



Duke Raleigh Hospital Cancer Centers
2017 Annual Report



Duke Cancer Institute

Extraordinary
cancer care



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Administrative Director Update

Lindsay MacDiarmada, MHA



In reflecting back on this year, a common theme has been one of collaboration. Most notably in the spring, the Duke University Health System entered into a formal collaborative relationship with WakeMed for cancer services called *Cancer Care Plus*. Key physician and administrative leaders from both organizations set direction and priorities according to shared principles of providing access to the highest level of cancer care for our shared population.

This sense of collaboration has become ingrained in every member of faculty and staff. Community engagement in Wake County has had a record year! Our goal has been to partner with local institutions to expand the reach of our care and compassion. Just a few of the organizations our cancer centers have supported this year include:

Habitat for Humanity
Boys & Girls Clubs
Midtown Farmers Market
Holt Brothers Foundation
Pretty in Pink Foundation
Lung Cancer Initiative
American Cancer Society
Poe Center
Leukemia/Lymphoma Society
Gail Parkins Memorial Ovarian Cancer Walk
Cary Chamber of Commerce

Project Access
Urban Ministries of Wake County
Alliance Medical Ministries
Raleigh Chamber of Commerce
Midtown Raleigh Alliance
Triangle Family Services
Raleigh City of Oaks Marathon
Wake County Public Schools
Women's Empowerment
Susan G. Komen Foundation
American Heart Association



Cancer Center staff participating in Habitat for Humanity 'Women Build' project

In addition to providing outstanding care, our team participates with the community to serve as builders, fundraisers, athletes, advocates and above all – neighbors. With all of this taking place, it never ceases to amaze me that our work culture continues to achieve Tier 1 status amongst the staff.

Each year we focus on processes to improve patient access to our services, efficiency of visits, upgrades in technology, cutting-edge research, supportive care services, and programmatic growth. In 2018, we plan to continue with those areas in mind and surround the patients with all of the services that they need – from diagnosis to survivorship.

Cancer Committee

The Cancer Committee is the designated multidisciplinary body for the administrative oversight, development, and review of cancer care services at Duke Raleigh Hospital. The Committee communicates directly with the Hospital's medical board, and its activities and recommendations directly impact programs. Members include physician representatives from the medical, surgical, diagnostic, and clinical areas along with representatives from supporting services involved with the care of patients with cancer. Its composition must include board-certified physicians from surgery, medical oncology, radiation oncology, diagnostic radiology, and pathology, along with a cancer liaison physician, clinical research manager, pain control/palliative care specialist, and representatives from Hospital administration, nursing, social services, cancer registry, and quality assurance. The Committee is charged with providing leadership to plan, initiate, stimulate, and assess the institution's cancer-related activities, so as to be in accordance with the Commission on Cancer requirements and maintain cancer program accreditation.

Duke Raleigh Cancer Committee Members and Guest 2017

Jennifer Garst, MD	Cancer Committee Chair	Duke Hematology/Oncology of Raleigh
Sean Wang, MD	CoC Liaison Physician	Duke Hematology/Oncology of Raleigh
Yuri Fesko, MD	Medical Director, Medical Oncology	Duke Hematology/Oncology of Raleigh
Michael Spiritos, MD	Chief Medical Officer	Duke Raleigh Hospital Duke Hematology/Oncology of Raleigh
Scott Sailer, MD	Radiation Oncologist	Duke Radiation Oncology of Cary Duke Women's Cancer Care Raleigh
Carol Hahn, MD	Vice Chair, Radiation Oncology	Duke Radiation Oncology of Raleigh Duke Women's Cancer Care Raleigh
Carol Filomena, MD	Medical Director, Laboratory Services	Duke Raleigh Hospital Pathology
Bill Xie, MD	Pathologist	Duke Raleigh Hospital Pathology
Jerry Hung, MD	Pulmonologist	Raleigh Pulmonary and Allergy
David White, MD	Surgical Oncologist – Thoracic	Duke Thoracic Surgery of Raleigh
Albert Chang, MD	Surgical Oncologist – Thoracic	Duke Thoracic Surgery of Raleigh
Karen Sherman, MD	Surgical Oncologist – Colorectal	Duke Colorectal Surgery of Raleigh
Nevin Shrimanker, MD	Pain Specialist	Carolina Pain Clinic

Jennifer Garst, MD	Director Clinical Research	Duke Hematology/Oncology of Raleigh
Christopher Watters, MD	General Surgeon	Duke General Surgery of Raleigh
Gayle Dilalla, MD	Surgical Oncologist – Breast	Duke Women’s Cancer Care Raleigh
Laura Lazarus, MD	Surgical Oncologist – Breast	Duke Women’s Cancer Care Raleigh
Bobby Vogler, MD	Radiologist	Duke Radiology of Raleigh
James Knutson, MD	Radiologist	Duke Radiology of Raleigh
Maggie Deutsch, MD	Medical Oncologist	Duke Hematology/Oncology of Raleigh
Paula Lee, MD	Gynecologic Oncologist	Duke Women’s Cancer Care Raleigh
Victoria Dorr, MD	Inpatient Oncology Hospitalist	Duke Raleigh Hospital
Aaron Woofter, MD	Gastroenterologist	Duke GI of Raleigh
Samuel Eaton, MD	Urologist	Duke Raleigh Cancer Center Duke Urology of Raleigh
Sundhar Ramalingam, MD	Medical Oncologist	Duke Hematology/Oncology of Raleigh
Delani Mann-Johnson, MD	Palliative Care Physician	Duke Raleigh Hospital
David Zaas, MD,MBA	President	Duke Raleigh Hospital
Lindsay MacDiarmada, MHA	Administrative Director	Duke Cancer Institute
Jennifer Loftis, RN,MSN,AOCNS	Clinical Operations Director	Duke Cancer Institute
Gloria Steverson	Heather Center Administrator	Duke Raleigh Cancer Center
Jennifer Mclean, CTR	Cancer Registry Supervisor	Duke Cancer Institute
Karen Knight, CTR	Certified Tumor Registrar	Duke Cancer Institute
Keelia Rhodes, PhD MS, MPH, CGC	Research Scientist-Genetics and Hereditary Syndromes	Duke Cancer Institute

Cindy Downing, RN,BSN	Assistant Research Practice Manager	Duke Cancer Institute
Melissa Smith, NP	Quality Improvement Coordinator	Duke Hematology/Oncology of Raleigh
Christy Page, NP	Quality Improvement Coordinator	Duke Hematology/Oncology of Raleigh Duke Women's Cancer Care Raleigh
Victoria Poillucci	Medical Oncology APP Team Lead	Duke Women's Cancer Care Raleigh
Rev. Adrian Dixon, M. Div.	Director, Spiritual Care	Pastoral Services
Robbie Tilley	Duke Raleigh ACS Representative	America Cancer Society
Shebra Hughes, MSW,LCSW	Oncology Social Worker	Duke Cancer Institute
Kim Pickney, MSW, LCSW	Oncology Social Worker	Duke Cancer Institute
Margaret Rand, PharmD	Clinical Oncology Pharmacist	Duke Raleigh Cancer Center
Eldina Ibrahim, CURN, CNOR	Team Leader, Surgical Services	Duke Raleigh Hospital
Tim Kelly, RT	Chief Radiation Therapist	Radiation Oncology
Kimberly Camp, NP	Gynecologic Oncology APP	Duke Women's Cancer Care Raleigh
Brenda Wilcox, MSN,RN,CSN	Patient Navigator	Duke Cancer Institute
Sandra Sonnessa, RN	Patient Navigator	Duke Cancer Institute
Jane Worrell, RN,BS,BSN	Patient Navigator	Duke Cancer Institute
Amber Hammer, RN, BSN	Patient Navigator	Duke Cancer Institute
David Nalepinski, MS	Assistant VP, Community Oncology	Duke Cancer Institute
Lisa Dowd, NP	Palliative Care APP	Duke Raleigh Cancer Center
Mairead Alcorn	Community Outreach	Duke Cancer Institute

Julie McQueen, CHES	Community Coordinator	Duke Cancer Institute
Sara Syvinski, MSN,RN,ANP	Outpatient Oncology Nurse Manager	Duke Raleigh Cancer Center
Raechel Hill, BSN,RN,OCN,CNIV	Outpatient Oncology Nurse Lead	Duke Raleigh Cancer Center
Ramona Basnight, MSN, RN	Outpatient Oncology Nurse Manager	Duke Women's Cancer Care Raleigh
Delores McNair, MHA	Clinical Operations Coordinator, Medical Oncology	Duke Cancer Institute
Carrie Smith, RD	Oncology Nutrition	Duke Raleigh Cancer Center
Paige Fisher-Streno, RD	Oncology Nutrition	Duke Raleigh Cancer Center

The Cancer Registry

Cancer Data Analysis and Reporting Jennifer McLean, CTR

- The Cancer Registry at Duke Raleigh Cancer Center is designed to collect, manage, analyze, and report data of patients newly diagnosed and or treated at the Cancer Center. The data is submitted to the North Carolina Central Cancer Registry.
- Patient follow-up is an important part of cancer care and maintaining the registry. Each patient in the registry is followed annually and information on disease recurrence, subsequent treatment, length of survival and overall well-being is updated. The Registry's current follow-up rate is 92% (90% or greater is required by the CoC Standard. 5.3
- Our data is utilized by area physicians, ACS, North Carolina Cancer registry and the National Cancer Database. Registry data is also used to review trends, monitor survival stats and disease recurrence which ultimately improve the standard of care for our patients.

