



SAINT LUKE'S CANCER INSTITUTE 2017 ANNUAL REPORT

Incorporating the 2016 Cancer Registry Statistical Review



 **Saint Luke's**
CANCER INSTITUTE



Dear Colleague,

We have always believed in customized treatment plans. We don't take a cookie-cutter approach to caring for our patients. No two people are identical; nor are their tumors.

In 2017, we launched the Saint Luke's Hospital of Kansas City's Center for Precision Oncology. Saint Luke's is uniquely positioned to offer exceptional precision oncology services that can't be found in 450 miles. Ashiq Masood, MD, is one of only a handful of practicing oncologists in the country trained in the field of bioinformatics and cancer genomics. Janakiraman Subramanian, MD, was involved in one of the first whole genome sequencing projects in lung cancer and served as the project manager for the multi-center Tissue Source Site network. Together we've built a program that goes beyond simply treating a cancer's location.

Just as each tumor is unique, each person who receives a cancer diagnosis will embark on a uniquely personal journey. That is why Saint Luke's Cancer Institute ensures the care we provide is equally personal and unique.

Our patients are much more than a cancer diagnosis, and they deserve care that extends past chemotherapy or radiation treatments. We take time to get to know each patient's mental and spiritual needs as well as the immediate physical needs. We've built a team of dedicated caregivers who've devoted their careers to caring for the cancer patient, including:

- Physicians with a range of specialties and sub-specialties
- Advanced nurse practitioners focused on specialized cancer areas
- Multidisciplinary teams based on tumor type who jointly consult and manage each unique case
- A survivorship program dedicated to ensuring the highest possible quality of life from diagnosis through treatment and beyond
- A sustained commitment to ongoing clinical research and providing patients access to emerging new treatment options
- Clinical psychologists trained in the unique needs of the cancer patient

We've implemented screening programs designed to identify those at highest risk for developing lung or breast cancer. We've expanded our GI cancer program to make it even more convenient for patients to access our multidisciplinary care. And as we strive for prevention and cures, we also seek new treatments and innovative care plans for patients who won't have the best outcomes.

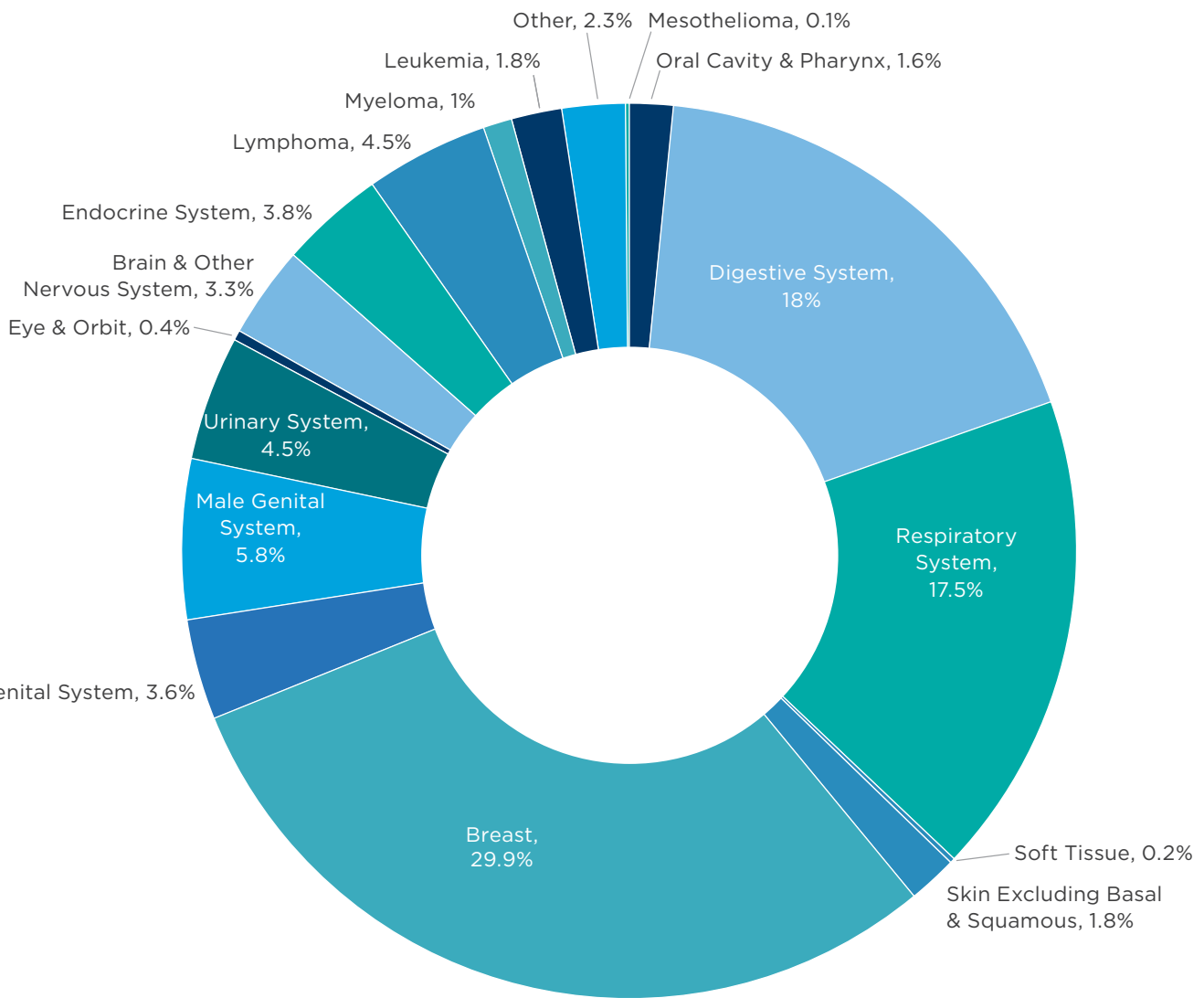
Because we won't stop until we can stop cancer for good.

Regards,

Timothy J. Pluard, MD
Medical Director



2016 Summary of Body System, Saint Luke's Health System Analytic Cases



| Primary Site | 2016 |
|---------------------------------|--------------|
| Oral Cavity & Pharynx | 35 |
| Digestive System | 396 |
| Respiratory System | 384 |
| Soft Tissue | 4 |
| Skin Excluding Basal & Squamous | 39 |
| Breast | 657 |
| Female Genital System | 80 |
| Male Genital System | 127 |
| Urinary System | 99 |
| Eye & Orbit | 8 |
| Brain & Other Nervous System | 73 |
| Endocrine System | 83 |
| Lymphoma | 98 |
| Myeloma | 23 |
| Leukemia | 40 |
| Mesothelioma | 3 |
| Other | 50 |
| All Sites | 2,199 |

Saint Luke's Multidisciplinary Cancer Conferences

Experts from multiple specialties form our Saint Luke's Cancer Conferences. Together they review patient cases and make treatment recommendations. Conference members vary by cancer site and include medical and radiation oncologists, surgeons, radiologists, pathologists, and ancillary support services.

In 2016, Saint Luke's offered site-specific cancer conferences for brain and spine, breast, lung, gynecologic, and gastrointestinal cancers.

Summary of 2016 Site-specific Conferences

| Site-specific Conference | Interval | Number of Conferences | Number of Analytic Cases Presented |
|--------------------------|-----------|-----------------------|------------------------------------|
| Thoracic | Weekly | 49 | 165 |
| Breast | Weekly | 43 | 319 |
| Gastrointestinal | Weekly | 39 | 339 |
| Neuro-oncology | Weekly | 34 | 253 |
| Gynecologic | Bimonthly | 19 | 56 |
| Totals | | 184 | 1,132 |

Saint Luke's Cancer Committee

A multidisciplinary team provides oversight of the oncology program. Committee members hail from each of the Saint Luke's Cancer Institute locations and include physicians from diagnostic and treatment specialties and non-physicians from administrative and supportive services. The committee convened in January of 2017 and met six times throughout the year.

