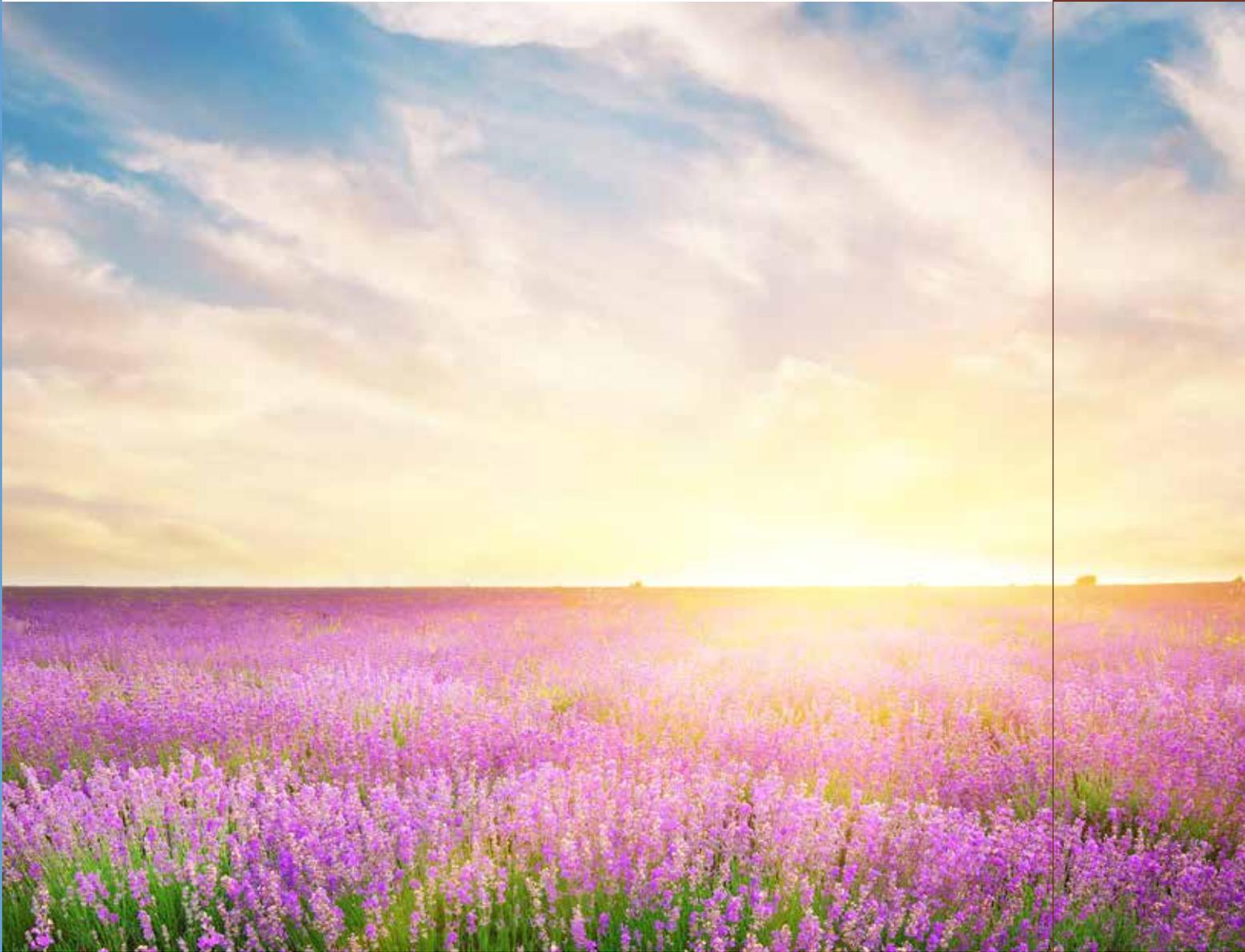


OSF HEALTHCARE
SAINT FRANCIS MEDICAL CENTER

CANCER PROGRAM
ANNUAL REPORT

2017



CANCER COMMITTEE 2017

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Quality Management

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Registered Dietitian

Jodi Stoner, APN
Cancer Support APN

DR. JAMES MCGEE CANCER COMMITTEE CHAIRMAN



Many of the activities of the cancer committee revolve around time.

Time and cancer are inextricably linked in many ways. Much of the anxiety that accompanies a cancer diagnosis relates directly to time ... how long until I can get in to the doctor, how long will it take to get to treatment, how long do I have to be under treatment, how long have I had this, and, for too many patients, how long will I live?

Our Cancer Committee is developing subcommittees structured by disease site in order to better assess our management of the major oncology disease types. We have found that the time from first suspicion of cancer to first treatment is critically important to patient satisfaction and patient outcomes. When we first started the multidisciplinary lung cancer clinic, the time for a diagnostic work-up was over 60 days. By process analysis and improvement, that time frame has been reduced to about two weeks. In most disease sites, the time to diagnosis and treatment is being significantly reduced by innovative strategies. In lower GI cancers we are doing "stacked testing," meaning that patients are able to have all of their testing in one day. In addition to dramatic time savings, the patients can usually do only one GI bowel prep. Appointments with the relevant clinicians are being coordinated by the nurse navigators, further shortening the time frames involved.