2017 Cancer Registry Highlights

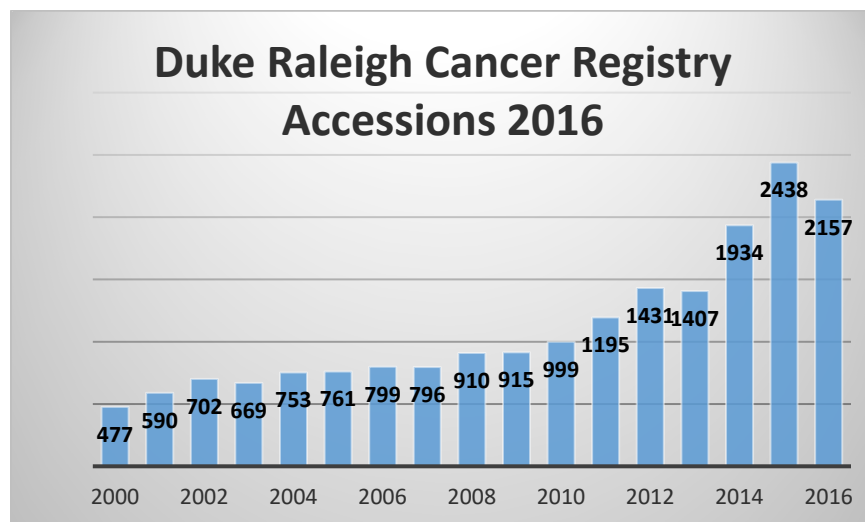
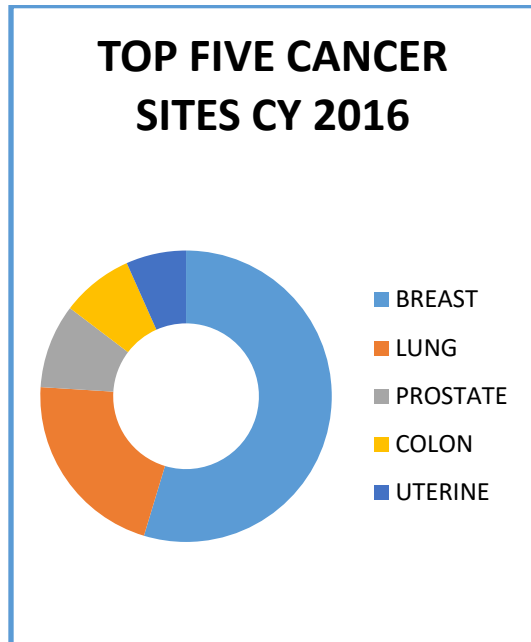
- April 2017: Celebrated National Cancer Registrars
- September 2017: Attended Association of North Carolina Cancer Registrars (ANCCR) State Education Meeting in Flat Rock, NC
- Maintained State Timeliness in reporting and submission throughout the year.

The Cancer Registry is comprised of five Nationally Certified Tumor Registrars who are dedicated to collecting and reporting accurate data. Staff members also actively participate in weekly Cancer Conferences and quarterly Cancer Committee meetings.



(back row, left to right) Karen Knight, Breanna Marcum, Jennifer McLean;
(front row, left to right) Kimberly Swing, Kelly Weidman)

Tumor Registry & Site Distribution



The accession register is an annual, sequential listing of all reportable cancers included in the registry.

The Duke Raleigh Cancer Registry has added over 19,000 cancer cases into the database since its inception in 2000.

Analytic cases (A) are defined as patients diagnosed and/or treated at the reporting facility. The CoC requires that analytic cases be abstracted by accredited programs. Non-analytic cases (NA) are defined as patients diagnosed and or treated elsewhere and seen at the reporting facility for diagnostic work-up, in-transit care, disease recurrence or persistence. Non-analytic cases are required by the NC Central Cancer Registry.

In 2016, the registry abstracted 2,157 cases. Out of those 1,692 are analytic cases with initial diagnosis and/or first treatment at Duke Raleigh Hospital. The additional 465 cases are non-analytic cases representing patients with recurrent disease, initially diagnosed and/or treated elsewhere. The “88” group are cases that are not staged using the AJCC staging system. The unknown stage can represent patients who did not want diagnostic testing and staging studies to be performed, and many times opted for palliative care only or patients who passed away before staging studies were complete.

[2017 Cancer Conference Report](#)

Jennifer Mclean, CTR, Cancer Registrar

Karen Knight, CTR, Cancer Registrar

Gayle Dilalla, MD, Breast Cancer Conference Coordinator

Yuri Fesko, MD, Multidisciplinary Cancer Conference Coordinator

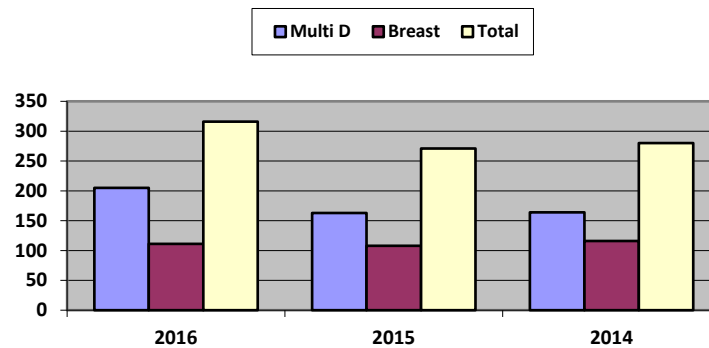
Cancer conferences are a key component of the multidisciplinary approach for an American College of Surgeons Commission in Cancer accredited program. Weekly educational cancer conferences are held every Friday morning at Duke Cancer Center in Raleigh to facilitate a multidisciplinary approach to cancer diagnosis, staging and treatment. In July 2013, a dedicated multidisciplinary breast conference was added and precedes the general multi-disease conference. The conferences are attended by physicians representing general surgery, breast, colorectal, and thoracic surgery. Medical oncology, radiation oncology, diagnostic radiology, pathology and gastroenterology are also represented. Also included are representatives from nursing, cancer registry, patient navigation, and dietary. Cancer conferences are also used to educate medical staff on new techniques and technology in the field of cancer diagnosis and treatment. Occasionally visiting physicians and specialists from area hospitals attend and present educational topics of interest.

The purpose of tumor board or cancer conferences is to maintain standards set by the Commission on Cancer (COC) and the ACOS (American College of Surgeons). Duke is a member of the National Comprehensive Cancer Network, an alliance of the world’s leading cancer centers, that work together to develop treatment guidelines for most cancers, and is dedicated to research that improves the quality, effectiveness and efficiency of cancer care. At the Duke Raleigh conference, physicians discuss the clinical or “working stage” of the disease and national guidelines are used to direct their treatment decisions, such as NCCN and ASCO guidelines. The stage, guidelines, and treatment options discussed are documented and retained in the cancer registry department.

Each week cases of various types of malignant disease are selected for presentation on the basis of complexity, unusual manifestations, clinical course, or special interest. Occasionally benign tumors of unusual pathology or clinical presentation will be discussed. Each presentation includes an outline of pertinent patient medical history, physical findings, clinical course, clinical stage, radiographic studies

and pathological interpretations. Open discussion follows regarding treatment options, available clinical trials, and published literature or research pertinent to the case.

In 2016 a total of 47 breast conferences 51 Multi D conferences with 316 cases were presented. 99% of the cases were prospective presentations, discussing diagnosis, treatment, or follow-up care. The average attendance per conference was 20 members. Surgery, diagnostic radiology, pathology, medical oncology, radiation oncology, and allied health disciplines all maintained 100% attendance. The major cancer sites presented are lung, breast, lymphoma, colon, and rectum.



All cancer patients are screened for eligibility of available clinical trials in clinic and patients treated on trial are discussed in conference. Patients are enrolled in trials at the Wake County and Durham clinics, and also referred to other institutions.

Colorectal and urology cases are also discussed in Multidisciplinary rounds, and GYN oncology remotely joins the Duke GYN department for their weekly tumor conference. Thoracic oncology holds a multidisciplinary clinic each Friday morning in which patients are seen by multiple disciplines in one visit and GU Oncology Multidisciplinary Clinics meets twice monthly.

The overall goal of the conference is to offer patients the very best and most current therapy that medicine has to offer through the sharing of information and ideas in a confidential manner. To increase physician awareness of the most current standards of care for oncology patients, physicians attend national conferences and report changes in protocol or advances in diagnostics or therapeutics to the tumor board. The tumor board benefits patients by offering a comprehensive, coordinated approach to cancer care.