2017 COMMITTEE MEMBERS

Medical Staff

Timothy J. Pluard, MD

Medical Director, Saint Luke's Cancer Institute
Medical Oncologist/Hematologist, Saint Luke's
Cancer Institute
Committee Chair, Saint Luke's Cancer Committee

Janakiraman Subramanian, MD

Medical Oncologist/Hematologist, Saint Luke's
Cancer Institute
Cancer Registry Quality Coordinator, Saint Luke's
Cancer Committee

Clay Anderson, MD

Palliative Care Physician, Saint Luke's Hospital of
Kansas City
Palliative Care Physician Representative, Saint Luke's
Cancer Committee

Susan Herzberg, MD

Radiation Oncologist, Saint Luke's Cancer Institute
Radiation Oncology Representative, Saint Luke's
Cancer Committee

Aimee Kohn, MD

Medical Oncologist/Hematologist, Saint Luke's
Cancer Institute
Cancer Liaison Physician, Saint Luke's
Cancer Committee

Megan McNally, MD

General Surgeon, Saint Luke's Health System
Surgery Representative, Saint Luke's
Cancer Committee

Megan Saettele, MD

Breast Radiologist, Saint Luke's Cancer Institute
Radiology Representative, Saint Luke's
Cancer Committee

Ashley Schneider, MD

Ameripath Pathologist
Pathology Representative, Saint Luke's
Cancer Committee

Meredith Wills, PharmD

Pharmacy Supervisor, Saint Luke's Hospital of
Kansas City
Pharmacy Representative, Saint Luke's
Cancer Committee

Allied Staff

Elizabeth Anderson, MS, RD, LD

Registered Dietician Specialist, Saint Luke's
Hospital of Kansas City
Dietary Representative, Saint Luke's Cancer Committee

Kim Day, RT (R)(M)

Breast Center Manager, Saint Luke's Health System
Community Outreach Coordinator, Saint Luke's
Cancer Committee

Molly Gunter, MS, CCRP

Director of Clinical Research Operations, Saint Luke's
Health System
Clinical Research Coordinator, Saint Luke's
Cancer Committee

Rhonda Johnson, PhD

Director of Patient Support Services, Saint Luke's Cancer Institute
Psychosocial Services Coordinator, Saint Luke's Cancer Committee

Carrie Lavin, RN, BSN, OCN

Program Director, Saint Luke's Cancer Institute
Outpatient Oncology Representative, Saint Luke's Cancer Committee

Sheila Luektemeyer, BS, PT

Physical Therapist, Saint Luke's Hospital of Kansas City
Rehabilitation Representative, Saint Luke's Cancer Committee

Mark Monn

Quality Resource Analyst, Saint Luke's Cancer Institute
Quality Improvement Coordinator, Saint Luke's Cancer Committee

Patty Moore, RHIT, CTR

Senior Cancer Registrar, Saint Luke's Health System
Cancer Conference Coordinator, Saint Luke's Cancer Committee

Kitty Muehlbach, LMSW

Social Worker, Saint Luke's Hospital of Kansas City
Social Work Representative, Saint Luke's Cancer Committee

Jane Peck, RN, BHA, MA

System Director-Oncology, Saint Luke's Cancer Institute
Cancer Program Administrator, Saint Luke's Cancer Committee

Michelle Pepkowitz, RN, BSN

Nurse Manager, Saint Luke's Hospital of Kansas City
Inpatient Oncology Representative, Saint Luke's Cancer Committee

Carol Quiring, BSN, MHA

President and CEO, Saint Luke's Home Care and Hospice
Hospice Administrator, Saint Luke's Cancer Committee

Kallie Woods, MS, CGC

Genetic Counselor, Saint Luke's Cancer Institute
Genetic Counseling Representative, Saint Luke's Cancer Committee

Beringia Zen

Chaplain, Saint Luke's Hospital of Kansas City
Chaplain, Saint Luke's Cancer Committee

Ad Hoc

Clara Anderson-Sainte, LCSW

Social Worker, Gilda's Club Kansas City
Gilda's Club Representative, Saint Luke's Cancer Committee

Kristin Carlson, MSN, OCN

Clinical Education Specialist, Saint Luke's Health System
Education Representative, Saint Luke's Cancer Committee

Lee Cummings, MD

Transplant Surgeon, Saint Luke's Hospital of Kansas City
Transplant Surgery Representative, Saint Luke's Cancer Committee

CANCER COMMITTEE

J. Russell Davis, MD

Cardiothoracic Surgeon, Saint Luke's Hospital
of Kansas City
Cardiothoracic Surgery Representative, Saint Luke's
Cancer Committee

Lisa Fielder, RN, MSN

Nurse, Saint Luke's North Hospital
Saint Luke's North Hospital Representative,
Saint Luke's Cancer Committee

Jameson Forster, MD

Abdominal Transplantation and HEP Surgery Director,
Saint Luke's Hospital of Kansas City
Transplant Surgery Representative, Saint Luke's
Cancer Committee

Gary Johnson, MD

Gynecologic Oncology Surgeon, Saint Luke's
Cancer Institute
Gynecologic Oncology Representative, Saint Luke's
Cancer Committee

Emily Kayrish

Director of Marketing, Saint Luke's Health System
Marketing Representative, Saint Luke's
Cancer Committee

Nikki Leake

Health Systems Manager, Hospitals
American Cancer Society Representative,
Saint Luke's Cancer Committee

Ashiq Masood, MD

Medical Oncologist, Saint Luke's Health System
Medical Oncology Representative, Saint Luke's
Cancer Committee

John Shook, MD

Breast Program Director, Saint Luke's Health System
Breast Program Leadership Chair, Saint Luke's
Cancer Committee

Gloria Solis, RN, MSN, MBA, NEA-BC

Chief Nursing Officer, Saint Luke's East Hospital
Saint Luke's East Hospital Representative, Saint Luke's
Cancer Committee

Elizabeth Vincent, RN, MSN, MBA, VA-BC, OCN

Outpatient Services, Saint Luke's Cushing Hospital
Saint Luke's Cushing Hospital Representative,
Saint Luke's Cancer Committee

Jan Watkins, RN, MS, OCN, CHPN

Director, Cancer Services, Liberty Hospital
Saint Luke's Cancer Institute at Liberty Hospital
Representative, Saint Luke's Cancer Committee

Julia Woods, RN, MSN

Chief Nursing Officer, Saint Luke's South Hospital
Saint Luke's South Hospital Representative,
Saint Luke's Cancer Committee

Trina Wright, MS, RHIA, CCS

Cancer Registry Manager, Saint Luke's Health System
Cancer Registry Manager, Saint Luke's
Cancer Committee

Marlena Barmann, RHIT, CTR

Senior Cancer Registrar, Saint Luke's Health System
Cancer Conference Coordinator Alternate, Saint Luke's
Cancer Committee

Saint Luke’s Cancer Prevention and Early Detection Outcomes

Saint Luke’s provides cancer prevention programs targeted to meet the needs of the community and designed to reduce the incidence of a specific cancer type. Each prevention program is consistent with evidence-based national guidelines for cancer prevention.

