivors of pediatric cancer present with at least 1 chronic health problem with 25-40% being a severe or life threatening condition. The overall survival rate of pediatric cancer is 80%, and there is a growing amount of evidence based literature to support the need for long term follow up for these survivors. It is recommended that these survivors maintain regular contact with a healthcare provider who understands the potential long-term complications from treatment and how these complications can arise throughout the life span.

**Child Life**
The Child Life Department provides psychosocial support for children and their families affected by cancer and blood disorders. The child life specialist facilitates developmentally appropriate diagnosis education, preparation for procedures, and healthy coping and support to patients, parents, and siblings. They also provide normalizing and kid-friendly activities for patients as they adjust to their new normal in the medical setting. In addition, the child life specialist here at the Cancer Center provides Pediatric Massage, the Beads of Courage program (www.beadsofcourage.org), and Wish organization referrals.

**Arts For Life**
*Inspiring Courage Through Creativity*
Arts For Life is a nonprofit organization dedicated to supporting pediatric patients and families through arts education and engagement. By providing educational arts programs, we enrich patients’ lives, nurture their minds and spirits, and encourage positive healthcare experiences for children and their families. Arts For Life helps children in four communities across North Carolina.
In 2016, Arts For Life at Mission Health provided 4,255 direct service hours, which is the equivalent of 8,073 individual art, music, and writing lessons. We served 2,796 patients, siblings, and family members.”

**Friends of Santa Claus**
Friends of Santa Claus is a non-profit 501c(3) organization formed in Western North Carolina in 1993 for the sole purpose of serving children with cancer and their families. We provide a summer camp, Camp Merry Times, each year for kids with cancer and their siblings. Friends of Santa Claus also organize fall and spring fun days for families, and a big Christmas party each December. Friends of Santa Claus is an organization of compassionate and energetic people who feel called to stand by your side and provide support when and where we can.
Mission’s Personalized Medicine Cancer Program (PMP)

Dr. Lynn Dressler is the founding director of Mission’s Personalized Medicine Cancer Program which was started in 2013. The Personalized Medicine Team consists of Dressler, clinical pharmacist, Gillian Bell; program coordinator, Paige Krug; and research nurse, Pearl Abernathy.

Personalized Medicine evaluates the genetic and genomic mutations found in an individual cancer patient’s tumor to predict which cancer treatments are most likely to work for that patient. With advances in the field of cancer genomic medicine, it is now standard of care in many advanced cancers to perform personalized medicine testing of a patient’s tumor to provide patients, health care providers and health insurers with information that could minimize toxic side effects from cancer drug treatment and maximize cancer drug effectiveness.

Testing for a patient’s response to drugs, provides clinicians and patient’s key information to enhance patient drug management. Personalized Medicine holds the promise of optimizing cancer patient experiences and quality of life, and decreasing cost of care. Overall, personalized medicine testing strives to replace the trial and error approach to the management of cancer with a scientifically, individually guided approach.

Mission’s Personalized Medicine Program is a unique feature of Mission Cancer Care, providing cutting edge genomic medicine locally, so patients and their families don’t have to travel several hours to an academic medical center. The Personalized Medicine program at Mission provides unparalleled services—we are the only

Table 1. Services of the Personalized Medicine Cancer Program

<table>
<thead>
<tr>
<th>I.</th>
<th>Consistency/standardization of use of tumor markers to enhance individual patient care.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Meeting/exceeding national guidelines for tumor marker testing</td>
<td></td>
</tr>
<tr>
<td>2. Conducting compliance/quality improvement studies</td>
<td></td>
</tr>
<tr>
<td>II.</td>
<td>Coordination/streamlining operations and policy across the system</td>
</tr>
<tr>
<td>1. Universal testing for somatic Lynch syndrome in CRC and endometrial CA</td>
<td></td>
</tr>
<tr>
<td>2. Eligibility guidelines for comprehensive cancer genomic profiling (CGP)</td>
<td></td>
</tr>
<tr>
<td>3. Process for CGP test ordering, sample submission and results location in EMR</td>
<td></td>
</tr>
<tr>
<td>III.</td>
<td>Clinical interpretation of Comprehensive Cancer Genomic Profiling</td>
</tr>
<tr>
<td>1. Consultation and clinical summaries for providers (and patients)</td>
<td></td>
</tr>
<tr>
<td>IV.</td>
<td>Enhancing the clinical cancer genomic research portfolio</td>
</tr>
<tr>
<td>1. Pilot study to provide PGx testing for supportive care meds in cancer patient</td>
<td></td>
</tr>
<tr>
<td>2. Collaboration to validate predictive NGS assay for response to immunotherapy</td>
<td></td>
</tr>
<tr>
<td>V.</td>
<td>Education, training and resource to evaluate emerging genomic testing</td>
</tr>
<tr>
<td>1. Liquid bx; Predicting response to immunotherapy, PGx for supportive care meds</td>
<td></td>
</tr>
<tr>
<td>2. Outreach to clinicians and community</td>
<td></td>
</tr>
</tbody>
</table>
Meeting/Exceeding National Guidelines:
One of our services ensures that our providers are meeting if not exceeding national guidelines for use of tumor markers to predict response to anti-cancer agents. Most community cancer sites do not have a personalized medicine program to help assess alignment with national guidelines, an important feature of high quality care. In 2017, the PM Cancer Program conducted 3 quality improvement studies demonstrating excellent compliance with national guidelines, two of which are described below.