Benefits of a multidisciplinary approach to cancer care:

- Specialists from various disciplines pool their expertise and knowledge together to create the most effective individualized treatment plan for patients. Also serves as an informal "second opinion" from other cancer experts.
- Forums provide an opportunity to discuss new treatments and available clinical trials.

We anticipate continued growth and expansion for the future. Thank you, to all who participate in our conferences and make it a wonderful setting for learning and collaboration.

Key Focus: Colon Cancer

Karen L. Sherman, MD, MS

Colon cancer, a malignant tumor of the inner lining of the large intestine, is preventable, and highly curable if detected early. An estimated 95,520 cases of colon cancer were expected to be diagnosed in 2017. The third most common cancer in both men and women, colorectal cancer makes up 8% of new cancer diagnoses annually. One in 21 men and 1 in 23 women will develop colon cancer in their lifetime. The third leading cause of cancer-related deaths in the US, colorectal cancer is associated with over 50,000 deaths in 2017. As screening has increased, and colon cancers are found earlier, and treatments have improved, the mortality rates for colorectal cancer have continued to decrease over time.

Most colon cancer begins as a polyp within the innermost lining of the colon. Over time, polyps can grow and change into cancer over the course of several years, but not every polyp will become a cancer. Benign colorectal polyps are found in 20-30% of American adults. Though hyperplastic or inflammatory polyps are more common, they rarely become cancerous. Adenomatous polyps, however, do have the potential to change into cancer. Colon cancer can be prevented by removing these polyps before they can become cancer during a colonoscopy. Average risk individuals should have a colonoscopy beginning at age 50 or earlier if at increased risk of colon cancer.

Factors associated with an increased risk of developing colon cancer include polyps over 1 cm in size, multiple polyps, and if dysplasias, or abnormal cells, are seen under the microscope after it is removed. Non-modifiable risk factors include age over 50, a personal history of polyps, colorectal cancer, or inflammatory bowel diseases such as Crohn's disease or ulcerative colitis, a personal history of breast, uterine, or ovarian cancer and a first-degree family history of colorectal cancer. Other modifiable colon cancer risk factors include being overweight, obese or physically inactive, having a diet high in red meat or processed meats, smoking, or heavy alcohol use. Across the United States, African Americans have a disproportionately high incidence of colorectal cancer and mortality rates of all racial groups.

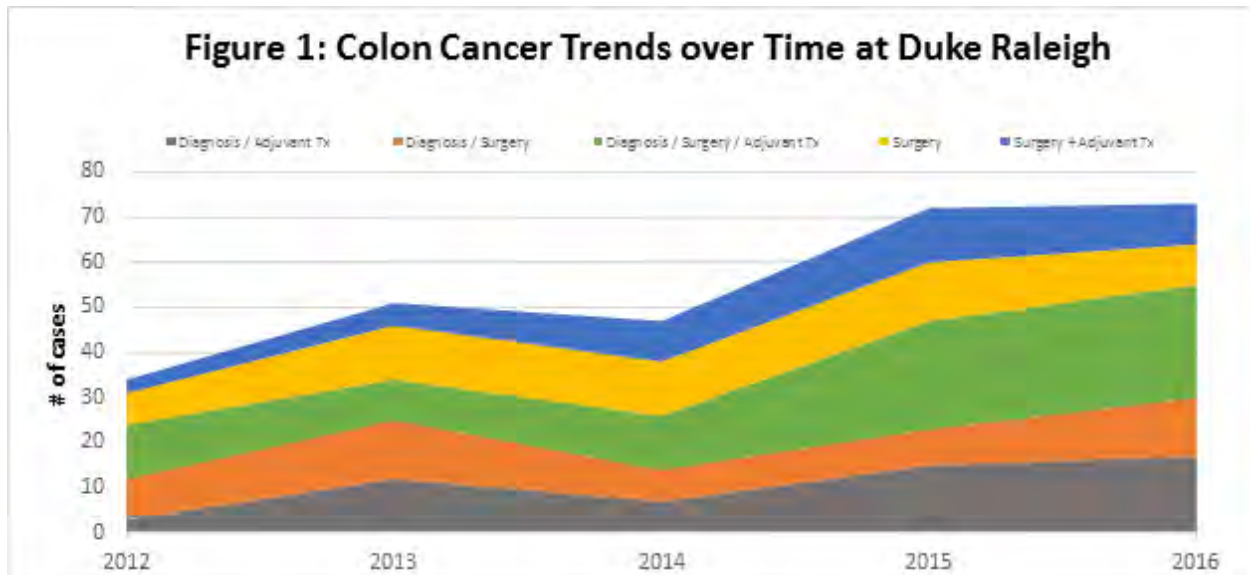
Colon cancer often presents without any symptoms at all, but can be associated with a change in bowel frequency, consistency, or caliber, blood in stool, abdominal pain, unexplained weight loss, or fatigue. An evaluation for colon cancer begins with a medical history and physical exam. Next, a colonoscopy is used to examine the inside of the colon and take a biopsy of any masses suspicious for cancer. Biopsy specimens are evaluated by pathologists who look for cancer cells in order to make a diagnosis of colon cancer. Once a colon cancer diagnosis has been made, a computed tomography (CT) scan is obtained of the chest, abdomen, and pelvis for staging purposes. A carcinoembryonic antigen (CEA) level is obtained via a blood test, as this can sometimes be elevated in colon cancer and can be used for surveillance after treatment. Other tests may sometimes be necessary for staging including a Positron Emission Tomography (PET) scan or Magnetic Resonance Imaging (MRI).

Colon cancer treatment is dependent on cancer staging which is based on three factors: (T) depth of invasion through the colon wall, (N) spread of tumor into regional lymph nodes, and (M) presence of distant metastases to other organs such as the liver or lungs. While preoperative CT scans can help to identify evidence distant metastases, cancer staging is completed after surgery, once the tumor and lymph nodes can be examined by pathology after surgery. Surgery is almost always required for curative treatment of colon cancer and typically involves removing a portion of the colon including the

tumor along with lymph nodes located along the blood vessels which supply that segment of colon and reconnecting the ends of the bowel together again. If patients become obstructed, meaning the bowel is completely blocked by the tumor, they may require emergency surgery which may involve creation of a colostomy or ileostomy where the intestine is brought up through the abdominal wall and stool drains into a bag either temporarily or permanently. Though surgery is usually the primary treatment, colon cancers with lymph node spread are usually treated with chemotherapy after surgery which can decrease the risk of recurrence by 30%. When colon cancer has spread to other organs, sometimes it is treated with chemotherapy alone or may require palliative surgery to relieve an obstruction. Radiation therapy is rarely used for colon cancer.

After colon cancer treatment, patients are enrolled in a surveillance program with both surgeons and medical oncologists aimed to detect cancer recurrence during the first 5 years following treatment. Clinical examinations, CEA level, colonoscopy, and imaging tests are used to monitor for recurrence at set intervals in accordance with national guidelines. Five year survival rates reported for colorectal cancer are 65% overall, 90% for localized disease, 71% for regional disease, and 14% for distant disease. At Duke Raleigh, we offer comprehensive, multidisciplinary, individualized colon cancer care individualized in accordance with national guidelines. We offer several minimally invasive surgical techniques as well as the most current adjunctive treatment options. Our patient-focused team includes board-certified colorectal surgeons, medical oncologists, advanced practice providers, surgical nurses and medical assistants all who specialized in colon cancer care. We also have patient navigators who help to ensure that cancer care is seamless and timely.

Since 2006, a total of 525 colon cancer cases were reported at Duke Raleigh, with 73 cases reported in 2016. The distributions of cases of colon cancer are shown in Figure 1. The number of cases of colon



cancer at Duke Raleigh have nearly doubled since 2012, with the largest growth among those who were not only diagnosed, but also received both surgery and adjuvant therapy at Duke Raleigh. Nationally,

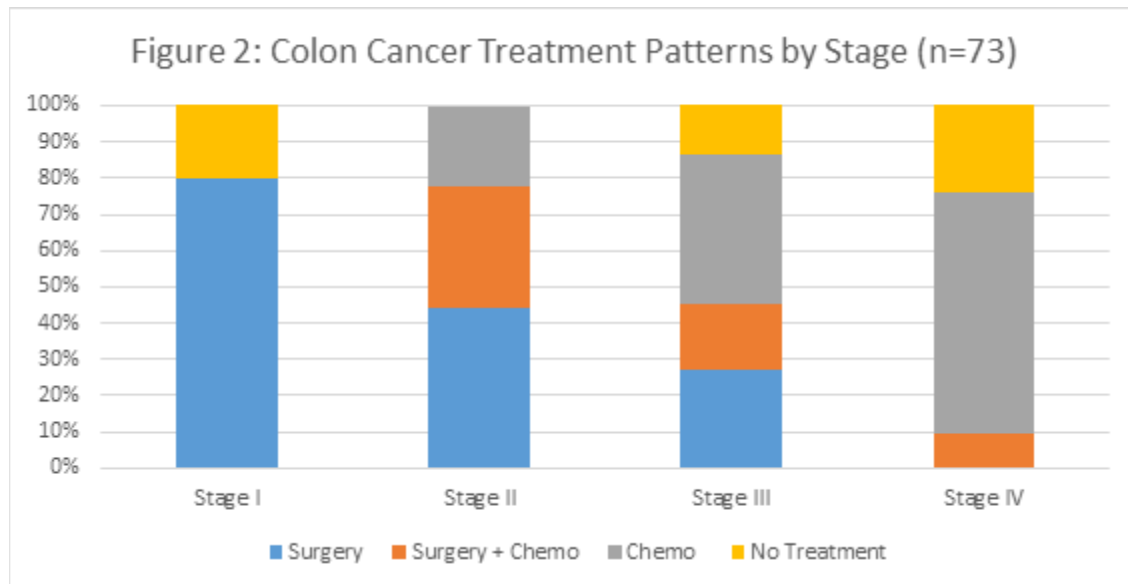
the incidence of colorectal cancer has decreased by 3% among those over age 50, but has increased by 2% among those under 50.