High-Risk Breast Clinic

Program details

- Led by advanced nurse practitioners
- Locations at Saint Luke’s Hospital of Kansas City, Saint Luke’s East Hospital, Saint Luke’s North Hospital, and Saint Luke’s South Hospital
- Offers individuals at high risk for developing breast cancer:
 - Early detection
 - Surveillance
 - Education
 - Preventive therapies
 - Research
- Incorporates hands-on clinical assessment and technology following National Comprehensive Cancer Network guidelines
- Collaboration with genetic counselors

Program offerings

- Clinical breast exam by a MammaCare®-certified nurse practitioner
- Breast self-exam instructions using the MammaCare method
- Imaging studies
- Referral to surgeons who specialize in breast surgery if indicated
- Consultation about personal risk factors as related to breast cancer and possible preventive strategies
- Referral for cancer risk assessment by a certified genetic counselor and genetic testing when applicable
- Medical oncologist referral if pharmacologic risk reduction options are necessary
- Research opportunities
- Referral for ovarian cancer screening when applicable

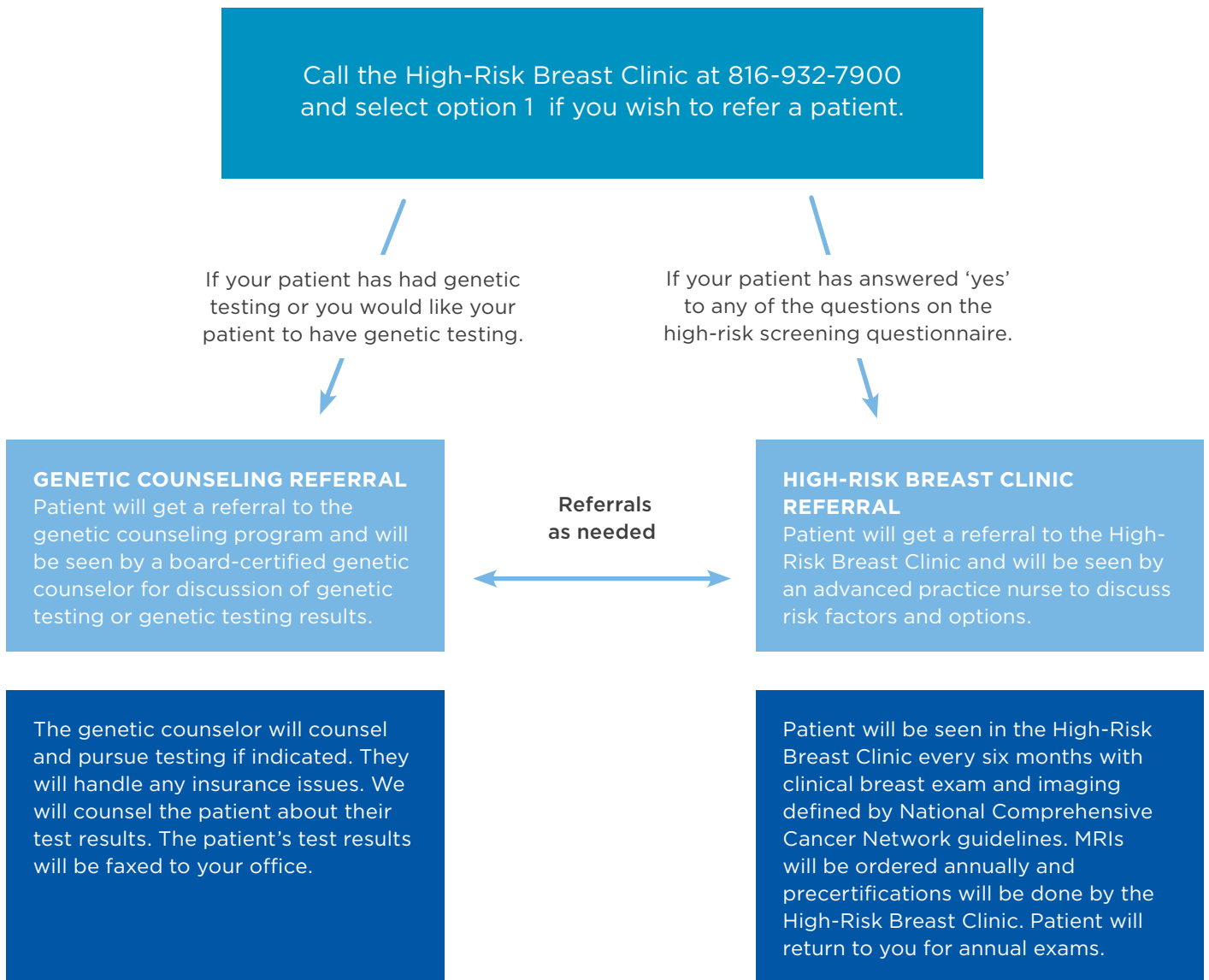
| High-Risk Breast Cancer Clinic screening | Patients | Patients requiring breast MRI | Cancer diagnosed related to screening |
|--|----------|-------------------------------|---------------------------------------|
| Jan. – June 2016 | 380 | 81 | 2 |
| July – Dec. 2016 | 366 | 107 | 2 |
| Jan. – June 2017 | 536 | 169 | 4 |

› Learn more

816-932-7900, option 3
saintlukeskc.org/high-risk

Referring protocol for outside providers

Cancer screening options and recommendations evolve quickly with each new study or discovery, making it difficult for primary care providers to stay up-to-date. The team at Saint Luke’s High-Risk Breast Clinic specializes in knowing the latest recommendations and options. An integrated group of nurse practitioners, genetic counselors, and physicians created this algorithm to help providers navigate the complexities of the referral process. In 2017, we expanded our high-risk program to encompass all types of cancer, offering a higher level of early detection to patients.



➤ Refer a patient

816-932-7900, option 1
saintlukeskc.org/high-risk

Low-Dose Computed Tomography Lung Cancer Screening Program

Program details

- Led by Melissa Rosado de Christenson, MD, radiologist, and Trent West, patient navigator
- Patients meet high-risk criteria
- Low-dose lung CT performed
- Radiologist meets with patient to review screening findings
- Follow-up recommendations provided
- Lung cancer screening counseling and shared decision-making visit conducted by a physician or physician assistant, nurse practitioner, or clinical nurse specialist
- Specific criteria to be covered in the shared decision-making visit

Eligibility criteria

- 55 - 77 years old (Medicare) or 55 - 80 years old (private insurance)
- Asymptomatic
- Tobacco smoking history of at least 30 pack years (one pack year = smoking an average of one pack a day for one year; one pack = 20 cigarettes)
- Current smoker or someone who has quit smoking within the last 15 years
- Receives a written order for low-dose CT lung cancer screening

Expansion

Saint Luke’s offers lung cancer screening at all four Saint Luke’s hospitals in the Kansas City Metro area. In 2017, we expanded to include three additional locations:

- Saint Luke’s Medical Imaging Specialists, Kansas City, Missouri
- Saint Luke’s Multispecialty Clinic–Blue Springs, Blue Springs, Missouri
- Saint Luke’s Multispecialty Clinic–Mission Farms, Overland Park, Kansas