Our screening efforts try to reduce the time that a cancer has to grow before being treated. Breast cancer screenings have been very helpful, largely by reducing the time from the start of the process of neoplasia to the time of first treatment. We are seeking to reduce the mortality of lung cancer in our area by 5 percent through the adoption of low dose CT screening. We are now screening eligible patients in rapidly increasing numbers. It is of interest that to save a life from lung cancer requires roughly 50 percent of the number of patients to be screened as is the case with breast cancer. Thus, lung cancer screening can reach even a high percentage of those at risk from the devastating effects of long-term smoking.

With lung cancer screening, we are seeing more patients with Stage I or early Stage II disease, and hopefully fewer in Stage III and IV. Not only are cure rates better at earlier stages, the treatment options are more palatable for most patients. Stereotactic body radiation therapy (SBRT) for early (PET node negative non-small cell) lung cancer has become a non-invasive and effective approach to the curative management of those tumors. Such treatment requires just three to five outpatient visits. A disease that was once reliably cured only by surgery can now legitimately be cured by one week of radiosurgery. Similarly, early breast cancer can now have breast preserving post-operative radiation delivered over two to five days rather than five to six weeks.

All of radiation oncology is shifting toward larger doses of radiation per treatment with fewer treatments given in shorter time frames. The predominant areas of future promise in accelerating these trends lie in radiation delivery techniques that will not harm the patient as has often been accepted in the past. Furthermore, there is a tremendous synergistic interaction between the immune system and radiation treatment. Radiation is an excellent "presenter" of tumors to the immune system and can effectively evoke an immune response to fight the cancer throughout the body. In combination with immunotherapy agents, the effect can be dramatic. Optimizing the balance of radiation effect on the tumor target and promotion of

the systemic immune response will need to be carefully studied. The radiation must be given in a manner that neither depletes the immune system nor evokes an inflammatory response that would defeat the immune response to the malignancy. Highly targeted, rapidly delivered radiations can do this.

Rapid dose delivery to discrete targets can be achieved by radiosurgery, high dose rate brachytherapy, and intensity modulated proton beam therapy. In addition to triggering and promoting the body's immune response to the tumor, high dose rates and dose restriction to tumor tissue evoke better tumor responses within the target, even in cancers previously felt to be radio resistant. Again time makes a difference ... faster dose delivery enhances tumor response by inducing new means of tumor cell killing not dependent upon the traditional models of free radical formation in oxygenated tissue. Clinically, fewer patients will have long, protracted courses of intensive chemotherapy and radiation therapy. Patients will more often be cured, will have fewer acute and long-term side effects, and will regain control over their time.

With these evolutionary changes, we will all have to adjust our thinking and embrace a changed world of cancer services in which suspicion that a patient may have cancer leads to a rapid response to either prove or disprove that suspicion, and move into the necessary therapy. Therapy itself will be less invasive, less consuming for the patient, but its sophistication will require superb clinicians and innovative clinical facilities. We will need even more specific immunologic agents, better radiation delivery systems, and imaginative thinking about the nature of cancer treatment for the individual patient and their distinctly unique problem.

For those who have suffered through the abuse of time that has been the story of clinical cancer care to date, it's about time.

A handwritten signature in black ink that reads "James L. McGee, MD, SM". The signature is fluid and cursive, with a vertical line to its left.

James L. McGee, MD, SM
Radiation/Oncology

DR. PATRICK WHITTEN LUNG CANCER SURGERY



Where Do I Go?

He sat down to tell his wife, who has been in remission for unresectable lung cancer for three years, about his recent phone call from his physician. They thought they would spend their life together for many years. Now they live day-to-day. He just received a phone call and was told his chest X-ray was abnormal and a follow-up chest CT revealed abnormalities which would require further investigation. They both knew exactly where he should go, OSF HealthCare Saint Francis Medical Center Cancer Services.

The OSF Multidisciplinary Lung Cancer Conference (MDC) and Clinic began in 2012. To date, we have evaluated and treated over 1,600 individual cases of lung cancer. The unfortunate reality is that lung cancer is not uncommon. Lung cancer is the leading cancer killer in both men and women in the United States. More people die of lung cancer related deaths than any other cancer. An estimated 158,080 Americans are expected to die from lung cancer in 2016, accounting for approximately 27 percent of all cancer deaths.

Lung cancer is not only smoking-related. Approximately 12 percent to 15 percent of lung cancer cases are now diagnosed in nonsmokers. By the time a treatment plan is given for lung cancer, the national average states that 90 days will have passed. As weather turns cold in early November, a patient with an abnormal chest X-ray who eventually will be diagnosed with cancer, may not receive their treatment plan until Valentine's Day. It is likely that those three months for a patient must be agonizing. This does not happen at OSF Saint Francis. Through OSF Cancer Services, the average time for a patient to receive a treatment plan has been reduced to 14 days. With this multidisciplinary approach, all aspects are touched. Our multidisciplinary conference sessions focus on the synergy between radiation oncologists, medical oncologist, radiologists, surgeons, pulmonologist, pathologists and research in determining patient care and the treatment of lung cancer and metastasis. Additionally, ancillary support services including palliative care, nutritional services, financial counseling and behavioral health come together with one common goal – an interactive conference with physicians and providers that result in an evidence-based recommendation for an individualized treatment plan for each patient.