Demographic characteristics for patients with colon cancer reported in 2016 at Duke Raleigh are shown in Table 1. Over 2016, the age of diagnosis ranged from 21 to 92 years with a mean of 62 years (n=73). Colon cancer cases at Duke Raleigh in 2016 were 60.3% female. White patients account for 57.5% of colon cancer cases, while black patients account for 34.3%. Nearly all patients with colon cancer at Duke Raleigh were from North Carolina (98.6%). Patients with colon cancer come from several different counties across North Carolina, with Wake county representing 72.2%, Franklin county 5.6%, and Johnson and Durham counties both 4.2%.

Characteristic		n (%)
Total cases		73 (100%)
Age		
	mean (standard deviation)	62.1 (15.6)
	range	21-92
Sex		
	male	29 (39.7%)
	female	44 (60.3%)
Race		
	white	42 (57.5%)
	black	25 (34.3%)
	Asian	1 (1.4%)
	unknown	5 (6.9%)
State		
	North Carolina	72 (98.6%)
	out of state	1 (1.4%)
County		
	Wake	52 (72.2%)
	Johnston	3 (4.2%)
	Franklin	4 (5.6%)
	Durham	3 (4.2%)
	Granville	2 (2.8%)
	Harnett	1 (1.4%)
	Nash	2 (2.8%)
	Sampson	1 (1.4%)
	Chatham	1 (1.4%)
	other	1 (1.4%)

The tumor characteristics and treatment patterns of colon cancers identified in the Duke Raleigh database in 2016 are shown in Table 2. Colon cancers were predominately in the right (42.5%) or sigmoid colon (31.5%). The vast majority of colon cancers were adenocarcinoma (91.8%) but there were a few neuroendocrine tumors (6.9%) and a single gastrointestinal stroma tumor (1.4%). Patients more often presented with stage III (29.9%) and IV (29.9%) tumors, than with stage I (7.5%) or II (23.9%) tumors. Most patients underwent a hemicolectomy (45.2%) or a partial colectomy (48.4%), but those with more locally advanced disease underwent an en bloc partial colectomy (3.2%) or an en bloc subtotal colectomy (3.2%).

Table 2. Tumor characteristics and treatment patterns of colon cancer cases reported at Duke Raleigh (2016)	
Characteristic	n (%)
Total cases	n=73
tumor location	
right colon	31 (42.5%)
transverse colon	8 (11.0%)
descending colon	3 (4.1%)
sigmoid colon	23 (31.5%)
unknown location	8 (11.0%)
Histology	
Adenocarcinoma	67 (91.8%)
Neuroendocrine	5 (6.9%)
Gastrointestinal Stromal Tumor	1 (1.4%)
Tumor Stage	
I	5 (7.5%)
II	16 (23.9%)
III	20 (29.9%)
IV	20 (29.9%)
unknown stage	6 (9.0%)
Treatment	
Surgery	19 (26.0%)
Surgery + chemo	12 (16.4%)
Chemo	28 (38.4%)
None	14 (19.2%)
Surgical Procedure	
hemicolectomy	14 (45.2%)
partial colectomy	15 (48.4%)
en bloc partial colectomy	1 (3.2%)
en bloc subtotal colectomy	1 (3.2%)



Treatment of colon cancer is dependent on stage where stage I disease is managed with surgery alone and stage II disease is primarily managed with surgery but chemotherapy is considered. For stage III disease, treatment includes surgery and chemotherapy. For stage IV disease, treatment is primarily chemotherapy, but sometimes palliative surgery is indicated. At Duke Raleigh in 2016, 60.7% of patients with stage I through III colon cancer received surgery as part of their treatment. The rate of surgery among patients with stages I through III colon cancer may be lower than expected due to patients having received part of the treatment elsewhere or lack of data on the full treatment. The treatment of colon cancer at Duke Raleigh by stage in 2016 is shown in Figure 2. Patients with stage I colon cancer were treated primarily with surgery alone (80%). Stage II colon cancer was primarily treated with surgery (44.4%) or surgery and chemotherapy (33.3%). The 22.2% who received only chemotherapy most likely had their surgery at another facility. Only 18.2% of patients with stage III colon cancer had both surgery and chemotherapy at Duke Raleigh. Others who are listed as having surgery (27.3%) or chemotherapy (40.9%) alone may have had part of their treatment elsewhere. Finally, patients with stage IV colon cancer were treated primarily with chemotherapy (66.7%) or no treatment (23.8%), though 9.5% underwent both chemotherapy and palliative surgery.

Relative survival data from the Duke Raleigh cancer registry stratified by stage are shown in Figure 3. Stage I and II colon cancer at Duke Raleigh have a 5 year relative survival rate of 98% and 97% respectively. Stage III colon cancer has a relative 5 year survival of 85%. Patients with stage IV cancer had a much lower 5 year survival rate of 17%. These data are consistent with trends in colon cancer survival nationally.

Data and statistics for this report were obtained from the Duke Raleigh Cancer Registry Database, and the American Cancer Society Report and Facts and Figures for 2016.

Pathology and Laboratory Medicine

Carol Filomena, MD

David Steinberg, MD

Bill Xie, MD

Maggie Stoeker, MD



Duke Raleigh Pathology and Laboratory Medicine continues to expand to serve our patients in Wake County. The department is staffed by four anatomic and clinical pathology (AP/CP) board certified pathologists, each with subspecialty boards. Carol Filomena, MD is board certified in cytopathology and chemical pathology; David M. Steinberg, MD and Bill Xie, MD, PhD are board certified in cytopathology; and Maggie Stoeker, MD is board certified in hematopathology. Dr. Filomena has special interest in cytopathology, Dr. Steinberg in breast pathology and cytopathology, Dr. Stoeker in gastrointestinal and genitourinary pathology, and Dr. Xie in breast, genitourinary and gynecologic pathology.

A pathologist is available at all times to serve our physicians and patients. In addition to providing general pathology services, the pathologists work closely with the radiologists, gastroenterologists, surgeons, oncologists and pulmonologists to provide on-site services with immediate assessments and diagnoses. All pathologists actively participate in the Duke Raleigh Breast and Multidisciplinary Tumor Board conferences and serve on the Cancer Committee. Dr. Steinberg actively participates on the Cancer Care Plus+. LLC, a collaborative effort between Duke University Health System and WakeMed Health System. Beginning operations on May 1, 2017, the main goal of Cancer Care Plus+ is to provide the highest level of care possible to our collective patient population in Wake County.

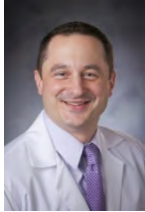
The Duke Raleigh Anatomic Pathology Laboratory renovation project has recently been completed to enable the laboratory to expand the on-site immunohistochemistry test menu. This new laboratory will enable a smoother work flow and more on-site services to accommodate the continuing growth of Duke Raleigh Hospital and Wake County patient care. Eric Hill, CT(ASCP) serves as Laboratory Supervisor for the Duke Raleigh Anatomic Pathology Laboratory.

The Cary Laboratory has recently added an on-site chemistry test panel to enable patients to receive cancer care with minimal wait time for laboratory test results prior to receiving chemotherapy. Duke cancer care is available at three Raleigh locations – Duke Raleigh Cancer Center, Macon Pond Cancer Center and Cary Cancer Center. We are very proud that there are now four College of American Pathologists (CAP) certified laboratories of Duke in Wake County at Duke Raleigh Hospital and at each satellite location. Janice Bean, MT (ASCP) serves as Laboratory Manager of Duke Raleigh Hospital Laboratory and the Duke Raleigh Cancer Center, Macon Pond and Cary Laboratories.

Endocrinology and Endocrine Surgery

Michael Stang, MD

Sara Ahmadi, MD



Over the last year, the Duke Cancer Center Raleigh Endocrine Neoplasia Program has continued to build on the success of developing a comprehensive multidisciplinary care clinic for any functional or neoplastic tumor of the endocrine organs inclusive of thyroid, parathyroid, adrenal and neuroendocrine pancreas. Claire Reynolds NP joined Dr. Michael Stang (Endocrine Surgery) and Dr. Sara Ahmadi (Endocrinologist and Thyroidologist) in February of 2017 and has contributed greatly to the continued success and growth this multidisciplinary program. This team has worked to improve local imaging, biochemical testing, US guided thyroid FNA, molecular testing and treatment options for patients with both benign and malignant thyroid pathology, parathyroid disease and adrenal lesions. In coordination with medical oncology, radiation oncology and nuclear medicine, the options for treatment of advanced thyroid cancer have been expanded and integrated with the Endocrine Neoplasia Program of Duke Cancer Center – Durham through a transdisciplinary tumor board review. Additionally, this team provides regional expertise in the management of familial endocrinopathies.