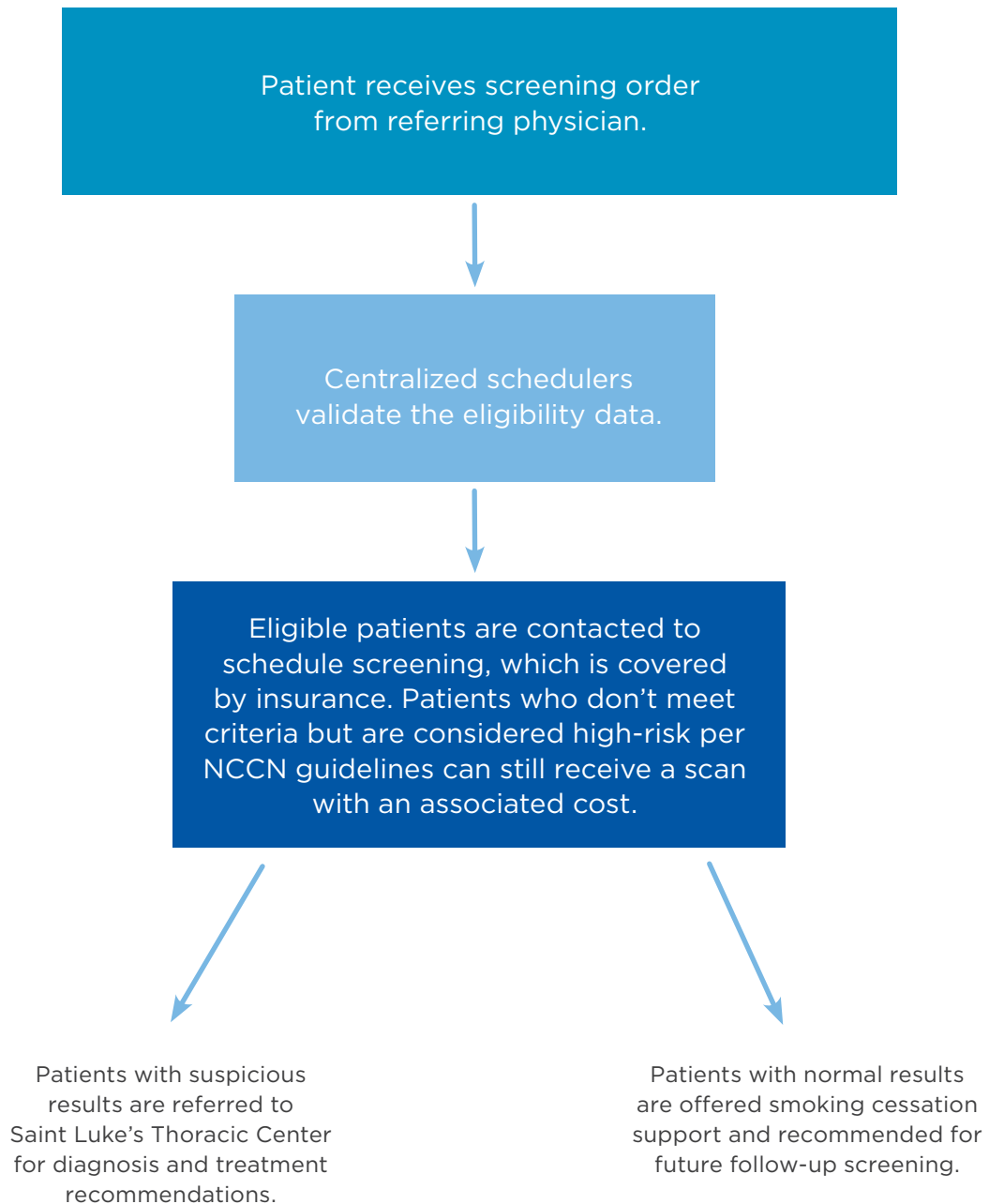
As a result, we were able to screen 116 more patients in the first seven months of 2017, compared to all of 2016, and follow-up with even more patients at high risk of developing significant lung disease.

› Learn more

816-932-6800
saintlukeskc.org/lung-screening

| Lung cancer screening with low-dose lung CT | Patients screened | Patients requiring active surveillance or follow-up | Patients needing surgical or treatment intervention | Cancer diagnosed related to screening |
|---|-------------------|---|---|---------------------------------------|
| 2015 | 70 | 6 | 0 | 0 |
| 2016 | 510 | 69 | 7 | 7 |
| Jan. - July 2017 | 626 | 88 | 5 | 6 |

Referring protocol for the Low-Dose Computed Tomography Lung Cancer Screening Program



› Refer a patient

816-932-6800

saintlukeskc.org/lung-screening

Supportive Oncology and Rehabilitation Services

Care at Saint Luke’s Cancer Institute goes beyond surgery, chemotherapy, and radiation. We evaluate the psychological, social, financial, spiritual, and physical effects a cancer diagnosis may have on patients and their families, then work as a team to address those issues.

A growing base of research shows supportive care interventions complement medical care, enhance quality of life, and extend life. Comprehensive and integrated supportive care adds value in both cost and quality to evidence-based and patient-driven treatment.

We evaluate

At every visit with a Saint Luke’s Cancer Institute provider, patients fill out a questionnaire that assesses their distress. Based on responses, we can make appropriate referrals to our specially trained support professionals. We continue that support from the time of diagnosis throughout treatment and beyond.

The majority of referrals are to social workers for emotional support and financial assistance. Almost half talk with one of our providers about emotional concerns. Twenty-three percent of all referrals are to nutritional services; another 17 percent are for rehabilitation services.

Expertise

- 2 full-time master’s-level genetic counselors
- 5 master’s-level social workers
- 1 PhD-level mental health provider
- 1 registered dietitian
- 1 board-eligible chaplain
- 1 cosmetologist
- 7 nurse navigators
- Multiple** teams of physical and occupational therapists

We extend

Our team is dedicated to bringing these care services to our patients where they live. We offer in-person appointments at our four Kansas City metropolitan locations, plus telehealth appointments at three regional hospitals. Supportive services experts attend patient care conferences to add input about the specific needs for each patient and family.

We educate

We always look for innovative ways to educate ourselves and our patients. This year we offered lectures featuring experts in cancer prevention and control, discussing cancer genetics, movement, cancer screening, and nutrition. In addition, we regularly offer post-diagnosis education, nutrition for survivorship classes, and support groups throughout the Saint Luke’s Health System.

We have partnered with Gilda’s Club Kansas City to provide education and support to our patient population. Anyone touched by cancer can participate in educational workshops, social activities, networking groups, and more.

Support care services

One in three patients are referred to the following Supportive Oncology and Rehabilitation Services:

- Psychology
- Social work
- Nutrition
- Genetic counseling
- Nurse navigation
- Survivorship
- Image renewal
- Spiritual health
- Physical and occupational rehabilitation
- Patient education classes and guest speakers
- Exercise, yoga, massage

Between January and September 2017, we referred 4,162 patients to Supportive Oncology and Rehabilitation Services—an increase of 30 percent compared to 2016.

› Learn more

saintlukeskc.org/supportiveoncology

Saint Luke's Koontz Center for Advanced Breast Cancer

Saint Luke's Hospital of Kansas City's Koontz Center for Advanced Breast Cancer is among the first of its kind in the country to provide specialized care to women and men with advanced breast cancer.

The team at the Koontz Center for Advanced Breast Cancer has a singular goal: improve the outcomes and quality of life for patients with advanced breast cancer. We focus on precision cancer treatments with complementary integrative therapies that enhance quality of life. Our experts seek out the latest advancements in genomics, immunotherapy, and supportive care. We put a strong focus on clinical trials of emerging therapies and advanced care protocols.

- New patients are offered appointments to see multiple providers on their initial visit for a comprehensive assessment.
- Following initial physician visit the patient has 30- to 45-minute assessments by psychology, physical therapy, nutrition, social work, and spiritual practitioners.
- Patients are also screened for clinical research studies.
- All team members meet after completion of all assessments to provide feedback and treatment recommendations. This information is incorporated into a detailed treatment plan that is shared with the patient during a final meeting.
- Remote family members have the option to attend via videoconference. A video recording of the entire consultation is provided to the patient.
- We analyzed utilization of integrative services under this clinic model.