Using genomic testing to spare patients from toxic chemotherapy: One study in breast cancer evaluated the use of a genomic test in breast cancer (called Oncotype Dx) to predict which early stage cancer patients may not need toxic chemotherapy. This test provides a score for the patient and physician to assess the likelihood that chemotherapy will be helpful. Patients whose tumors demonstrate a low score will likely not benefit from chemotherapy; those patients whose tumors have a high score will likely benefit from chemotherapy. It is important to demonstrate consistent and appropriate use of these genomic tests across Mission physicians treating breast cancer patients. The quality improvement (QI) study demonstrated that 100% of patients with low test scores were spared toxic chemotherapy.

Using genomic testing to screening patients for an inherited family cancer syndrome: Another QI study conducted in newly diagnosed patients with colorectal cancer (CRC) assessed how well our cancer teams were following national guidelines for screening patient’s tumors for the possible inheritance of a family cancer syndrome called Lynch Syndrome (LS). This is important because an individual with LS has an increased risk for developing other cancers and knowing this, could undergo early detection or prevention. This risk could also affect the individual’s biological relatives as well. The genomic testing of the patient’s tumor could also be useful for the provider to help guide treatment. In the QI study, the PM team demonstrated that the pathologists did an excellent job in following a complex pathway for genomic testing (including conducting many of these tests at Mission). Of 92 patients whose tumors were screened for Lynch Syndrome, 3 new cases of LS was confirmed by our genetics group. These are 3 patients who would not have otherwise known that they (and their biological family) were at risk for other cancers. Each of these individuals (and many family members) are now undergoing education and additional screening to carefully monitor their health.

Provision of clinical consultation for complex cancer genomic profiling:
During 2017, the PM clinical pharmacist provided 16 consultative summaries for a complex test used to guide treatment decisions in patients with advanced or metastatic cancer. (Note: This test was recently approved by the FDA and Medicare; in the first quarter of 2018, we have already completed 17 consults!). This complex test, known as comprehensive cancer genomic profiling (CGP), evaluates a patient’s tumor tissue for more than 300 gene mutations that could help identify a drug that is likely to work for that patient’s cancer. This is important for advance cancer patients because often these patients have run out of standard options for treatment. The CGP test looks at mutations that can be matched to an FDA approved drug or to a new drug being investigated in a clinical trial. The provider and patient can then use this information to decide on the next course of treatment. The results from these CGP tests are complex and lengthy (some reports are up to 54 pages long!). The PM pharmacist provides the physician (and patient) with a 1-2 page summary of the results, identifying the most relevant information and making that information individual to the specific patient. In addition, if a clinical trial is identified that might help the patient, the PM pharmacist researches out that trial and provides information on whether the patient is eligible or not for that trial and if the trial is still open to enrolling new patients. This service helps the physician and cancer patient make more efficient use of their time and provides enhanced personalized care.
Enhancing the clinical cancer genomics research portfolio/assessing new testing:
During 2017, the PM team was awarded funding to support a pilot feasibility study to look at another type of genomic medicine to help cancer patients. In this pilot study, we obtained approval from Mission’s Cancer Institutional Review Board to assess the feasibility of providing testing to predict a cancer patient’s response to medicines used to support their care—medicines used to treat pain, chemotherapy related nausea/vomiting and anxiety/depression. The tests used in this pilot looked at gene variations in a patient that are associated to response to these drugs. These tests look at variations in certain genes that can be associated with how an individual responds to these drugs. These variations are not found in the tumor tissue, but are inherited by the patient. A simple cheek swab can gather the information used in these tests. This is important because if the physician and patient know about certain gene variations, they can use that information to better select an anti-nausea or anti-anxiety drug up front, before the patient even gets their chemotherapy. Thus, hopefully offsetting an episode of severe nausea, vomiting or anxiety. Results of the study will be reported in 2018.