Dr. Stang's and Ahmadi's research interests are in outcomes research relating to the diagnosis, medical and surgical treatment of thyroid cancer, ultrasound features of thyroid disease, the molecular profiling of thyroid disease and discreet choices made by patients in choosing their optimal care. Further clinical outcomes research is in the diagnosis and treatment of hyperparathyroidism and adrenal tumors. Their work has resulted in publication of numerous primary studies in the journals *Thyroid*, *Surgery*, *Nature Communications*, *Autophagy*, *American Journal of Surgery*, *Surgical Innovation* and review articles published in *Endocrine Reviews*, *Updates in Surgery*, *Current Surgery Reports*, *OncoTargets and Therapy*. The continuing development of this program includes management of enrollment for ongoing open clinical research trials for advanced thyroid cancer coordinated with the Endocrine Neoplasia Program of Duke Cancer Center – Durham. Regional promotion continues to be a priority with an emphasis of the level of care and expertise available at the Duke Cancer Center Raleigh to complement endocrinology and primary care practices of Wake County and beyond.

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Gynecologic Oncology

Paula Lee, MD, MPH



Duke Gynecologic Oncology continues to grow to meet the needs of our patients with gynecologic malignancies in Wake County and beyond. This is reflected in our rising outpatient and surgical volumes in 2017. This past spring, our outpatient office moved to the Duke Women's Cancer Care Raleigh (DWCCR) on Macon Pond Rd. This site offers more space and convenience for our patients to receive comprehensive cancer care. We continue to offer clinical trials at DWCCR and facilitate trial participation at Duke Cancer Institute for our patients. We meet the surgical needs of our patients offering surgery at Duke Raleigh, Duke Hospital, and WakeMed Raleigh.

We are proud of our dedicated nurses and advanced practice providers who work closely with our gynecologic oncologists to provide compassionate and timely patient care. The addition of a gynecologic

oncology patient navigator has been a resource for both patients and staff. Faculty of the Duke Division of Gynecologic Oncology that provide direct patient care in Raleigh include Dr. Brittany Davidson, Dr. Laura Havrilesky, and myself.

We look forward to 2018 to continue working towards our goal to be the premiere center for comprehensive cancer care for women with gynecologic malignancies in Wake County.

Radiology

Ted Boyse, MD



The Community Division of Duke Radiology serves Duke's oncology patients at Duke Raleigh Hospital, the Duke Cancer Center Raleigh, and Duke Women's Cancer Center Raleigh. The Division consists of ten physicians with fellowship training in breast imaging, interventional radiology, musculoskeletal radiology, neuroradiology, and abdominal imaging.

The Community Division provides breast imaging services at Duke Women's Cancer Center Raleigh. In September 2017, the Community Division welcomed Dr. Eun Langman to the breast imaging team. Together, breast radiologists Dr. Langman, Dr. Andi Senter and Dr. Alan Rosen offer diagnostic breast imaging services, including digital mammography, breast tomosynthesis (3D mammography), diagnostic and interventional breast ultrasound, and stereotactic breast biopsy. The breast imagers work closely with the breast surgeons, medical oncologists, and radiation oncologists to provide coordinated, efficient, and personalized care. Services are available five days a week on-site.

In 2017, the radiology team further expanded interventional radiology services at Duke Raleigh Hospital, with an emphasis on Interventional Oncology. Interventional radiologist Dr. Matthew Langman joined the interventional team in August, 2017 after completing his diagnostic radiology residency and interventional fellowship at Duke University. Dr. Langman joins Dr. James Knutson, Dr. Vernon Pugh, and Erin Gallagher P.A. to provide 24/7 interventional call coverage and expanded daytime interventional oncology services. The team offers a weekly interventional radiology clinic with a focus on interventional oncology; the clinic is co-located with the Duke Raleigh Cancer Center with the Duke Medical Oncology Raleigh practice. Together, this team offers yttrium 90 intra-arterial targeted radiation therapy as well as microwave ablation to lung and bone metastases. The newly expanded capacity also allows for greater access to implanted chemotherapy ports as well as multimodality image guided biopsies.

Radiation Oncology

Carol Hahn, MD, FASTRO



Duke Cancer Center Wake County completed installation of our fourth new True Beam linear accelerator in 2017 with opening of our high definition multi-leaf collimator accelerator in Raleigh in March. We now have a total of 4 True Beam Accelerators across our Wake County sites at: Duke Raleigh Hospital (DRAH), Duke Cancer Center Cary Radiation Oncology and Duke Women's Cancer Care (DWCCR) Raleigh. All locations have accelerators which are matched and utilize the same state of the art Varian ARIA/Eclipse planning and delivery systems used to deliver care across Duke University Health System Radiation Oncology treatment locations. This, in combination with Maestro

Care, Duke's EPIC electronic medical record system, provides seamless integration of Radiation Oncology care across DCC Wake County to allow patients to receive treatment in their location of choice.

Our Stereotactic Radiosurgery Program (SRS) was initiated on our newest accelerator which is equipped with highly sophisticated imaging technology including Brainlab ExacTrac Image Guidance to provide submillimetric precision to safely and accurately target tumors that lie near critical structures in the brain. This program opened in collaboration with Duke Neurosurgery in August of 2017. The DRAH location is home to our highly conformal, specialized radiotherapy procedures including SRS for brain tumors, Stereotactic Body Radiotherapy (SBRT), also known as Stereotactic Ablative Radiotherapy (SABR), for treatment of medically inoperable early lung cancer and SBRT as well as Hypo-fractionated Image Guided Radiotherapy (HIGRT) for patients with limited metastatic disease. The DCC Wake County physics group has expanded to increase support by Duke PhD level physicists who work in close collaboration with our Duke Faculty Physician and Radiation Therapist teams to carefully oversee these highly complex treatments.

As we close 2017, we are nearing completion of renovations and installation for DCC Cary Radiation Oncology Treatment Planning facilities with a new Siemens SOMATOM Definition AS CT Simulator. Completion of this construction in January 2018 will allow CT Simulation for Treatment Planning at all 3 of our DCC Wake County locations.

We continue to actively collaborate with our subspecialist Oncology colleagues in Surgical and Medical Oncology through Multidisciplinary Clinics occurring on a weekly basis at the DRAH location. These clinics are supported with Oncology Nurse Navigators to coordinate care and provide patient and caregiver support as well as Duke Clinical Research Nurses to facilitate patient enrollment on clinical trials. Services at DWCCR have also expanded this year to include Duke Clinical Research nurses to facilitate patient access to clinical trials. Additionally, Counseling support as well as a Prosthetics center are now available at DWCCR to assist our patients with breast cancer and gynecologic malignancies in a center specifically designed, equipped and staffed with expert subspecialists who focus exclusively on women's cancers.

Duke Radiation Oncologists also provide Radiation Oncology inpatient care at WakeMed Raleigh and WakeMed Cary locations. The Cancer Care Plus collaboration between Duke and WakeMed was initiated in May 2017 and we continue to expand efforts to facilitate and expedite care for our Wake County patients across the two Healthcare Systems.

Advanced Practice Providers

Victoria Poillucci, ACNP-BC, MSN, RN



Wow! What a year 2017 has been for the Advanced Practice Providers at Duke Raleigh. Currently we have 8 Medical Oncology APP's, 6 Surgical Oncology APP's, 2 Radiation Oncology APP's, and 3 Gynecologic Oncology APP's. We continue to have a mix of both Nurse Practitioners and Physician Assistants and are represented at Duke Raleigh, Duke Women's Cancer Care Raleigh (Macon Pond), Duke Cancer Center of Cary, as well as Wake Medical Center. All APP's are Master's Degree prepared and Board Certified.

In addition to providing a comprehensive collaborative approach to care for our cancer patients they have also participated in several initiatives. There are representatives on the chemotherapy safety committee, Cancer Center Committee, Maestro Car committee and patient safety committee. They have represented the Duke Raleigh Cancer Center this year nationally at the Advanced Practice Society of Hematology and Oncology meeting Houston, TX in November, 2017 with two accepted abstracts. One looking at documentation practices of diversity within our patient population and the other assessing the response to the dedicated infusion room APP position.