Year 1 Patient Characteristics: n = 127

- 126 female, 1 male
- Caucasian 87%, African-American 13%
- Median age: 55 (33 – 84)

Integrative Therapies

At the Koontz Center for Advanced Breast Cancer, treatment plans include a full menu of integrative therapies that enhance wellness:

- Genetic counseling
- Nutrition planning
- Exercise physiology
- Palliative care
- Emotional support
- Advanced breast cancer support groups
- Spiritual counseling
- Yoga
- Massage
- Acupuncture

During their first visit, 50 percent of patients saw all integrative providers and more than 70 percent accessed at least one integrative service.

› Learn more

844-522-2201

saintlukeskc.org/metastatic

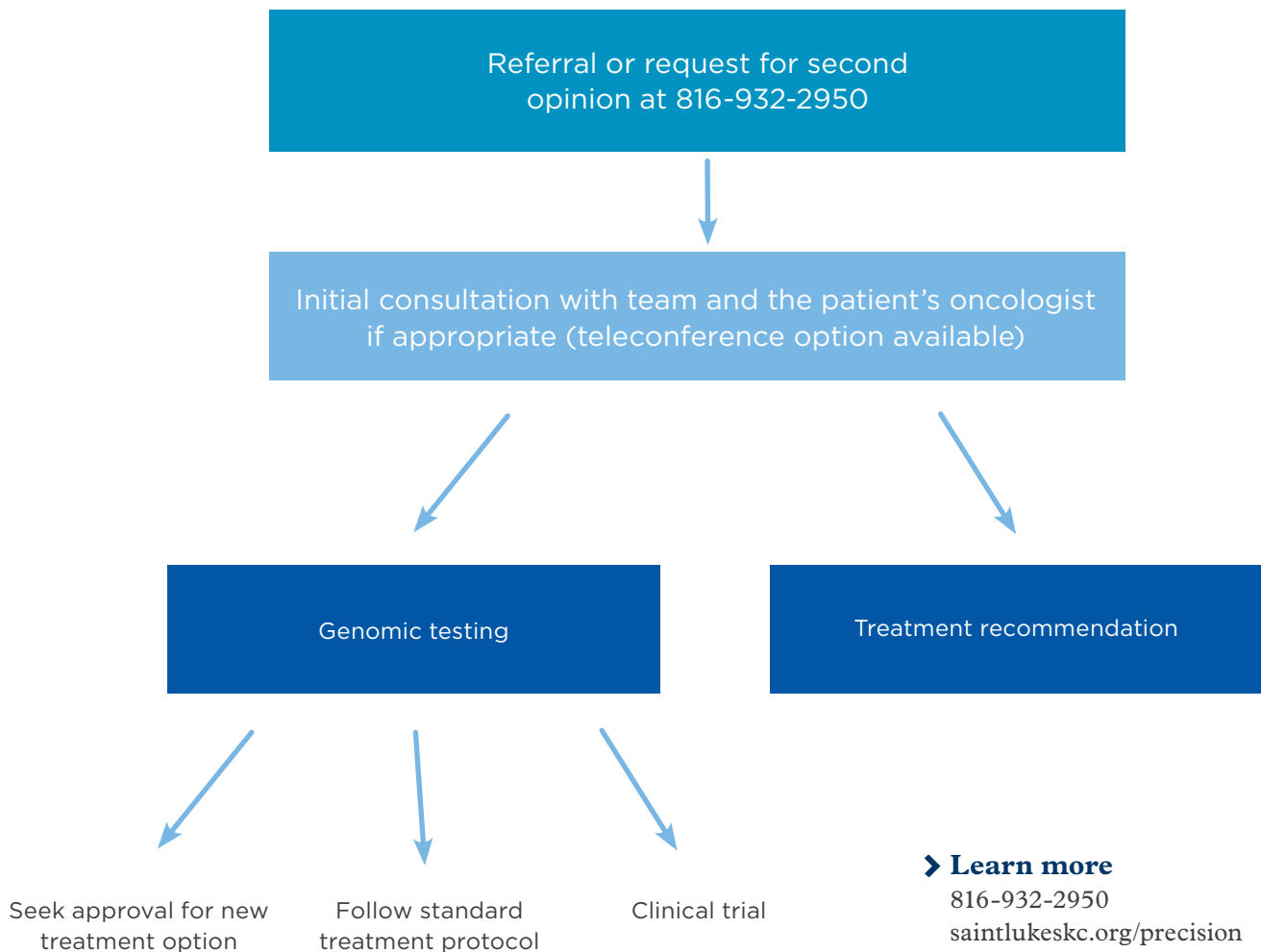
Saint Luke's Precision Oncology Program

Saint Luke's precision oncology experts treat a tumor's mutation, not just the cancer's location. It's the only program within 450 miles that offers this level of expertise in clinical oncology, tumor genomics, and bioinformatics.

Co-director Ashiq Masood, MD, is one of the few practicing oncologists in the country who has been trained in both bioinformatics and cancer genomics. He can interpret the genetic test results and has the oncology expertise to recommend the best medication to treat a patient's specific genetic mutation.

Co-director Janakiraman Subramanian, MD, was involved in one of the first whole genome sequencing projects in lung cancer and served as the project manager for the multi-center Tissue Source Site network, which was instrumental in providing tumor and normal tissue samples for The Cancer Genome Atlas Project.

A significant hurdle is getting patients access to drugs that aren't yet approved by the FDA to treat their specific cancer. Our dedicated specialty pharmacist works directly with pharmaceutical companies and insurance providers to gain that access. Saint Luke's Center for Precision Oncology offers services for any patient with advanced cancer, regardless of their status as a Saint Luke's patient. We also offer second opinions on previous genomic testing results.



Colorectal Cancer Demographics, Treatment Trends at Saint Luke's Health System

Introduction

Colorectal cancer is the third most common cancer diagnosed in the United States. It is estimated that 135,430 new cases will be diagnosed in 2017¹ and 50,260 patients will die due to colorectal cancer¹. The risk factors for colorectal cancer include age, tobacco and alcohol use, physical inactivity, dietary factors such as red meats, obesity, and diabetes². About 5 to 10 percent of patients who develop colorectal cancers have inherited cancer syndromes such as familial adenomatous polyposis (FAP), Lynch syndrome, and so on³. The outcome of colorectal cancer has improved over the last few years, and about 1.4 million patients are living with the disease⁴. Furthermore, about 65 percent of patients live more than 5 years⁴. Fortunately, rates of new colon and rectal cancer cases have been declining on average by 2.7 percent per year over the last decade. Similarly, death rates are falling at about 2.5 percent from 2005 – 2014⁵. However, the risk for colorectal cancer has increased among younger individuals over the last few decades⁶. The underlying etiology for this trend is mostly unknown⁶.

Demographics

Over the last five years, there has been a steady increase in the number of patients diagnosed with colorectal cancer receiving treatment at Saint Luke's Health System, with 193 new colorectal cancer patients compared to 139 in the year 2012. The median age of patients diagnosed with colorectal cancer was 64.5 (range 29 – 92). The proportion of men (51.7 percent) diagnosed with colorectal cancer was slightly higher than that of women (48.3 percent). The majority of patients were Caucasians (89.3 percent), the rest included African-Americans (8.9 percent), Asians, and unknown. Twelve percent of patients were younger than 50 years old, suggesting an increase in the number of young individuals diagnosed with colorectal cancers.

Treatment

We focused on both stage III and stage IV colorectal cancers and the pattern of fluorouracil (5-FU)-based chemotherapy utilization at Saint Luke's compared to the national trends.