For the past 5 years, the Personalized Cancer Medicine Program has provided support to enhance the quality of care for our cancer patients. Our plans are to continue to expand these services to meet the needs of our patients. The figure below summarizes some of the work over the last 5 years.

Figure 1. Implementation Timeline
Personalized Medicine Cancer Program

Lynn Dressler, Dr. P.H.
Director, Personalized Medicine
Outpatient Oncology Clinical Pharmacy

Mission Health Department of Pharmacy brings a combination of patient care, quality improvement, and academic missions in its provision of comprehensive pharmaceutical care across the continuum of cancer treatment.

Highly skilled pharmacists review every medication order given in a Mission Health infusion clinic or hospital bed for clinical appropriateness. These pharmacists work closely with medical and nursing staff to personalize every treatment regimen to the needs of each patient. Experienced certified pharmacy technicians then prepare infusion therapy with multiple checks to ensure the safety and sterility of every medication. In 2017 the pharmacy team prepared over 30,000 doses of chemotherapy or biotherapy across the Mission System. Mission Specialty Pharmacy staff assist patients with obtaining and managing oral chemotherapy and specialty pharmacy medications. The retail pharmacy located in the cancer center allows patients to leave with all the medications they need to manage their care at home.

The pharmacy is also actively involved in quality improvement and education initiatives throughout the cancer program. Pharmacists were active leaders in the design and implementation of an oncology electronic medical record across all infusion centers in the Mission Health system. This has moved all medical information and ordering into one information system. Pharmacists have helped transition inpatient treatment regimens to the outpatient setting to ensure appropriate location of care. The pharmacy team has taken a leadership role in implementing many checks and controls to protect patients, visitors, and employees from the potential hazards of working with chemotherapy.

The pharmacy department has an active academic mission through support of research and health education. In 2017, the oncology pharmacy team supported two pharmacy student researchers, who reviewed the outcome of policies implementing the shift to optimized outpatient therapies. A total of 16 academic months of oncology education were provided to student pharmacists, with an estimated 800 patient interactions documented. The pharmacy team supports research in the cancer program through reviewing study protocols and managing investigational drugs. The pharmacy team ensures appropriate storage, documentation, and preparation of research medications. The pharmacy team is involved in educating future pharmacy professionals. The pharmacists train students from UNC Eshelman School of Pharmacy in introductory and advanced clinical rotations. Mission Health also offers postgraduate pharmacy residencies with experiences in the cancer center. Lastly, AB Tech students in the Pharmacy Technology Associates degree program rotate through the cancer center, where they learn the core concepts in sterile compounding and hazardous medication handling.

Joseph Bonkowski, PharmD
Director Pharmacy Cancer Center/Infusion Services

Jolynn K. Sessions, PharmD, BCOP
Oncology Clinical Pharmacist
Associate Professor of Clinical Education
Mission Cancer Center and UNC Eshelman School of Pharmacy
Psychosocial Services/Psycho-Oncology Services

When a person receives a cancer diagnosis, the impact on that individual and loved ones extends far beyond the physical symptoms and medical treatment; it is often a life-changing event for everyone who is intimately involved. Mission Cancer Care is acutely aware of the multi-faceted disruption caused by this disease and is committed to providing whole-person, patient centered care. We provide extensive support services that address the emotional, relational, spiritual, practical and financial challenges experienced by patients and their family members/caregivers.

This person centered care may include assisting patients in accessing financial or other practical resources, helping patient’s children understand their parent’s illness and treatment, connecting and supporting patients through support groups, and meeting with patients individually as they process their thoughts and fears. It isn’t surprising that patients, families, and caregivers often experience times of emotional and/or spiritual turmoil; counseling support can offer opportunities for emotional and relational healing, but it can also contribute to more successful treatment outcomes.