Low Dose CT Lung Cancer Screening (LDCT) continues to be the foundation of early detection. National studies indicate a 20 percent improvement in survival with Low Dose CT lung cancer screening in high-risk individuals. At least 8.6 million Americans qualify as high-risk for lung cancer and are recommended to receive annual screening with LDCT scans. If half of these high-risk individuals were screened, over 13,000 lung cancer deaths could be prevented. It is the hope that LDCT lung cancer screening results in more resectable patients. Unfortunately, approximately 75 percent of patients diagnosed with lung cancer present at an unresectable stage.

More than 1,100 patients will be screened this year through OSF HealthCare Saint Francis Medical Center lung cancer

screening program. Results are dealt with in a timely fashion by an Advanced Practice Nurse (APN). The APN talks with each patient and confirms they meet the criteria of the LDCT program. At this time, the patient is educated on the procedure and the screening is ordered and performed. Once the thoracic radiologist report is available – within 24 hours – the APN then has the patient and family come in to discuss the results of their scan. If a diagnosis of lung cancer is made, direct referral to the OSF multidisciplinary lung cancer conference/clinic is made. At this time the APN will set up appointments with a dietitian, financial counselor, behavior health provider and a nurse navigator. Once a nurse navigator is assigned to each patient, the nurse navigator becomes the point of contact for the cancer patient and their families. The nurse navigator will assist in all aspects of the patient's care experience. It is through this multidisciplinary approach that we are able to achieve such a rapid turnaround time to treatment plan.

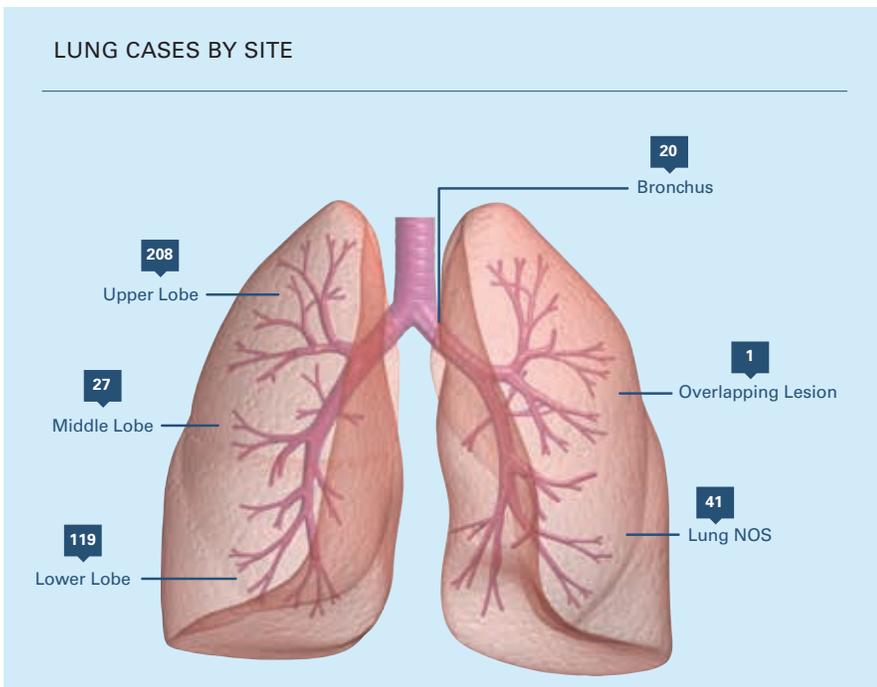
The smoking cessation program at OSF Saint Francis is offered to patients who are currently smoking. Addictive and conditioning processes interact to make cigarette smoking a common, lethal behavior that is highly resistant to change. Six out of 10 smokers are not able to successfully quit on their first time and require multiple attempts. Unsuccessful attempts to quit can leave smokers feeling alienated and discouraged. Quitting smoking is the single most important step a smoker can take to improve the length and quality of his or her life. By providing our patients with the skills and techniques that have been proven to help smokers quit, we can save lives and provide many potential health benefits.

He knew. They knew. They contacted OSF Cancer Services where his wife worked with staff when she was diagnosed. The staff quickly mobilized the multidisciplinary approach. Nine days later the patient received his diagnosis and two days later his treatment plan. Within 11 days the patient had his answer. It unfortunately was not the answer he wanted. However with this news the patient knew that he had multiple specialists who reviewed his case and collectively determined the best course of action for his treatment. He had respect and trust for their evaluation and decision, even with his uncertainty of receiving a diagnosis of lung cancer.

If you have questions about the multidisciplinary teams or OSF Cancer Services programs, please call Tenille Oderwald at (309) 624-4505. We thank all of those who have put their trust in us. With each year, we renew our commitment to provide the best cancer care possible.



Patrick E. Whitten, MD, FCCP, FAASM
 Director Interventional Pulmonary,
 OSF HealthCare
 Assistant Professor, UICOMP
 Assistant Program Director Pulmonary
 Critical Care Fellowship, UICOMP



OSF HEALTHCARE SAINT FRANCIS MEDICAL CENTER CANCER EXPERIENCE

There were 2,607 cases recorded and abstracted by the Cancer Registry staff during 2016. Of these cases, 2,370 were either diagnosed here and/or received at least part of their initial treatment here. These cases are referred to as analytic. The graphs and tables in this report were compiled from analytic cases unless otherwise indicated.