Dedicated APP in an Outpatient Oncology Infusion Center

Christina Z. Page, MSN, RN, AOCNP, AGPCNP-BC; Delores McNair, MHA; Duke Cancer Institute

Background

- Adverse drug reactions (ADRs) are a part of infusion treatment in oncology despite the best clinical efforts
- At a community-based cancer center, an estimated 150-200 patients per day receive chemotherapy, immunotherapy, or non-oncology infusion
- The incidence of chemotherapy-related hypersensitivity is ~5%
- The incidence of hypersensitivity reaction with immunotherapy can be higher than 15% with first dose of some monoclonal antibodies
- ADRs have sizeable clinical costs
- A previous study in our cancer center proved that an APP can decrease incidence of ADRs and the number of severe allergic reactions
- A full-time dedicated APP was hired, previously Med Onc APPs rotated through infusion

About our Infusion Center

- Part of large tertiary facility that sees acutely ill patients
- 26 clinics & 4 private infusion rooms
- 3-10 to 11 8hrs staffed daily, based on volume
- Monthly infusion averages: 594 chemo, 346 non-chemo, 121 fresh plasma, 63 blood-related
- RNs Patient = 4/1 at one time; 6-8/1 over course of a day
- Up to 5 Medical Oncology MDs & 5 Medical Oncology APPs on-site
- Over 1600 cancer patients seen in our Cancer Center in 2015
- Med Onc MDs rotate "Doc of the Day", act as APP backup
- Hypersensitivity protocols in place for Allergic, MABs, and Tumor Infusion reactions

Infusion APP Job Responsibilities

- Oversight of emergency management of patients, including hypersensitivity protocol and Code Blue; Assessment of acutely ill patients including those awaiting admission or for symptom management
- Also manages urgent patient care needs related to infusion or occurring in infusion area

Objectives

- To evaluate the impact and value that a dedicated infusion APP added to the multidisciplinary groups who contribute to care of patients receiving outpatient infusions

Methods

- 11 item survey, 2 open-ended questions
- Evaluated on a five-point Likert scale
- Severity-six staff surveyed
- Dedicated infusion APP in place 4 months at time of survey dissemination

Results

Select Survey Responses

In regards to patients in the treatment room experiencing acute drug reactions (ADR) or "allergic responses", the dedicated infusion APP:

- Responds in a timely manner
- Effectively communicates with patients, nurses, stress and anxiety among providers, and other staff experiencing ADRs
- Decreases the level of stress and anxiety among patients and caregivers experiencing ADRs
- Supports nursing staff during an ADR
- Minimizes disruption of clinic flow by decreasing the number of additional phone calls and jitters

100% of respondents either agreed or strongly agreed that the dedicated infusion APP... (excluding "no" responses)

- Is a positive presence in the infusion area
- Manages ADRs appropriately
- Decreases the level of stress and anxiety among nursing and other staff caring for patients experiencing an ADR
- Promotes patient safety
- Is familiar with the supplies available with which to manage ADRs

100% agreed, strongly agreed, or neither agreed nor disagreed that the infusion APP... (excluding "no" responses)

- Is knowledgeable about the therapies being given in the treatment room to knowledgeable about the management of ADRs

ADRs / Infusion-Related Events by Month

Month	Total Events	# Sent to ER
March	3	1
April	9	1
May	15	0
June	16	2
July	31	0
August	7	0
September	10	1
Total	62	5

Suggestions from open-ended responses

"Having and reviewing newer protocols and medications used in management of ADRs in infusion rooms with staff"

- "IIR after education and interventions prior to going live with updated hypersensitivity protocol"
- "We should have PopUp in the emergency box"
- "IIR the help of pharmacy. PopUp now available on overnight in immediate use during an infusion reaction"
- "Just more experience with the different chemotherapies being used"
- "Physically committed to continued education"

Pharmacist Survey

Response	Count
Strongly Agree	11
Agree	11
Neither Agree nor Disagree	1
Disagree	1
Strongly Disagree	0
Not Applicable	0

Conclusions

- Positive impact and value of a dedicated infusion APP for patients and staff
- Improvements in the management of ADRs offers benefits to the patient and likely cost savings to the institution
- Limitations to this study include:
 - low response rate, especially from MDs
 - lack of comparative survey from before a dedicated infusion APP
 - limited data collection courses for ADRs; no consistent way to track lab EMS, nurses do not consistently report via incident reporting system

Lessons Learned

- Role well received and supported by nursing, especially infusion nurses
- Some MDs prefer to manage their own patients
- Recommend clear standards and expectations with start of a new role, as well as periodic discussions with the provider group
- Consider debriefing with infusion staff, primary oncology provider after events infusion-related events
- Attendance and participation in continuing education activities regarding management of new infusion therapies
- A consistent way of reporting ADRs and infusion-related adverse events is needed to allow for continued data collection

Recommendations

- Additional data needed to measure the impact on patient safety, costs and sustainability of the position
- Additional data regarding physician attitudes toward APP roles
- Evaluation of dedicated APPs in the infusion room by other institutions to evaluate the benefits

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Diversity Awareness and Documentation Practices Among Oncology Advanced Practice Providers: A Prospective Quality Improvement Project

Victoria Polilucci, MSN, AOCNP-BC, Christina Page, MSN, RN, AOCNP, AGPCNP-BC; Kathleen Saks, MSN, RN, AGPCNP-BC, Melissa Smith, PA-C, Jonathan Choe, PA-C, Emily Dell, ANP-BC, MSN, Rebecca Phillips, MSN, FNP-C, Barbara DiGrande, MSN, RN, AGNP-BC, Kimberly Campy, RN, MSN, CNS, ANP-BC, OCN; Duke Cancer Institute

Background

- The U.S. currently has the most polarized, segregated, and polyethnic population in history
- Disparities in health care exist and are associated with worse outcomes
- Bias, prejudice and stereotyping by the health care provider may contribute to disparities
- The APP called for efforts to address these disparities, including increasing awareness among health care providers

Objectives

- To assess the cultural self-awareness of oncology advanced practice providers (APPs) who practice in a community-based outpatient cancer center
- To investigate the extent to which oncology APPs include cultural care in patient assessments and documentation

Methods

- APPs completed a questionnaire titled the "Looking Glass Examination"
- Evaluates cultural self-awareness & intrinsic attitudes that providers may have about caring for patients of diverse backgrounds
- Analyzed a sample of ~10% of the total patients seen in 2015, including the top 6 cancer types

Statement

1. I believe that my race, ethnic, and socioeconomic background influences my relationship to work, with colleagues, and with patients and families who are racial/ethnic and disadvantaged, and how I see the world. 1 2
2. I believe that my own values, family structure, and socioeconomic background give me insight about the ethnic minority patients who I see in my clinic. Understanding the means I use to see the world. 1 3
3. Not speaking the language and/or understanding culture, family structure, or the communities from which the racial/ethnic and disadvantaged patients come should not matter to me as a healthcare professional. 1 3
4. Do I hold certain beliefs about particular racial/ethnic and disadvantaged patients that are stereotypes such as African American patients can tolerate more pain than other racial/ethnic groups? Do first generation Japanese women born in the United States do not get breast cancer? 2 1
5. Do I ask my racial/ethnic and disadvantaged patients about cancer prevention activities such as diet and exercise as a part of the continuous quality improvement for the practice? 2 1
6. Early detection and screening for cancer do not need to be evidence-based for racial/ethnic minorities or the rural poor. Instead, general cancer screening standards for the general population should be applied. 2 1
7. As a health care professional, using the right questions during history taking is critical in my understanding of the culture of my patients. 1 1
8. To generalize and classify racial/ethnic and disadvantaged patients are stereotypical behaviors. 1 1

Interpretation of Score

15-16: You have more than average awareness of the cultural sensitivity necessary to communicate with your patients of different racial/ethnic backgrounds.

10-14: You are encouraged to think about how you can pay more attention to the cultural sensitivities and communication needs of your patients from different racial/ethnic minority backgrounds.

1-9: You are encouraged to consider the cultural sensitivities and communication needs of your patients from different racial/ethnic and disadvantaged backgrounds. It is strongly recommended that you think about how you can pay more attention to these needs.

Conclusion

- Oncology APPs show high cultural self-awareness but cultural documentation is low
- potential bias of the APP after completing the questionnaire
- There may be cultural aspects addressed during the clinic visit that were not documented
- Cultural assessments from the initial consult may be carried through the EMS, though not re-addressed each follow up visit

Recommendations

- Cultural assessment should be a standard part of oncology patient assessments
- An open-ended cultural questionnaire would help APPs better assess the cultural needs of their patients
- Ongoing diversity-related educational opportunities should be offered to all oncology providers

Proposed Intervention: Cultural Review of Systems

- "Sit down", cultural review allows provider to quickly document in patient chart
- A brief cultural assessment to included with every review of systems
- Includes questions such as:
 - What is your primary language? Can you read and understand English?
 - Any religious beliefs that relate to your care?
 - Are you using or planning to use any herbal, natural or home remedies for your cancer or cancer-related symptoms?
 - Do you feel you have adequate support and resources, as it relates to your cancer care?
 - Do you have any beliefs about your health or your cancer specifically that you would like to share?
 - Are there any other cultural concerns that you would like to discuss today?

The APP team has also spear headed the improvement initiative to facilitate the process for infusion services to non-oncology based community infusion needs.

Future endeavors that our APP team is involved in are working collaboratively to improve the survivorship program by improving patient education initiatives, facilitating a more streamline approach to care plan communication with primary care providers, working to create an APP tumor board, and facilitating an APP onboarding process to offer mentoring and to reduce attrition. In addition we are

developing an APP/physician care model to increase APP independent practice which will allow increase patient access to care.