Hope Women’s Cancer Center and Mission’s SECU Cancer Center is committed to providing whole person care. Patient and Family Counseling is available as part of our support services program in both of our Asheville centers. Alice Myer, LCSW (Hope), and Carey Baumgarten, LCSW (SECU), provide supportive counseling services for individuals, couples, families and support groups. In counseling sessions, they help people clarify their needs and concerns, validate their strengths, and help patients find better ways to cope with diagnoses, treatment side effects, general life disruption and survivorship.

In 2017, the counselors were involved in several special projects in. We transitioned to a unified electronic medical record which enabled us to continually improve our coordination and provision of patient-centered care. Cancer Care Social Workers at both centers provided education and opportunities to develop mindfulness practices that can reduce stress and strengthen resilience in the midst of daily challenges. Supporting our professional caregivers in providing a calm, low stress atmosphere is certainly beneficial for them, but it also provides a healing environment that directly benefits patients.

Cary Baumgarten, LCSW (SECU)
Social Worker II, Care Management

Alice Myer, LCSW (Hope)
PSA, Hope Center (HCC)
Radiation Therapy Department

Mission's radiation therapy department has been an integral part of the hospital's cancer program for over 40 years. The radiation therapy services combine the quality and capability of state-of-the-art technology with the expertise and compassion of our medical, technical, and administrative staff.

Our team of five board certified radiation oncologists work closely with the surgeons and medical oncologists to determine the best treatment recommendations. Supporting our physicians is a talented staff of 6 nurses, 1 CNA, and 1 CMA, who help provide medical and supportive care to our patients before, during, and after their course of treatment; a team of 11 radiation therapists who have been specially trained to administer daily radiation treatments; 2 certified medical dosimetrists who work “behind the scenes” with the radiation oncologist to design a specific treatment plan for the patient; and 3 medical physicists who ensure a precise and accurate delivery of the treatment plan by testing, monitoring and calibrating the sophisticated technology used in radiation therapy. Our office staff team of 4 schedule appointments, maintain records and assist with directions and parking.

Our department features two identical, state-of-the-art Elekta Infinity Linear Accelerators. The treatment machines are able to deliver Intensity Modulated Radiation therapy (IMRT), Volumetric Modulated Arc Therapy (VMAT), and 3D external beam treatments and have on-board cone beam CT capability for image-guided treatment. The department has also offered radiosurgery and SBRT since 2005, using CyberKnife technology. Our new Accuracy CyberKnife M6 was installed in May 2017 and offers shorter treatment times, advanced image guided technology, and a variable aperture IRIS for beam shaping. The new CyberKnife provides opportunity along with continued treatment of brain and addition of treatment of abdominopelvic tumors, lung SBRT using Synchrony respiration tracking technology, and prostate cancer hypofractionated treatment using InTempo imaging. High dose rate brachytherapy is also offered and is delivered via a Nucletron System.

Mission’s Radiation Therapy department has been ACR accredited for over 20 years and is currently pursuing an accreditation through a new entity, the American Society for Therapeutic Radiation Oncology Accreditation Program for Excellence (APEx). This accreditation involves an independent, impartial peer review and evaluation of patient care with an evaluation of staff, equipment, treatment planning and records, patient safety and quality control activities.
At Mission Radiation Therapy we perform the following therapeutic procedures:

- **External beam radiation therapy**
  - Intensity Modulated Radiation Therapy (IMRT)
  - Volumetric Modulated Arc Therapy (VMAT)
  - 3D Conformal Radiation therapy
  - Image Guided Radiation Therapy (IGRT)
- **CyberKnife**
  - Stereotactic Radiosurgery (SRS)
  - Stereotactic Body Radiation Therapy (SBRT)
- **Brachytherapy**
  - High Dose Rate (HDR)
  - Low Dose Rate (LDR) for prostate bed treatment
- **IV Radiopharmaceuticals**
  - Ra-223
  - Zevalin

2017 Statistical Break-down of Radiation Therapy Treatments performed:

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,172</td>
<td>Newly diagnosed patients seen in the Radiation Therapy department.</td>
</tr>
<tr>
<td>2,027</td>
<td>Follow up appointments completed.</td>
</tr>
<tr>
<td>199</td>
<td>CyberKnife patients were treated</td>
</tr>
<tr>
<td>568</td>
<td>Total CyberKnife fractions</td>
</tr>
<tr>
<td>1,000</td>
<td>Courses of external beam therapy</td>
</tr>
<tr>
<td>17,407</td>
<td>Total treatment fraction across all modalities</td>
</tr>
<tr>
<td>3,515</td>
<td>Treatment visits with the radiation oncologists</td>
</tr>
<tr>
<td>106</td>
<td>Brachytherapy procedures performed</td>
</tr>
</tbody>
</table>