In 2016, breast cancer was the number one primary site of cancer with 469 cases reported followed by lung cancer with 418 cases, prostate cancer with 176 cases and uterine cancer with 133 reported cases. The top 10 most frequent cancer sites (see page 9) account for over 70 percent of the total cases for year. The ethnic mix of cancer patients was 93 percent white, 5 percent African-American and 2 percent other ethnicities. Seventy-two percent of cancer patients diagnosed in 2016 were between the ages of 50-79.

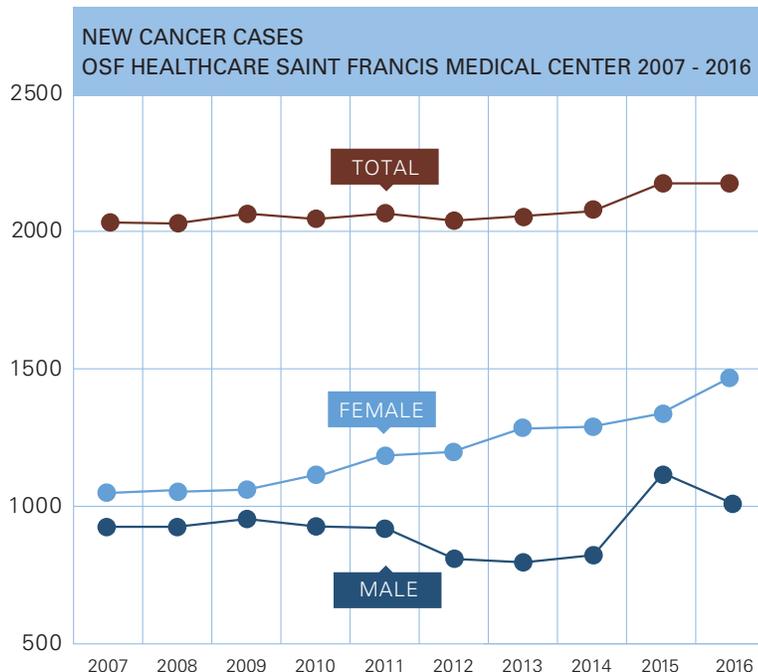
Of the 2,370 analytic cases diagnosed in 2016, 56 percent reside in the Tri-County region of Peoria, Tazewell and Woodford counties. An additional 17 percent of the analytic cases resided in LaSalle, Fulton and Knox counties. The remainder comes from various bordering counties throughout Central Illinois.

Stage 0 or in-situ cancer accounted for 6 percent of the cases. Stage I cancer comprised 33 percent, and Stage II comprised 17 percent of the cases. Stage III and Stage IV accounted for

11 percent and 16 percent respectively. The stage of cancer was unknown for 7 percent of patients. No applicable staging systems exist for the remaining 11 percent of cases.

Cancer-directed surgery comprised the only treatment for 30 percent of the cases in 2016. Radiation therapy alone was received by 4 percent of patients and chemotherapy alone was received by another 4 percent. The remainder of patients received some other form of treatment or multimodality treatment as their first course of treatment. The most common multimodality treatment at 9 percent was surgery plus radiation with or without hormones or immunotherapy. Followed by surgery plus chemotherapy with or without hormones at 8 percent and by radiation plus chemotherapy with or without hormones or immunotherapy at 6 percent.

The importance of multimodality treatment is stressed at the Multidisciplinary Cancer Conferences and Tumor Boards. All conferences include multidisciplinary physician attendance and have become an excellent forum for decision-making, relative to individual patient treatment as well as for the dissemination of information relative to progress in cancer management. A total of 1,296 prospective cancer cases were discussed, representing 55 percent of the newly diagnosed cancer cases.