APP team have continued to give back by volunteering in the community, most recently with the Interfaith Food Shelter. They have given lectures to staff member as well as local groups on a variety of cancer topics and participated in cancer fund raising events. They have precepted numerous nurse practitioner, physician assistant and nursing students and are beginning discussions regarding the development of an APP Oncology Fellowship Program. We look forward to future growth both in numbers and in professional practice for 2018.

Inpatient Nursing

Jodi Hollis, MHA, BSN, RN, CCM



Inpatient Oncology Unit Team

Our mission is to improve health, advance knowledge and inspire hope: through our values we complete our mission. 5th floor has particularly shined in the value of teamwork in 2017 and was nominated for the Duke University Health System Blue Ribbon Teamwork Award. November 1, 2017 marked the unit's one year anniversary of being Duke Raleigh's dedicated Inpatient Oncology Unit.

This transition has ensured excellence by permitting continuity of care from diagnosis through the end of treatment for the oncology population.

February 2017 Kelsey Bergstedt BSN, RN CNIV accepted Clinical Lead position for night shift. In March 2017, the unit welcomed two International Nurses from the Philippines who will be with us through 2020. Dame Baluyos BSN, has over 11 years expansive international background in nursing serving as Clinical Nurse Instructor and Nurse Volunteer. Alvin Aquino MSN also comes with over 10 years of international nursing experience and a passion for Oncology.

5th floor has a dedicated pharmacist Michael Cascia, who is available to answer any questions regarding chemotherapy. He coordinates the review of the patient's treatment plan, the resolution of any questions or issues with the plan, and the preparation of the chemotherapy. Oncology rounds with the multidisciplinary team are held daily at 10:30. The participants include the care nurse, oncology hospitalist, case management, outpatient social work, dietician, and Clinical Nurse Specialist Susan Bruce. This multidisciplinary rounds benefits the whole team by ensuring that everyone is aware of the patient's goals of care and plan for a safe discharge. Outpatient Oncology Navigators are also available to the staff to collaborate regarding the treatment plan.

An abstract was accepted titled "The Blending of Medical and Surgical Oncology to Provide an Optimal Continuum of Care," the poster presentation will be at the ONS 43rd Annual Congress, May 17–20, 2018, in Washington, DC. In addition, the abstract was published in an issue of the Oncology Nursing Forum. The unit has been recognized in 2017 for most Daisy Nursing Excellence nominations at Duke Raleigh Hospital.

Throughout 2017 5th floor has been engaged in fundraisers to benefit our patients with raising close over \$2000 for the American Heart Association, Breast Cancer Awareness and the Leukemia and Lymphoma Society. The unit practice council organized a candle project to benefit our inpatients during the holiday season. Through donations of recycled jars, 5th floor staff made 200 candles that were given to each cancer patient that was admitted to the unit along with a card. During their hospitalization, each staff member that cared for the patient signed the card as they entered their room.

For more information on 5th floor please contact Jodi Hollis Nurse Manager, Operations 919-954-3546 or Clinical Team Leads Heather Sullivan 919-954-3546 and Kelsey Bergstedt 919-862-5645.

Outpatient Nursing

Sara Syvinski, MSN, RN, ANP-BC, NE-BC, OCN



Safety Award presented by Leigh Bleecker and Claudia Paren to the Duke Raleigh Cancer Center (Infusion) Nursing Team

As 2017 draws to a close, the nurses of Duke Raleigh Cancer Center, DWCCR, and Duke Cancer Center Cary are united by a common theme – safety. While Duke nurses strive to live our Values every day, the oncology nursing team’s focus on a culture of safety has been the mainstay of the year.

Equipped with TeamSTEPPS, the nurses of the Duke Raleigh Cancer Center infusion room decided to debrief after hectic days or unexpected circumstances. Led by either a member of leadership or the charge nurse, these briefs helped the team focus on what went well, what was needed, and what could be learned for the future. Members of the team felt that these briefs helped them not only identify safety issues

and process concerns, but also to leave work at work rather than having scenarios running through their minds at home, disrupting time with families. These successes were shared at a panel discussion at the annual Duke Patient Safety and Quality Conference in March.

Multiple nurses were recognized by hospital leadership in 2017 with a “Good Catch” award. These awards, presented to staff members who proactively identified a safety issue before it caused patient harm, are awarded on a surprise basis and selected by members of the Executive Leadership Team. Six members of our nursing team received these awards this year for their eagle-eyed catches and focus on patient safety.

As our team continues to grow, so does our contribution to the oncology nursing community. Recently teams and individuals from across Wake County submitted abstracts for consideration by the Oncology Nursing Society, our most valued professional organization for oncology nurses. All five abstracts were accepted for display at the national conference in Washington DC, with one receiving the special distinction of a podium presentation at the same conference.

Nursing Education

Susan D. Bruce, MSN, RN, OCN, AOCNS, CTTS, Clinical Nurse Specialist



Author: Susan Bruce, recognized at the NC Great 100 Nursing Gala

This year, nursing education went to the Web Ex platform to deliver nursing education at one centralized date and time. This has increased participation in people attending in person as well as logging on to their computers and calling in. Monthly nursing education continues and the 2018 calendar of topics is in development.

Duke University Health System held two Oncology Nursing Certification Review courses this past year, one in April and the other in October. The 2018 review class will be held in April. The current certification rate at Duke Cancer center Raleigh has dropped from 62% to 44%. This drop is a result of turnover and moving the Gynecology-Oncology Program to Duke Women's Cancer Care Raleigh. Duke Cancer Institute of Cary remains at 77% certification and Duke Women's Cancer Care Raleigh now has 8 oncology certified nurses. The Clinical Nurse Specialist continues to work at all sites to encourage nurses to become oncology certified.

We have completed one year of successful transition of medical oncology patients to the surgical oncology unit. All nurses on staff have been trained and spent time with preceptors learning to safely administer chemotherapy. The Clinical Nurse Specialist has created tools, such as a chemotherapy checklist to remind the nurses of the process for checking the chemotherapy plan, lab work and other parameters to ensure the patient is ready and safe to administer chemotherapy. During the past year, the nurses have stepped up to the challenge and have provided an optimal continuum of care for these patients. The focus for 2018 will have these nurses continue to develop their oncology knowledge base by attending the Oncology Core Curriculum classes. The Clinical Nurse Specialist has offered weekly mini-education topics to the nurses on a variety of oncology disease management, side effect management and treatment approaches. Staff have responded well to this information.

Five nursing individuals or groups submitted five abstracts that were accepted for presentation at the upcoming Oncology Nursing Society Annual Conference in Washington, D.C. May 17-20, 2018, allowing a record number of nurses to attend this conference.

Patient Navigation

Alicia Johnson, BSN, RN, OCN: GYN

Amber Hammer, BSN, RN: GI

Brenda Wilcox, MSN, RN, AGCNS-BC, AOCNS: Thoracic, Melanoma

Nicole Scholl, BSN, RN, OCN: G/U, Lymphoma, Myeloma

Patti Ryan, MN, RN, CCM: Breast

Sandy Sonnessa, MSN, RN, MBA, CMSRN, CNIV: Head and Neck

Six oncology nurse navigators staff the Duke Cancer Institute in Wake County. Our navigators work to build relationships with all cancer patients and caregivers from point of entry to the health system and throughout the entire cancer care journey. Navigators offer guidance by identifying needed resources and overcoming barriers to healthcare, helping to ensure care in an effective timely manner. Armed with compassion and respect, navigators educate patients and families about disease processes and all modalities of treatment, resulting in improved outcomes and experiences.

Also central to navigation is involvement in care transitions including survivorship and end of life, as well as collaboration with physicians and support staff to ensure continuity of care. Monthly support groups, weekly chemotherapy classes, and coordination of multidisciplinary clinics are all reflections of services that our navigators offer.

Nutrition

Paige Fisher-Streno, RD, CSO, LDN, CNSC

Carrie Smith, MS, RD, CSO, LDN

Nutrition services with DCI in Wake County continues to provide patients access to two Oncology-Certified Registered Dietitians at all three of its locations. Nutrition referrals are included as part of the comprehensive care provided to our patients.

Nutrition education is provided to both patients and staff. Our patients receive customized nutrition advice throughout their treatments. Staff and students are also educated through in-services and guest lectures, including community events, Duke PA School, Duke School of Nursing, and CORE oncology nursing courses.

Our dietitians supported the Livestrong Survivorship program for two sessions in 2017. They participated in weekly food demonstrations as well as a full session dedicated to nutrition beyond cancer treatment.

A nutrition screening tool was implemented August of 2017. Nurses, certified medical assistants, and nursing assistants complete this tool during a patient clinic visit, once per month. This screening in EPIC offers four nutrition-related questions or measurements, which are used to identify patients at high nutrition risk.