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Eric Kuehn, MD
Cancer Conference Physician Coordinator
Radiation Oncologist
Asheville Radiology Associates

Mission Imaging and Asheville Radiology Associates work collaboratively to deliver high quality imaging services across Western North Carolina. Our Teams are committed to providing our patients and referring providers with the highest level of service and care while using the most advanced imaging technologies and treatments.

Asheville Radiology is comprised of a multidisciplinary team of fellowship trained subspecialty radiologist, vascular surgeons, neuro-interventional, and peripheral interventional radiologist.

**Our services include:**
- Body Imaging
- Breast Imaging
- Cardiothoracic Imaging
- Interventional and Neuro-Interventional Radiology
- Musculoskeletal Imaging
- Neuroradiology
- Nuclear Medicine
- Pediatric Radiology
- Vascular Surgery
- Advanced Oncology and Screening Services
  - Expanded 3D Mammography services across Western North Carolina
  - 3D Whole Breast Ultrasound (ABUS)
  - CT Colonography
  - Lung Cancer Screening
  - Radioembolization (Y90)
  - Prostate MRI

In 2017, Mission Hospital and Mission Imaging Services (Ambulatory Imaging Centers) were awarded the American College of Radiology Diagnostic Imaging Center of Excellence Accreditation. This award recognizes Mission Hospital and Mission Imaging Services as a top quality radiology team for achieving the highest levels of efficiency, safety, and quality of patient care. Our dedicated nurses and technologist further an excellent patient experience by going the extra mile. Patients, their families, and physicians can be assured they are complementing their quality, comprehensive cancer care with comparable imaging services.

Asheville Radiology Associates physicians have worked with Mission Health to establish standardized CT, MRI, Ultrasound, and PET imaging protocols across the Mission Health System with a focus on CT in the past year. CT is an integral imaging modality for the screening, detection, diagnosis, and staging of cancer, as well as monitoring response to treatment. The CT protocols have been improved to maintain high quality images while minimizing radiation does to the patient. Technology has been introduced that allows our team to track patient dose and compare it against national benchmarking data. With these improvements our imaging system can proactively maintain the safest, highest quality imaging our patients expect.

*Sherry Fleeman, MD*
Asheville Radiology Associates
Mountain Radiation Oncology (MRO)

MRO Partnership with Mission Health System—Mountain Radiation Oncology (MRO) and Mission Health enhanced their relationship by entering into a Professional Services Agreement in August 2016. With this agreement, Mountain Radiation Oncology provides radiation oncology services on behalf of Mission Health. The physicians within MRO have a long-standing relationship with Mission Health, providing high quality and compassionate care, alongside other clinicians at Mission’s SECU Cancer Center.

Radiation oncology is one of the three primary specialties involved in the treatment of cancer. Radiation oncologists work closely with other physicians such as surgical oncologists and medical oncologists as part of the multidisciplinary cancer team. In late 2016, MRO began seeing patients at Hope Women’s Cancer Center with Dr. Kellie Condra working in their clinic every Thursday.

“This agreement is in line with our ongoing effort to expand and strengthen our multidisciplinary team approach within Mission Cancer Services and continue to elevate the quality of care our patients are receiving” said Jonathan Bailey, Chief Program Development Officer at Mission Health.

“This relationship is a natural extension of a greater than 35 year partnership between Mission and Mountain Radiation Oncology. It will allow even closer alignment in oncology care, which will ultimately benefit the cancer patients of our region,” said Eric Kuehn, MD at Mountain Radiation Oncology.