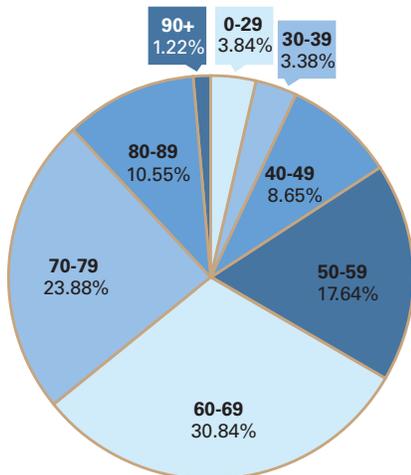


BODY SYSTEM SITE GROUP

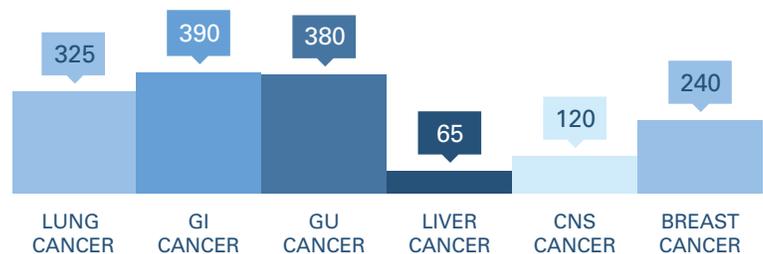
	Count (N)	Percent
Lip	1	0.04%
Tongue	10	0.42%
Salivary Glands	2	0.08%
Floor of Mouth	1	0.04%
Gum & Other Mouth	6	0.25%
Nasopharynx	4	0.17%
Tonsil	8	0.34%
Oropharynx	5	0.21%
Hypopharynx	4	0.17%
Other Buccal Cavity & Pharynx	1	0.04%
Esophagus	21	0.89%
Stomach	17	0.72%
Small Intestine	7	0.30%
Cecum	20	0.84%
Appendix	11	0.46%
Ascending Colon	28	1.18%
Hepatic Flexure	8	0.34%
Transverse Colon	13	0.55%
Splenic Flexure	5	0.21%
Descending Colon	5	0.21%
Sigmoid Colon	20	0.84%
Large Intestine, NOS	8	0.34%
Rectosigmoid Junction	11	0.46%
Rectum	60	2.53%
Anus, Anal Canal & Anorectum	15	0.63%
Liver	29	1.22%
Intrahepatic Bile Duct	5	0.21%
Gallbladder	3	0.13%
Other Biliary	5	0.21%
Pancreas	74	3.12%
Peritoneum, Omentum & Mesentery	6	0.25%
Other Digestive Organs	3	0.13%
Nose, Nasal Cavity & Middle Ear	1	0.04%
Larynx	11	0.46%
Lung & Bronchus	418	17.64%
Trachea, Mediastinum & Other Respiratory Organs	1	0.04%

Bones & Joints	1	0.04%
Soft Tissue (including Heart)	18	0.76%
Melanoma -- Skin	76	3.21%
Other Non-Epithelial Skin	5	0.21%
Breast	469	19.79%
Cervix Uteri	37	1.56%
Corpus Uteri	133	5.61%
Uterus, NOS	1	0.04%
Ovary	25	1.05%
Vagina	1	0.04%
Vulva	22	0.93%
Other Female Genital Organs	3	0.13%
Prostate	176	7.43%
Testis	10	0.42%
Penis	1	0.04%
Urinary Bladder	58	2.45%
Kidney & Renal Pelvis	98	4.14%
Ureter	5	0.21%
Other Urinary Organs	2	0.08%
Eye & Orbit	2	0.08%
Brain	64	2.70%
Cranial Nerves Other Nervous System	42	1.77%
Thyroid	74	3.12%
Other Endocrine including Thymus	18	0.76%
Hodgkin - Nodal	10	0.42%
NHL - Nodal	61	2.57%
NHL - Extranodal	20	0.84%
Myeloma	18	0.76%
Acute Lymphocytic Leukemia	14	0.59%
Chronic Lymphocytic Leukemia	3	0.13%
Other Lymphocytic Leukemia	1	0.04%
Acute Myeloid Leukemia	23	0.97%
Chronic Myeloid Leukemia	3	0.13%
Mesothelioma	5	0.21%
Kaposi Sarcoma	1	0.04%
Miscellaneous	23	0.97%
Total	2,370	100.00%

AGE AT DIAGNOSIS 2016



CANCER SERVICES PROGRAMS AND MULTIDISCIPLINARY CANCER CONFERENCES



CANCER REGISTRY

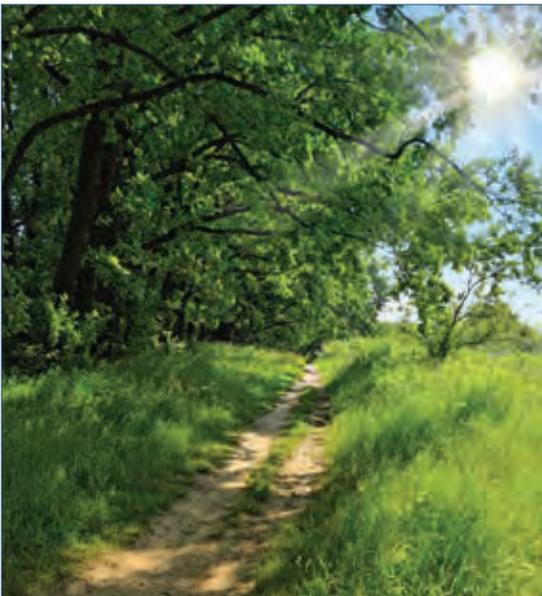
The Cancer Registry is part of the cancer program at OSF HealthCare Saint Francis Medical Center and functions under the guidance of the Cancer Committee in accordance with standards set by the American College of Surgeons' Commission on Cancer. Cancer registration is the data and monitoring mechanism of the hospital cancer program. The Registry assures that complete and accurate data is collected and maintained for each cancer patient. The Cancer Registry is responsible for reviewing records of all patients with active malignant disease and benign central nervous system tumors and for maintaining a database of all newly diagnosed and/or treated cancers. The Cancer Registry database contains patient identifiers and characteristics (age, race, sex, marital status and occupation), cancer/tumor characteristics (site, histology and AJCC stage of disease at diagnosis), treatment received and follow up information. The Cancer Registry is part of the Quality and Safety Department and the database serves as a vital tool for programmatic and administrative planning, research and for monitoring patient outcomes.