In stage III, 80 percent of patients were recommended to receive 5-FU-based systemic chemotherapy. Seventy-one percent received systemic chemotherapy compared

to 65 percent nationally⁷ as recommended by National Comprehensive Cancer Network (NCCN) and European Society of Medical Oncology (ESMO) guidelines. Most common reasons for not receiving systemic chemotherapy were patient refusal, poor performance status, and unknown.

For the stage IV colorectal cancer patients, 92 percent of patients were recommended palliative systemic therapy. Eighty-five percent of these received systemic chemotherapy as recommended by NCCN and ESMO guidelines. Nationally, 63 percent of patients with stage IV receive systemic chemotherapy⁸. Most common reasons for not undergoing chemotherapy were poor performance status, patient refusal, and unknown.

This report will be followed by analysis on the patient outcomes.

Conclusion

There has been a steady increase in the number of cases of colorectal cancer treated at Saint Luke's. The majority of our patients with stage III and stage IV colorectal cancer receive treatment consistent with international guidelines, including NCCN and ESMO. We also have numerous clinical trials available for patients with gastrointestinal malignancies, and the number of available trials will increase substantially through our recent Alliance affiliation with Washington University.

References

1. Siegel RL, Miller KD, Jemal A. Cancer statistics 2017. *CA Cancer J Clin.* 2017; 67:7-30.
2. Doubeni CA, Major JM, Laiyemo AO, et al. Contribution of behavioral risk factors and obesity to socioeconomic differences in colorectal cancer incidence. *J Natl Cancer Inst.* 2012; 104:1353-1362.
3. Jasperson KW1, Tuohy TM, Neklason DW, Bu Burt RW. Hereditary and familial colon cancer. *Gastroenterology.* 2010 Jun;138(6):2044-58.
4. Miller KD, Siegel, Lin CCet. al. Cancer treatment and survivorship statistics, 2016. *CA Cancer J Clin.* 2016 Jul;66(4):271-89.
5. <https://www.cancer.org/cancer/colon-rectal-cancer/about/key-statistics.html>

6. Siegel RL, Fedewa SA, Anderson WF, et al. Colorectal Cancer Incidence Patterns in the United States, 1974-2013. J Natl Cancer Inst. 2017 Aug 1; 109(8).

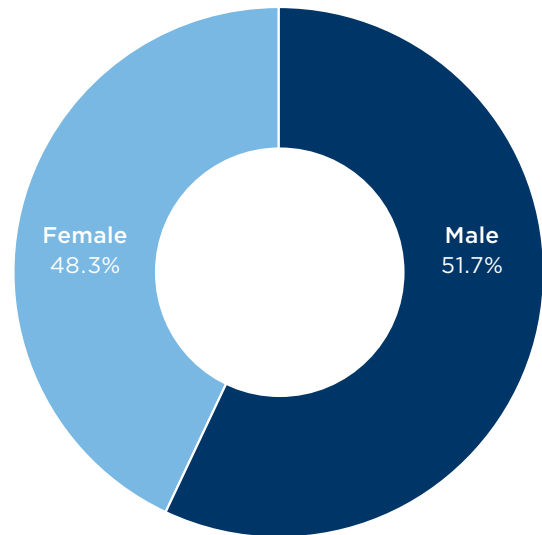
7. Upadhay S, Dahal S, Bhatt VR et al. Chemotherapy use in stage III colon cancer: a National Cancer Database analysis. Ther Adv Med Oncol. 2015 Sep; 7(5):244-51. doi: 10.1177/1758834015587867.

8. Renouf D1, Kennecke H, Gill S. Trends in chemotherapy utilization for colorectal cancer. Clin Colorectal Cancer.2008 Nov;7(6):386-9. doi: 10.3816/CCC.2008.n.051.

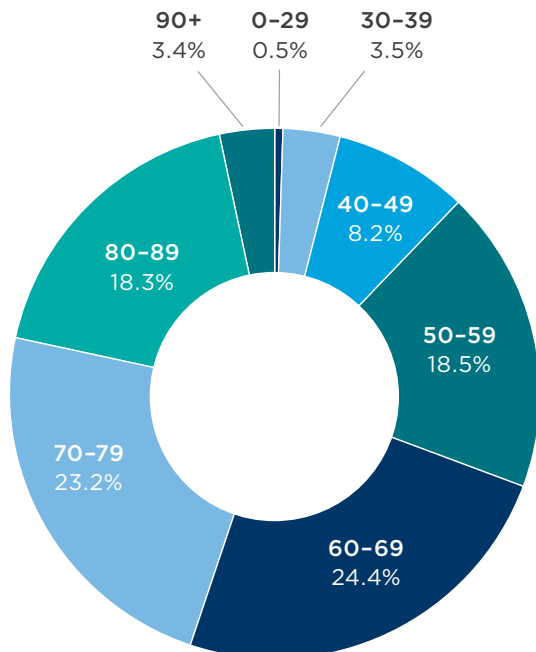
SLHS 2017 Gender & Racial Distribution

| Race | Male | Female | Total |
|--------------------------|------------|------------|------------|
| Caucasian | 371 | 348 | 719 |
| African-American | 36 | 36 | 72 |
| Oriental and Other Asian | 7 | 0 | 7 |
| Asian Indian | 1 | 2 | 3 |
| American Indian | 1 | 0 | 1 |
| Other and Unknown | 0 | 3 | 3 |
| Total | 416 | 389 | 805 |