**Mountain Radiation Oncology is made up of five board certified physicians:**

- Eric Kuehn, MD, is the Medical Director and specializes in Head and Neck, Genitourinary and Brain cancers
- Kellie Condra, MD, who specializes in Breast and Gynecological cancers
- Matthew Hull, MD, who specializes in Lung, Lymphoma and Brain cancers
- Sesalie Smathers, MD, who specializes in Breast and Lung cancer
- W. Mark McCollough, MD, who specializes in Gastrointestinal, Head and Neck and Breast cancers

Breck Cox, Practice Manager
Mountain Radiation Oncology
Outpatient Rehabilitation Services

CarePartners provides outpatient rehabilitation services to meet the unique needs of the oncology patient. These services are available at 4 locations, including onsite at the SECU Cancer Center and Hope Women’s Cancer Center. Physical therapy and speech therapy services are offered by specially trained therapists that include Board Certified Women’s Health specialists and those certified in the treatment of lymphedema. Examples of common cancer and cancer treatment side-effects that are addressed with oncology rehabilitation include:

• Musculoskeletal dysfunction and pain
• Balance and bone health issues
• Deconditioning and fatigue
• Lymphedema
• Pelvic floor dysfunction (bowel, bladder, sexual health)
• Swallowing or voice problems
• Cognitive deficits

We hosted a four day continuing education course offering specialized oncology rehab training to area therapists. Our team works closely with medical staff and multidisciplinary teams to facilitate coordination of care as well as appropriate and timely referral to rehabilitation. Our goal is to assist the patient in optimizing physical function during treatment and recovery, and where possible, preventing impairments before they happen.

Mike Heilig, DPT OCS
Executive Director, Outpatient Services
CarePartners

Laura Dylus, MSPT, NCS
Outpatient Clinical Manager
CarePartners Outpatient Services
Clinical Research Services

The Pediatric Oncology program at Mission Health participates in clinical research through the Children’s Oncology Group (COG), the world’s largest organization dedicated to the treatment of children with all forms of cancer. We have over 40 Phase II and Phase III clinical trials currently open for accrual, ensuring that children treated at Mission are able to receive the same treatments as they would anywhere in the US. More than half of all children with cancer are enrolled on clinical trials.

Douglas Scothorn, MD
Pediatric Hematology

The Mission Clinical Research Program at the SECU Cancer Center encompasses several fields including:
• Adult Oncology
• Breast & Women’s Cancer
• Radiation
• Pediatric Oncology

In bringing these fields together we have been able to unify and standardize our approach to cancer research. We have reaffirmed our commitment to national cooperative group trials and increased our participation with private industry-sponsored trials, which has helped bring cutting-edge treatment to the cancer patients of Western North Carolina. We have averaged over 200 patients annually enrolled on oncology clinical trials. Our community has participated with cooperative group trials through the Southeast Clinical Oncology Research Consortium (SCOR) which has been one of the highest accruing sites for national cooperative group oncology trials. They have given us access to numerous high-profile trials from such groups as:
• CALGB
• SWOG
• NRG
• GOG
• RTOG
• Other cancer control trials aimed at helping symptom management

We have been a top site in SCOR and a vital community as all national cooperative groups have moved toward NCORP funding. We have been a high enrolling site for several new Precision Medicine Clinical Trials that match cancer mutations with targeted drug options. We enrolled 29 patients on the MATCH trial looking at all recurrent cancers, 10 patients on the ALCHEMIST trial looking at adjuvant Non-Small Cell Lung Cancer, and 9 patients on the LUNG-MAP trial looking at second line treatment for squamous Non-Small Cell Lung Cancer specifically. Private industry-sponsored trials have allowed us to expand the array of oncology trials offered through several cutting edge developments. Translational Research in Oncology (TRIO) is a nationally recognized group of oncology practices offering promising translational treatment trials. In addition, we have worked directly with several large pharmaceutical companies.

Our success in clinical trials has led to national recognition for our investigators. In 2016 Dr. Greg Pollack was recognized in a treatment trial for Non-Small Cell Lung Cancer. In 2017 Dr. Mohan Thakuri was part of a leading group of physicians on a landmark trial establishing the new standard of treatment in Multiple Myeloma. In 2017 Dr. Vanderkwaak was recognized in a study of maintenance therapy in recurrent Ovarian Cancer patients. Publications are an important indicator for the activity and success of the Mission Cancer Care Clinical Research Program.
The physicians and staff associated with the Mission Clinical Research program at the SECU Cancer Center look forward to continuing to serve our cancer patients in western North Carolina. We hope to continue and expand our services as we offer cutting-edge treatment across all types of cancers. We will continue to strive to offer clinical trials to meet the needs of our patients and give them access to the highest quality of care while staying closer to home.