Since its reference date of January 1, 2002, over 34,500 cases have been accessioned into the Cancer Registry. The Cancer Registry follows all analytic patients on an annual basis and maintains a follow-up rate of 80 percent or greater for patients accessioned into the registry since 2002 and 90 percent or greater for patients accessioned into the registry in the last five years. The current follow-up rate for patients since 2002 is 89 percent and the follow-up rate for the last five years is 96 percent. The Cancer Registry also fulfills

data requests from physicians and other cancer-related organizations while maintaining strict patient confidentiality. Data requests are welcomed and encouraged. Thirty-three data requests were completed in 2016.

The Cancer Registry is also responsible for coordinating the weekly system specific and prospective breast cancer tumor boards. OSF Saint Francis also holds weekly multidisciplinary cancer conferences for lung, gastrointestinal and genitourinary cancers. Monthly conferences are held for liver, gynecologic and central nervous system cancers. The Cancer Committee meets every other month to discuss and work towards accomplishing the standards required of an accredited Commission on Cancer program. The Cancer Registry staff holds the committee positions of certified tumor registrar and cancer registry quality coordinator. They work closely with the chairman of the Cancer Committee and the cancer liaison physician in planning Cancer Committee meetings and agendas.

The Cancer Registry submits monthly data to the Illinois State Cancer Registry and the Commission on Cancer's Rapid Quality Reporting System. Data is reported annually to the Commission on Cancer's National Cancer Data Base. Staff includes four registrars: Keren Greenawalt, BSN, MS, CTR, Kayla Clark, BSN, MS, CTR, Mary Jo Myers, BSN, and Jan Donlan, RN. Data requests can be made by contacting registry personnel at (309) 655-3734 or (309) 655-2421.



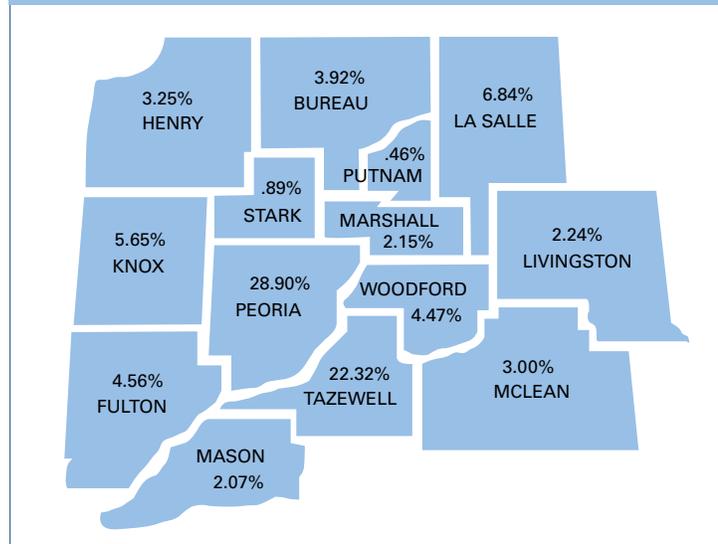
2016 CANCER DATA SUMMARY

TOP 10 SITES BY SEX

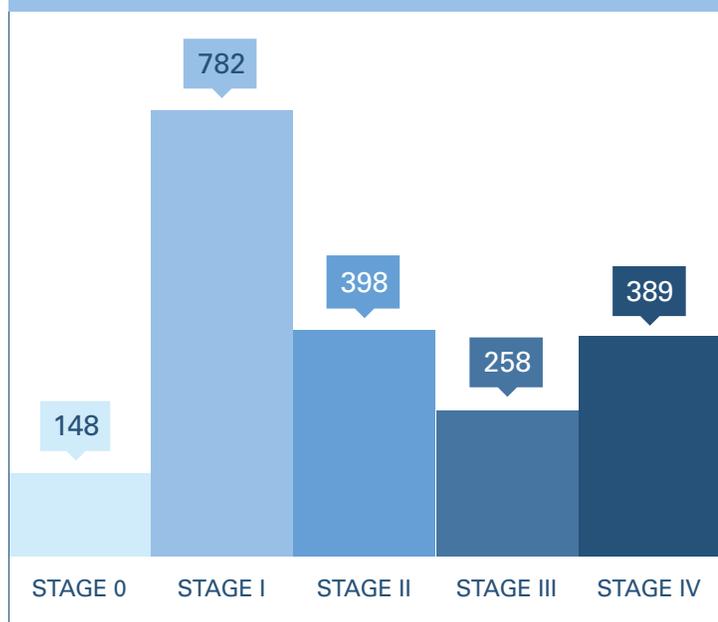
SITE	WOMEN	MEN
Breast	466	3
Bronchus & Lung	207	211
Prostate Gland	0	176
Corpus Uteri	133	0
Colon	64	58
Kidney	30	62
Skin	34	52
Pancreas	24	50
Thyroid Gland	51	23
Lymph Nodes	31	37



COUNTY AT TIME OF DIAGNOSIS



AJCC STAGE AT DIAGNOSIS



COMMISSION ON CANCER

The Commission on Cancer (CoC) is a consortium of professional organizations dedicated to improving survival and quality of life for cancer patients through standard-setting, which promotes cancer prevention, research, education and monitoring of comprehensive quality care.

STANDARD 4.1 – CANCER PREVENTION PROGRAMS

Cancer prevention requires cancer programs to identify risk factors within their community and patient population, and use strategies to modify attitudes and behaviors to reduce the chance of developing cancer.