Role of an Oncology Dietitian:

- Serve as a resource for all patients at the cancer center facilities
- Help patients manage side effects of radiation, surgery, chemotherapy to maintain weight and lean body mass
- Manage enteral nutrition
- Identify and treat malnutrition

- Answer in-depth nutrition-related questions
- Educate on the role of nutrition in survivorship
- Provide specific nutrition education to patients, family members, coworkers
- Participate as part of interdisciplinary team to help provide optimal care for all patients
- Sources of Nutrition Referrals
 - Medical team (doctors, NPs, PAs, RNs)
 - Support staff (counselors, social workers, patient navigators)
 - Patient / family request

Goals for 2018

- Increase completion of nutrition screening tool in all clinics
- Provide nutrition education in upcoming sessions of Cancer Transitions
- Continue to improve access to nutrition services in our cancer centers
- Improve nutrition-related resources available to our patients
- Conduct pilot study to assess efficacy of nutrition screen vs PG-SGA
- Increase nutrition oncology outreach via patient support groups, DCI events, community events, etc.
- Survey opportunities to provide cancer prevention education

Clinical Social Work

Shebra Hughes, MSW, LCSW, OSW-C

Departmental Activities

The Duke Cancer Center of Raleigh welcomed Annaika Dastine, MSW, LCSW. Annaika is the new Clinical Social Worker for the Duke Women's Center-Macon Pond and Duke Cary Cancer Center. Annaika has seven years of experience with renal patients. She is excited to have joined the Duke Cancer Center and looks forward to learning; and contributing to the Cancer Center's goal of providing exceptional care to oncology patients.

Stacey Haggood, BSW student from Shaw University, completed her internship with the Duke Raleigh Cancer Center, spring 2017.

Shebra Hughes, MSW, LCSW, OSW-C, obtained her Certification for Oncology Social Work, October 2017.

Kim Pickney, MSW, LCSW, represented the outpatient Clinical Social Workers for the Duke Health System's Epic Build. Kim not only was the designated "Super User" for Duke Raleigh Cancer Center Social Workers, but she also played an integral role in Go live for Epic which took place Oct 22, 2017. The new Epic build enabled the Clinical Social Workers to use a central navigator for documenting assessments, resources and electronic care coordination for oncology patients.

Kim Pickney, MSW, LCSW consulted with the Duke-Durham Education Committee Chairperson about extending WebEx In-services and CEU opportunities to Duke Raleigh Hospital and Duke Raleigh Cancer Center Clinical Social Workers.

Kim Pickney, MSW, LCSW participated in the WakeMed Duke Cancer Center Collaboration strategic planning meeting on 10/20/17. Representatives from Duke Raleigh Cancer Center and WakeMed Case Management Department strategized to improve transitional care of oncology patients post discharge from WakeMed hospital.

Shebra Hughes, MSW, LCSW, OSW-C presented at The Annual North Carolina Social Work Oncology Group SWOG conference on Sept 22, 2017 and Duke Raleigh Hospital Schwartz Rounds, May 11, 2017. The topics discussed were “The Social Workers Perception and Experiences with Advance Directives” and “When an Undocumented patient needs a Life –saving Procedure”.

The Clinical Social Workers developed the Oncology Social Worker handout for the Duke Raleigh Cancer Center. The handout highlighted the role and services provided by the Oncology Social Worker. The handout was utilized in the oncology patients’ education packets and disseminated to patients as needed.

The Clinical Social Workers participated in Duke Raleigh Hospital 5th floor Oncology Rounds. Care goals, discharge plans and psychosocial issues of inpatient oncology patients were discussed during rounds. The Oncology Rounds functioned in improving service delivery and continuity of care to oncology patients.

In Spring 2017, the Performance Evaluation Team performed a time performance evaluation of the Duke Raleigh Cancer Center Clinical Social Workers. The outcomes from the time performance evaluation will be used to define the scope, practices and service delivery of Clinical Social Workers in the oncology and outpatient settings.

Projects/Community Activities

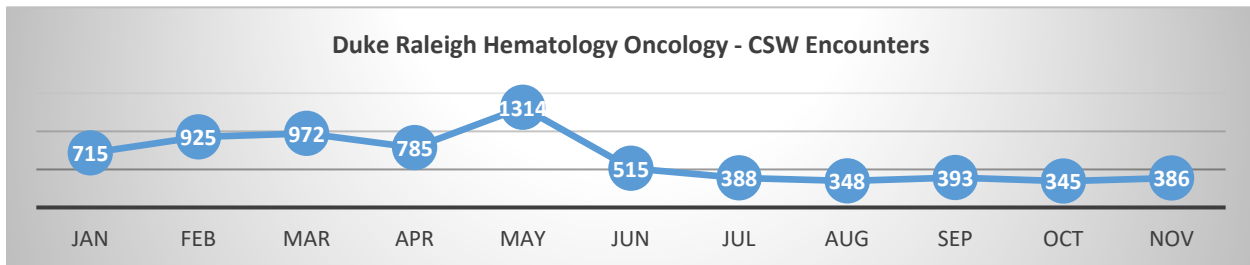
For the past 8 years, the Duke Cancer Center Annual Feed a Family for the Holiday outreach project has been successful in supporting oncology patients experiencing hardship during the Christmas holiday. With assistance from the Case Management dept., 8-10 families were supported for Thanksgiving and Christmas holidays. Patients were provided with food items, grocery store gift cards and financial assistance.

On March 9, 2017 and May 3, 2017, representatives from Duke Raleigh Case Management dept., Duke Raleigh Cancer Center and Wake County skilled nursing facilities (SNF) collaborated on Consolidated Billing’s impact on oncology patients’ discharge to SNFs.

The Annual North Carolina Social Work Oncology Group (SWOG) Conference took place September 22, 2017. Topics of discussion included: Advance Directive; Controversies in Depression Assessment in Palliative Oncology; Suffering and Grief: Walking Through; Spirituality at the End of Life.

CSW Stats

DUKE RALEIGH HEMATOLOGY ONCOLOGY											
Documentation	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
OBSOLETE - R DUHS SW PED PRIMARY CLINICAL SERVICE	124	138	160	124	200	105	79	63	79	38	0
R DUHS SW ADJUSTMENT TO ILLNESS	49	71	70	67	129	26	17	20	16	24	29
R DUHS SW BARRIERS TO CARE	90	126	103	75	138	40	28	31	28	34	32
R DUHS SW BEHAVIORAL / COGNITIVE ISSUES	49	70	71	68	129	26	17	21	16	22	29
R DUHS SW PED ACUITY	131	163	179	142	217	104	80	68	82	63	75
R DUHS SW PED TIME	123	161	176	143	216	106	81	66	80	66	74
R DUHS SW REASON FOR REFERRAL	129	158	172	131	203	94	73	63	73	61	71
R DUHS SW SECONDARY CLINICAL SERVICE	20	38	41	35	82	14	13	16	19	37	76
Grand Total	715	925	972	785	1314	515	388	348	393	345	386



Patient Services

The Thoracic and GI clinics saw an increase in the number of referrals for co pay, medication assistance and patients' enrollment in Patient Assistance Programs. Submission of applications by way of electronic portals, contributed to a more efficient enrollment process. The Clinical Social Workers also worked closely with pharmaceutical liaisons regarding portal issues and enrollment delays.

Transportation continued to be a challenge for oncology patients. Patients had access to Road to Recovery, Center's for Volunteer Caregiving, Art and TRACS transportation services. Grants for travel expenses and/or gas cards were provided by the Lung Cancer Initiative, Cancer Support Community Transportation Assistance Grant (TAG), Wake County Lighthouse Foundation, Caring Community Foundation and Stomp the Monster.

Financial assistance for oncology patients experiencing economic hardship was secured through Caring Community Foundation (CCF), Stomp the Monster and the Lighthouse Foundation of Wake County. 38 referrals were initiated to CCF, 16 to Stomp the Monster and 22 to The Lighthouse Foundation of Wake County.

14 referrals were made to Project Access on uninsured oncology patients who required care coordination throughout Wake, Durham and Johnston counties.

Clinical Research



Duke Cancer Center Cary Clinical Research Team

Clinical research trials test new treatments including drugs, diagnostic procedures, and other therapies to determine if they are safe and effective. Researchers use trials to answer questions about new cancer therapies, offering patients investigational treatment options for their care.

Clinical Research is available at all of the Duke Cancer Center Wake County locations with participation in National Cancer Institute, Pharmacological and Investigator Initiated research trials.

The Duke Cancer Center Wake County locations have trained clinical research staff and offer research trials specific to their patient populations.

Duke Raleigh Cancer Center has studies available for thoracic and gastrointestinal cancers with the addition of Radiation Oncology studies in the coming year.



Duke Raleigh Cancer Center and DWCCR Clinical Research Team

Duke Women's Cancer Center offers studies for breast and gynecological cancers and the Duke Cary Cancer Center offer genitourinary and gastrointestinal research studies.

This past year has seen the addition of research studies utilizing specialized therapies based on the unique genetic profile of a patient's cancer. These efforts offer patients more personalized treatment options.

For questions regarding clinical research trials offered at Duke Cancer Center Wake County locations, please contact Cindy Downing, RN, Assistant Research Practice Manager at 919-954-3085.