Rucaparib maintenance treatment for recurrent ovarian carcinoma after response to platinum therapy (ARIEL3): a randomized, double-blind, placebo-controlled, phase 3 trial.
ARIEL3 investigators including Vanderkwaak T

Predicted vitamin D status and colon cancer recurrence and mortality in CALGB 89803 (Alliance).

Bortezomib with lenalidomide and dexamethasone versus lenalidomide and dexamethasone alone in patients with newly diagnosed myeloma without intent for immediate autologous stem-cell transplant (SWOG S0777): a randomized, open-label, phase 3 trial.

Results of a Phase II Trial of Carboplatin, Pemetrexed, and Bevacizumab for the Treatment of Never or Former/Light Smoking Patients With Stage IV Non-Small Cell Lung Cancer.

Coffee Intake, Recurrence, and Mortality in Stage III Colon Cancer: Results from CALGB 89803 (Alliance).

Christopher Chay, CCWNC
Medical Director of Research
Survivorship Program

As a result of advances in cancer diagnosis and treatment, more people are surviving the diagnosis of cancer. For this reason, Survivorship Care is now recognized as a unique phase in overall cancer care. Anyone who has been diagnosed with cancer is a survivor – from the time of diagnosis, through the balance of his or her life. Family members, friends and caregivers are also considered cancer survivors.

The goal of our Survivorship Program is to ensure the best health outcomes for our patients by integrating evidence-based guidelines into our Survivorship Care Plans, building relationships with our patients and families, becoming a Destination Referral Center by raising awareness of our survivorship services and ensuring our patients feel support after their treatment with all the appropriate resources for their needs. We gather input of our patients’ needs through our Patient Advisory Councils and our Patient Satisfaction Surveys and our day-to-day interactions with our patients.

The program continues to grow as we see new needs for our patients. In 2017, we purchased a computer program to help our Nurse Navigators and Advanced Practitioners create standardized patient friendly Survivorship Care Plans. The program integrates with our EMR and has been exceedingly helpful for our Navigators, helping them coordinate care for their patients. We continue to look at the most effective and efficient ways to take care of our survivors as they face their future.

Denise Steuber, BSN, RN
Navigator Supervisor
National Awards and Recognitions

The Commission on Cancer (CoC), a program of the American College of Surgeons (ACoS), recognizes cancer care programs for their commitment to providing comprehensive, high-quality, and multidisciplinary patient centered care. The CoC is dedicated to improving survival and quality of life for cancer patients through standard-setting, prevention, research, education, and the monitoring of comprehensive quality care. This accreditation is a three year accreditation. In 2014, Mission SECU Comprehensive Cancer Program achieved the CoC accreditation with Commendations in Clinical Trial Accrual, Cancer Registrar Education, Public Reporting of Outcomes, College of American Pathologists Protocols, Nursing Care and RQRS.

Inspiring Quality: Highest Standards, Better Outcomes.
The National Accreditation Program for Breast Centers, a program of the American College of Surgeons, recognizes Breast Cancer Care Programs for their robust commitment to quality and delivering the highest standards of care. Breast Cancer Centers that achieve this accreditation have quality improvement initiatives, polices and process embedded into their treatment regime from diagnosis to transition to survivorship. Patients and families can be confident that the breast care team includes health care professionals from a variety of disciplines who are committed to working together to provide the patient with the best care available.
Thoracic Program

In 2017, The Thoracic program’s primary objective was to continue to provide comprehensive, multidisciplinary care for our patients through screening, diagnosis, care planning, treatment, follow up and survivorship care. A Care Process Model (CPM) dedicated to Lung Cancer entitled: Screening and Initial Diagnosis, was developed and implemented.

The CPM Goals are:
1. Identify appropriate patients for screening through collaboration with primary care providers (PCP’s) and other clinicians
2. Reduce time to diagnosis
3. Track appropriate patients after treatment completion to ensure that they received annual screening and appropriate follow-up, when applicable
4. Development of a Lung Nodule Clinic

Why develop this CPM?
The American Cancer Society Estimates for Lung cancer in the United States for 2017 were:
• About 222,65000 new cases of lung cancer (116,990 in men and 105,510 in women)
• About 155,870 deaths from lung cancer (84,00 in men and 71,280 in women)

Lung cancer is the leading cause of cancer death among men and women about 1 or 4 deaths are from lung cancer. Each year, more people die from lung cancer than of colon, breast and prostate combined.