Purpose: Organize and offer a smoking cessation program. Program will be offered and patients will be tracked through Cancer Services in conjunction with the LDCT screening program.

Background: Background: Prior attempts of a Smoking Cessation program (employee only) in our facility have been unsuccessful, with only eight enrollees. Lack of enrollment resulted with the cancer committee decision to pilot a smoking cessation program in conjunction with our Low Dose CT Lung Cancer Screening (LDCT) program. Patients are called in to Cancer Support Services to receive the results of their screening and are offered our Smoking Cessation for a no out-of-pocket fee. The pilot ran October – December 2016.

- Offered to 137 patients
- 17 Interested
- 9 quit (signed quit date and have adhered to non-smoking)

Results of the pilot program were successful and a new Smoking Cessation program is to be established with a start date of January 2017.

Data:

Month & Year 2017	Offered	Enrolled	Quit Smoking	Stopped Coming In	No Quit Date Still In Program
January	29	10	3	7	
February	15	3	2	1	
March	23	6	3	3	1
April	21	8	3	4	1
May	16	5	3	2	
June	23	5	1	3	1
July	30	7	0	3	1
August	33	6	0	0	6
September	25	6	1	0	5
October	27	7	1	0	6
Totals	242	63	17	23	21

The data to the left supports the necessity of a smoking cessation programs. Tobacco use is the single most preventable cause of death in the United States. Each year in the United States, cigarette smoking and exposure to secondhand smoke causes 443,000 – or 1 in 5 deaths.

Summary: According to the NCCN Guidelines for Smoking Cessation, combining pharmacologic therapy and counseling is the most effective treatment approach and leads to the best results in smoking cessation.

OSF HealthCare Saint Francis Medical Center Smoking Cessation Program, based out of Cancer Support Services, uses evidence-based resources

with a multidisciplinary approach. Our multidisciplinary team consists of Dr. Patrick Whitten, physician champion; Jodi Stoner, APN; Katrina Sommer, RD, LDN, dietitian; and Sabra Burress, M.A., L.C.P.C., counselor.

Our new program demonstrates not only the need of smoking-cessation treatment, but that it consists of three phases: preparation, intervention and maintenance. Preparation (APN) aims to increase the smoker's motivation to quit, set a quit date, and to build confidence that he or she can be successful. Additionally, the APN can provide nicotine replacement products such as nicotine gum or transdermal patches. Maintenance (counselor and dietitian), provide support, coping strategies, substitute behaviors and the proper nutrition guidance necessary for the patient to be successful.

Next Steps: With the success of this program it was the decision of our Cancer Committee to proceed with Smoking Cessation Program to include any others that inquire and/or are referred and not limit to only Low Dose CT Lung Cancer Screening patients.

STANDARD 4.2 – CANCER SCREENING PROGRAMS

Each year the cancer committee organizes and provides at least one cancer screening program designed to decrease the number of patients with late-stage disease and is targeted to meet the screening needs of the community. Each screening program is consistent with evidence-based national guidelines and evidence-based interventions and must have a formal process developed to follow up on all positive findings.

Topic: Track Low Dose CT (LDCT) Lung Cancer Screening Lung-RADS results to evaluate patients’ lung nodule classifications. The goal of the classification system is to standardize follow-up and management decisions. The system is similar to the Fleischner criteria but designed for the subset of patients intended for low dose screening studies.

Measures: A review of 2017 Low Dose CT Lung Cancer Screening Lung Rads Assessment Categories and Management Recommendations.

The American College of Radiology (ACR) Lung CT Screening Reporting and Data System (Lung-RADS™) is the product of the ACR Lung Cancer Screening Committee subgroup on Lung-RADS. This system is a quality assurance tool designed to standardize lung cancer screening CT reporting and management recommendations, reduce confusion in lung cancer screening CT interpretations and facilitate outcome monitoring.

RADS Primary Assessment - 0	0- Incomplete
RADS Primary Assessment - 1	1- Negative- Annual Screening 1 yr
RADS Primary Assessment - 2	2- Benign appearance or behavior- Annual Screening 1 yr.
RADS Primary Assessment - 3	3- Probably Benign- 6 month LDCT
RADS Primary Assessment - 4a	4a Suspicious-3 month LDCT; PET when \geq 8mm solid
RADS Primary Assessment - 4b	4b- Suspicious- Chest CT; PET and/or tissue sampling
RADS Primary Assessment - C	C- Prior Lung Cancer
RADS Primary Assessment - S	S- Significant - Other

Study/Findings: From January 2017 to date we reviewed 905 Low Dose CT Lung Cancer Screenings.

Practical Points:

- Nodule measurement done in lung windows
- Nodule average diameter is rounded to the nearest whole number
- Only a single measurement is necessary for round nodules
- “Growth” is an increase in size of \geq 1.5 mm
- Assignment of a Lung-RADS status is based on the most suspicious nodule
- Category 4B management is based on multiple factors including overall patient status and patient preference

Data:

RADS Primary Assessment - 0	0	RADS Primary Assessment - 4a	33
RADS Primary Assessment - 1	316	RADS Primary Assessment - 4b	19
RADS Primary Assessment - 2	455	RADS Primary Assessment - C	0
RADS Primary Assessment - 3	79	RADS Primary Assessment - S	0

(RADS Assessment – S -was not tracked but is reported out in MIDAS).