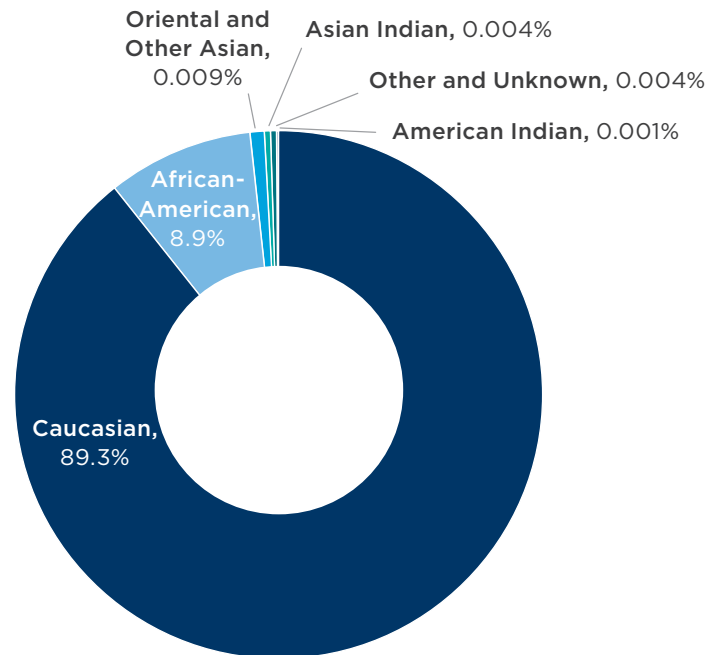
SLHS 2017 Colorectal Cases by Gender



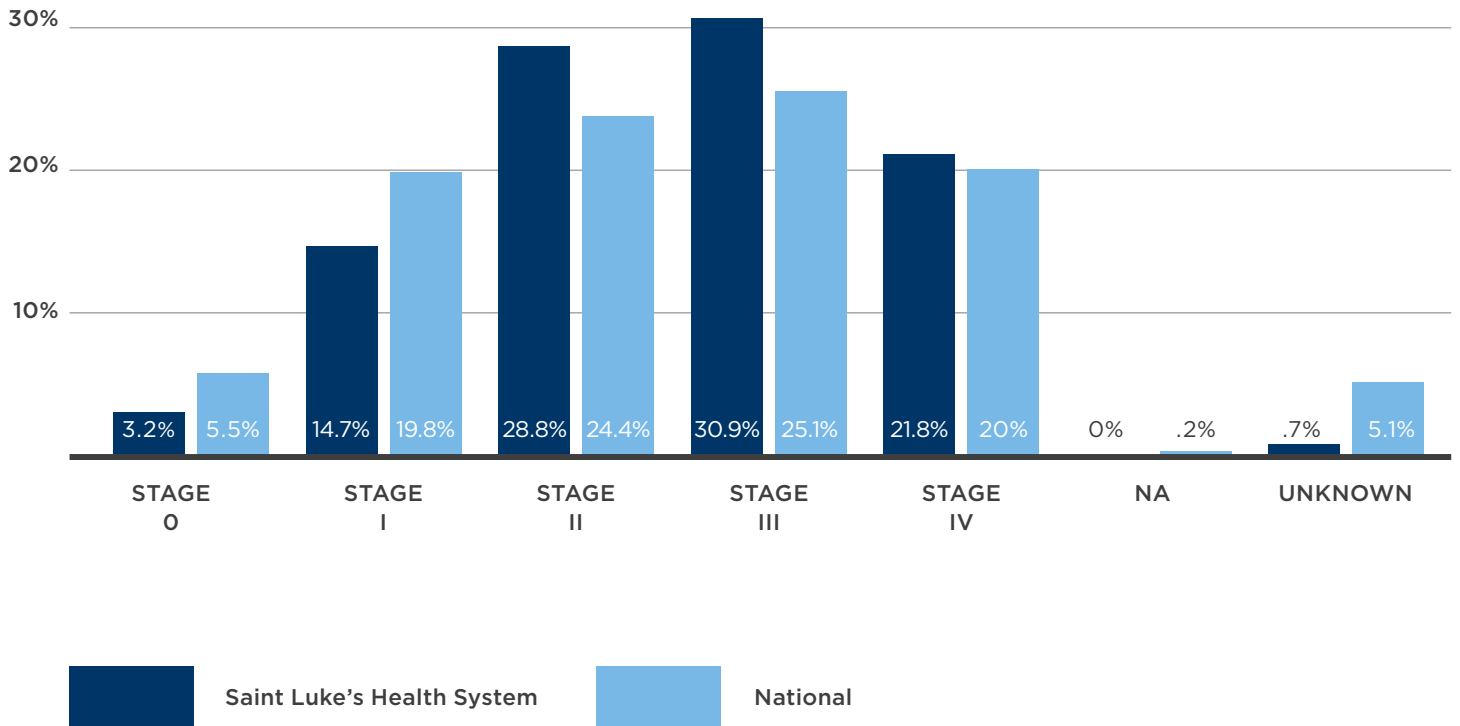
SLHS 2017 Colorectal Cases by Age



SLHS 2017 Colorectal Cases by Race



SLHS versus National Colorectal Cases by Stage from 2011 - 2015



Research

Publications

Johnson R, Larson C, **Geske S**. (2017, February). **Telehealth Quality Improvement Project: Implications for Psychology**. In *Psycho-oncology* (Vol. 26, pp. 64-64). 111 River St, Hoboken 07030-5774, NJ USA: Wiley.

Raza S, Safyan S, Bowman A, Lentzsch S. **Optimizing Current and Emerging Therapies in Multiple Myeloma. A Guide for the Hematologist**. *Ther Adv Hematol*. 2017;8(2):55-70. PMID: 28203342.

Raza S, Rachel S, Lentzsch S. (2015) **Immune Therapy in the Management of Multiple Myeloma: Current Cancer Drug Targets** (chapter). *Curr Cancer Drug Targets*. 2017 Feb 13. PMID:28201976.

CV, Gould J, Langer AL, Mapara M, Radhakrishnan J, Maurer MS, **Raza S**, Mears JG, Wall J, Solomon A, Lentzsch S. **Interim Analysis of the Phase 1a/b Study of Chimeric Fibrin-reactive Monoclonal Antibody 11-1F4 in Patients with AL Amyloidosis**. *Amyloid*. 2017 Mar;24(sup1):58-59. PMID:28434347.

Raza S, Leng S, Lentzsch S. **The Critical Role of Imaging in the Management of Multiple Myeloma**. *Curr Hematol Malig Rep*. 2017 Jun;12(3):168-175. PMID:28317080.

Elsarraj S, Valdez K, Hong Y, Grimm S, Ricci L, Fan F, Tawfik O, May L, Cusick T, Inciardi M, Redick M, Gatewood J, Winblad O, Hilsenbeck S, Edwards D, Hagan C, Godwin A, Fabian C, **Meierotto R**, Behbod F. **NEMO, a Transcriptional Target of Estrogen and Progesterone, is Linked to Tumor Suppressor PML in Breast Cancer**. University of Kansas Cancer Center Symposium, Edwards Campus. December 2017.

Zhao R, Oppenheimer L, Bishop S, Sabbagh A, Hong Y, Elsarraj H, Swenson-Fields K, **Meierotto R**, Behbod F. **Therapeutic Targeting of B Cell Lymphoma 9 (BCL9) for Prevention of Ductal Carcinoma In Situ Invasive Progression**. University of Kansas Cancer Center Symposium, Edwards Campus. December 2017.

Youland RS, Kreofsky CR, **Schomas DA**, Brown PD, Buckner JC, Laack NN. **The impact of Adjuvant Therapy for Patients with High-risk Diffuse WHO Grade II Glioma**. *J Neurooncol*. 2017 Aug 23. Epub ahead of print.

Youland RS, **Schomas DA**, Brown PD, Parney IF, Laack NNI. **Patterns of Care and Treatment Outcomes in Older Adults with Low-grade Glioma: a 50-year Experience**. *J Neurooncol*. 2017 Jun;133(2):339-346.

Bhatnagar, R, James R, Simmons D, Berlin D, Brinkman J, Paryani S, **Paryani N**, Kuruvilla A. **3-D Conformal Volumetric Alignment of SAVI Applicator Using Cone Beam Imaging Technique**. *Austin Journal of Radiation Oncology & Cancer*. 2016; 2(2): 1021.

Kuruvilla A, Paryani S, **Paryani N**, Simmons D, Shah N, Caudill J, Stillwood S, Sullivan J. **Partial breast Irradiation for Boost Using Image-guided Brachytherapy: Florida Community Experience and Review of the Literature**. *Austin Journal of Radiation Oncology & Cancer*. 2016; 2(2): 1016.

Patel A, Tzou S, Heckman M, Thomas C, Lee R, **Paryani N**, Peterson J, Miller R, Ko S, Vallow L, Buskirk S. **Estimation of PSA Half-life Following Salvage Radiotherapy**. Submitted for publication in *BJU International*.

Moghadam AR, Patrad E, Tafsiri E, Peng W, Fangman B, **Pluard TJ**, Accurso A, Salacz M, Shah K, Ricke B, Bi D, Kimura K, Graves L, Najad MK, Dolatkah R, Sanaat Z, Yazdi M, Tavakolinia N, Mazani M, Amani M, Ghavami S, Gartell R, Reilly C, Naima Z, Esfandyari T, Farassati F. **Ral Signaling Pathway in Health and Cancer**. *Cancer Med*. 2017 Oct 18. doi: 10.1002/cam4.1105. [Epub ahead of print] Review.