The lung cancer five-year survival rate (17.7 percent) is lower than many other leading cancer sites, such as colon (64.4 percent), breath (89.7 percent) and prostate (98.9 percent). The five-year survival rate for lung cancer is 55 percent for cases detected when the disease is still localized.

However, only 16 percent of lung cancer cases are diagnosed at an early stage. For distant tumors the five-year survival rate is only 4 percent. More than half of people with lung cancer die within one year of being diagnosed.

Screening individuals at high risk has the potential to dramatically improve survival rates by finding the disease at an earlier and more treatable stage. The National Lung Screening Trail (NLST) found a 20% reduction in deaths from cancer among current or former heavy smokers who were screened with low dose Computed Tomography (CT) versus those screen with a chest-x-ray. Reduction in mortality due to discovery of the cancer at an earlier stage allowing surgical resection to concur.

Our Low Dose CT Screening Program offered in conjunction with Asheville Radiology Associates has created a robust screening program beginning late 2015 The program grew in 2017 by opening new locations for screening at each of our affiliate hospitals; McDowell, Blue Ridge, Transylvania, Angel and Highlands-Cashiers. Thus making screening easily accessible to the community. The volume of LDCT exams grew from 896 in 2016 to 1532 in 2017. 18 new cancers were detected in 2016 and 23 in 2017.

An addition to the thoracic program, this year, was the development of a Lung Nodule Clinic to assist in management of abnormal findings in the lung. Typically the interpretation of the screening CT includes direction as to next steps. Often, there is serial imaging over time such as yearly, 6 months or 3 months dependent on the Lung Radiation category. When abnormalities occur and further assistance is needed in evaluation, the clinic serves to assist clinicians in continued surveillance and workup. The Lung Nodule Clinic is also available for questions that arise outside the screening program. Incidental findings on CT are frequent and the Lung Nodule Clinic healthcare providers can assist with interpretation and management. This is frequently requested in the Thoracic Multidisciplinary Conference.
In January, The Thoracic Program met and developed a Vision, Mission Statement, Definition and Organizational Structure, Program and Operational Goals for 2017 (these are attached if you would like to include) under the direction of Dr. Oliver Binns, Thoracic Cancer Director, and the Marika Loveless, Executive Director of Oncology Services. This team meets monthly to facilitate and evaluate goals.

During the weekly Multidisciplinary Thoracic Conference and Clinic, providers including pulmonary medicine, medical oncology, radiation oncology, thoracic surgery, radiology and personalized medicine, develop comprehensive care plans for cases reviewed. In addition, nurse navigators, nutritionists, research coordinators and nicotine dependence assist with education and coordination of patients care. Navigators offer one point of contact, to help patients and families understand their care and provide guidance through this difficult life experience.

275 cases were presented in Thoracic Conference in 2017 versus 196 in 2016.

Multidisciplinary Clinic continues to serve increasing numbers of patients in the region, indicating a need for more complex care for patients with cancer. The clinic provides opportunities for patients to be evaluated for single, dual or triple modality therapy. In 2017, 470 patients were seen in clinic versus 306 patients seen, in 2016. A Nicotine Cessation Counselor began seeing patients in Thoracic clinic during 2017 to provide an opportunity for one on one counselling/referrals. Nurse Navigators see each patient for identifying barriers, providing resources, education, support and survivorship care planning.

Community Outreach positively impacted over 300 individuals in our community. Some of the activities included:
- Participation in Relay for Life via selling luminaires, planning and hosting events for the celebration.
- Hosted a Radon Awareness event in SECU lobby offering education and free radon test kits.
- Multiple events focused on Low Dose CT Screening outreach and education for the community.
  - Sites included; local community sites, retirement communities and low income housing.
- During November, Lung Cancer Awareness month, the program hosted an Expert Speaker Series featuring a Thoracic Surgeon, Pulmonologist, Medical and Radiation Oncologist for a Panel Discussion and Question/Answer session focused on Lung Cancer Screening, Diagnosis and Treatment.
- Paint Nite, an activity where community patrons had the opportunity to paint, with an artists’ guidance, a canvas to take home in association with sharing awareness of lung cancer and LDCT screening.
- Cancer Transitions, a bi-annual Survivorship program, for those who had recently completed their treatment and moving into to a new phase in their lives was presented.
- Additionally a Survivors Day celebration was planned and hosted at SECU with Nurse Navigator involvement.

Carol Thompson, MSN, RN
Patient Navigator