RESEARCH

Ma CX, Bose R, Gao F, Freedman RA, Telli ML, Kimmick G, Winer E, Naughton M, Goetz MP, Russell C, Tripathy D, Cobleigh M, Forero A, **Pluard TJ**, Anders C, Niravath PA, Thomas S, Anderson J, Bumb C, Banks KC, Lanman RB, Bryce R, Lalani AS, Pfeifer J, Hayes DF, Pegram M, Blackwell K, Bedard PL, Al-Kateb H, Ellis MJC. **Neratinib Efficacy and Circulating Tumor DNA Detection of HER2 Mutations in HER2 Nonamplified Metastatic Breast Cancer.** Clin Cancer Res. 2017 Oct 1;23(19):5687-5695. doi: 10.1158/1078-0432.CCR-17-0900. Epub 2017 Jul 5.

Pourakbar S, **Pluard TJ**, Accurso AD, Farassati F. **Ezh2, a Novel Target in Detection and Therapy of Breast Cancer.** Onco Targets Ther. 2017 May 22;10:2685-2687. doi: 10.2147/OTT.S138777. eCollection 2017. No abstract available.

Pourakbar S, **Pluard TJ**, Accurso AD, Farassati F. **Ezh2, a Novel Target in Detection and Therapy of Breast Cancer.** Onco Targets Ther. 2017 May 22;10:2685-2687. doi: 10.2147/OTT.S138777. eCollection 2017. No abstract available.

Ellis MJ, Suman VJ, Hoog J, Goncalves R, Sanati S, Creighton CJ, DeSchryver K, Crouch E, Brink A, Watson M, Luo J, Tao Y, Barnes M, Dowsett M, Budd GT, Winer E, Silverman P, Esserman L, Carey L, Ma CX, Unzeitig G, **Pluard T**, Whitworth P, Babiera G, Guenther JM, Dayao Z, Ota D, Leitch M, Olson JA Jr, Allred DC, Hunt K. **Ki67 Proliferation Index as a Tool for Chemotherapy Decisions During and After Neoadjuvant Aromatase Inhibitor Treatment of Breast Cancer: Results From the American College of Surgeons Oncology Group Z1031 Trial (Alliance).** J Clin Oncol. 2017 Apr 1;35(10):1061-1069. doi: 10.1200/JCO.2016.69.4406. Epub 2017 Jan 3.

Peer-reviewed Major Conference Presentations 2017

Edwards CV, Gould J, Langer AL, Mapara M, Radhakrishnan J, Maurer MS, **Raza S**, Mears JG, Wall J, Solomon A, Lentzsch S. **Final Analysis of the Phase 1a/b Study of Chimeric Fibrin-Reactive Monoclonal Antibody 11-1F4 in Patients with Relapsed or Refractory AL Amyloidosis.** (Oral Presentation at 2017 Annual American Society of Hematology, Dec 2017.)

Leng S, **Raza S**, Assal A, Baliko G, Gould J, Shields R, Mapara Y, Lentzsch S. **An Open-label Phase I/II Study of Carfilzomib, Bendamustine and Dexamethasone in Newly Diagnosed Multiple Myeloma Patients.** (Poster Presentation at 2017 Annual American Society of Hematology, Dec 2017.)

Lagos G, Lentzsch S, Comenzo R, Zonder J, Osman K, Susanna M, Backenroth D, Otap D, Tsai WT, Pregja S, **Raza S**, Sanchorawala V, Landau H. **Final Results of a Phase 2 Study of Bendamustine in Combination with Dexamethasone (Ben/Dex) in Patients with Previously Treated Systemic Light-Chain (AL) Amyloidosis.** (To be presented at 2017 Annual American Society of Hematology, Dec 2017.)

Raymond VM, Diaz J, Banks KC, Ahn E, Brufsky A, Ellis M, Lippman M, Lee C, **Pluard T**, Schreeder M, Schwab R, Lanman RB. **Cell free DNA analysis identifies actionable ERBB2 amplifications in patients with HER2 negative breast cancer.** (Poster Presentation at 2017 San Antonio Breast Cancer Symposium, Dec 2017.)

Yardley DA, Hart L, Favret A, Blau S, Diab S, Richards D, Sparano J, Beck JT, Richards P, Ward P, Ramaswamy B, Tsai M, **Pluard T**, Tolaney S, Esteve F, Small T, Purkayastha D, Miller M, Hortobagyi G. **Efficacy and safety of ribociclib plus letrozole in US patients enrolled in the MONALEESA-2 study.** (Poster Presentation at 2017 San Antonio Breast Cancer Symposium, Dec 2017.)

Pluard T, Oh SY, Oliveira M, Cescon D, Tan-Chiu E, Wu Y, Carpenter C, Cunningham E, Ballas M, Dhar A, Sparano J. **A phase I/II dose escalation and expansion study to investigate the safety, pharmacokinetics, pharmacodynamics and clinical activity of GSK525762 in combination with fulvestrant in subjects with ER+ breast cancer.** (Poster Presentation at 2017 San Antonio Breast Cancer Symposium, Dec 2017.)

Exceptional Care Throughout Kansas City and Beyond

Patients can access high-quality Saint Luke's care within a reasonable drive. Outlying regional hospitals provide chemotherapy and other infusion treatments. Patients who need radiation treatment travel to the nearest Saint Luke's radiation treatment facility.

Patients at Saint Luke's Cushing Hospital, Hedrick Medical Center, Wright Memorial Hospital, Liberty Hospital, Western Missouri Medical Center, and Bates County Memorial can consult with Saint Luke's Cancer Institute specialists in person at regular oncology clinics at those facilities. Patients at Cushing, Hedrick, and Wright can also consult with their doctors via telemedicine.



Our Locations

Saint Luke's Cancer Institute

855-ONE-SLCI

855-663-7524

saintlukeskc.org/cancer

Saint Luke's Cancer Specialists

IN MISSOURI

Saint Luke's Hospital of Kansas City

Medical Plaza III, Suite 4000

4321 Washington St.

Kansas City, MO 64111

Creekwood Medical Building

5400 N. Oak Trafficway, Suite 101

Kansas City, MO 64118

Saint Luke's East Hospital

20 NE Saint Luke's Blvd., Suite 500

Lee's Summit, MO 64086

Bates County Memorial Hospital

615 W. Nursery St.

Butler, MO 64730

Hedrick Medical Center

2799 N. Washington St.

Chillicothe, MO 64601

Liberty Hospital

2529 Glenn Hendren Drive, Suite G30

Liberty, MO 64068

Wright Memorial Hospital

191 Iowa Blvd.

Trenton, MO 64683

Western Missouri Medical Center

403 Burkarth Road

Warrensburg, MO 64093

IN KANSAS

Saint Luke's Cushing Hospital

Cushing Multispecialty Clinic

1001 6th Ave., Suite 340

Leavenworth, KS 66048

Saint Luke's South Hospital

12330 Metcalf Ave., Suite 580

Overland Park, KS 66213

› **Learn more**
saintlukeskc.org/cancer



Saint Luke's Health System shall not discriminate on the basis of race, color, national origin, gender, pregnancy status, sexual orientation, age, religion, disability, veteran status, gender identity or expression.

Saint Luke's Health System cumple con las leyes federales de derechos civiles aplicables y no discrimina por motivos de raza, color, nacionalidad, edad, discapacidad o sexo.

Saint Luke's Health System tuân thủ luật dân quyền hiện hành của Liên bang và không phân biệt đối xử dựa trên chủng tộc, màu da, nguồn gốc quốc gia, độ tuổi, khuyết tật, hoặc giới tính.

Saint Luke's Health System 遵守適用的聯邦民權法律規定，不因種族、膚色、民族血統、年齡、殘障或性別而歧視任何人。