Of the patients enrolled, 771 will need one year follow up on their current findings (Lung RADS 1&2). They will continue to be followed yearly as long as they are still at high risk for lung cancer.

Of the patients enrolled, 131 Lung RADS 3,4a & 4b are under close follow up with either six- or three-month CT follow up, PET/CT, or tissue sampling.

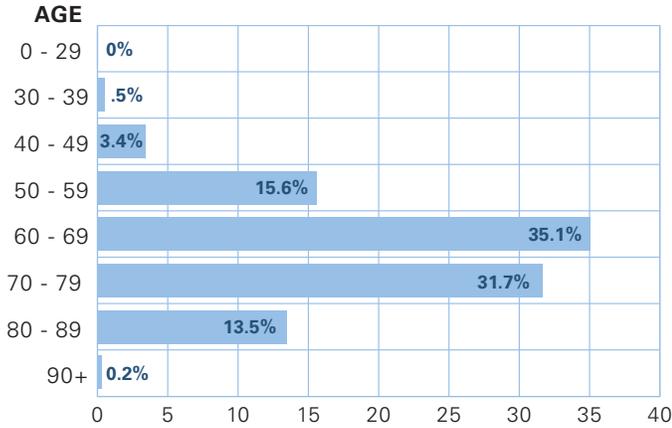
Summary: It is estimated that 320 individuals need to be screened to save one life from lung cancer. This compares favorably with screening mammography, in which some estimates suggest that 465 to 601 women must be screened to save one life from breast cancer.

Adherence to ACR Lung RADS guidelines, and continuous quality control to ensure proper patient care and follow-up will lead to earlier lung cancer diagnosis and better lung cancer outcomes.

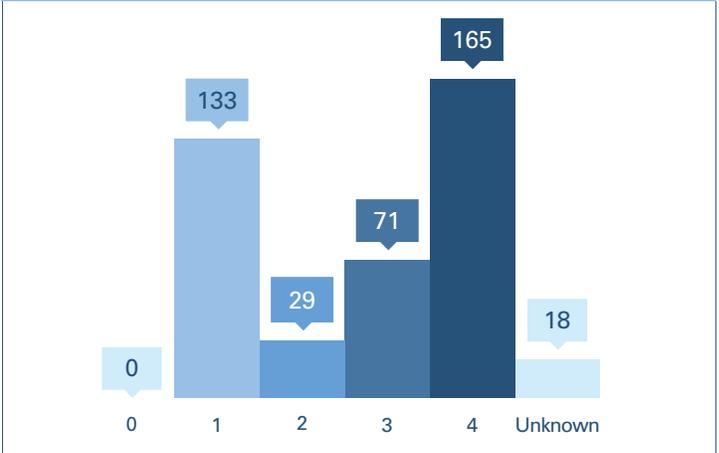
Reference: <https://radiopaedia.org/articles/lung-rads>



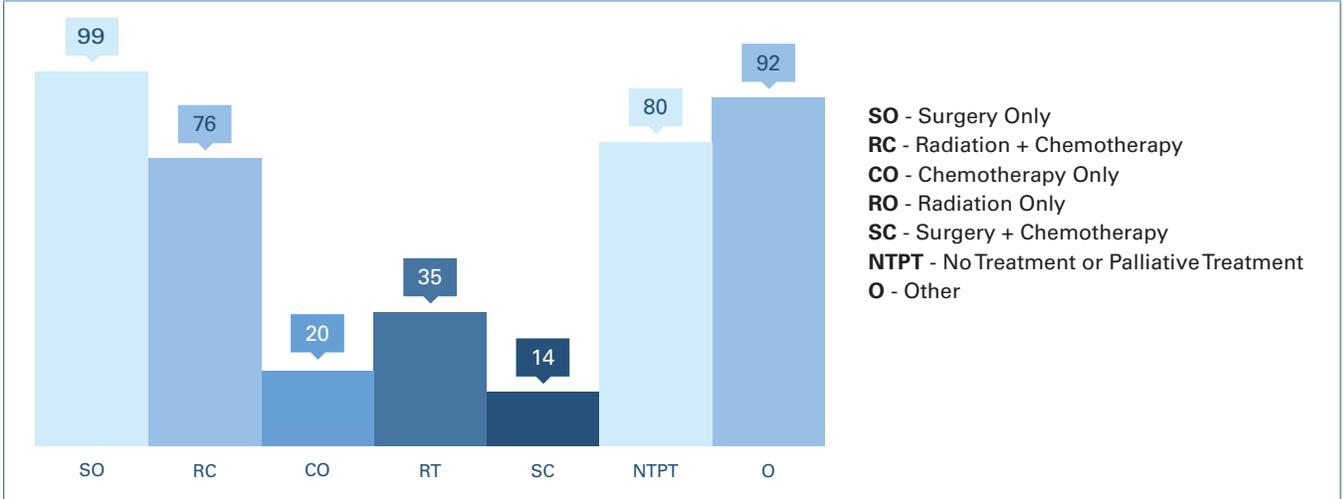
LUNG CANCER - AGE AT DIAGNOSIS 2016



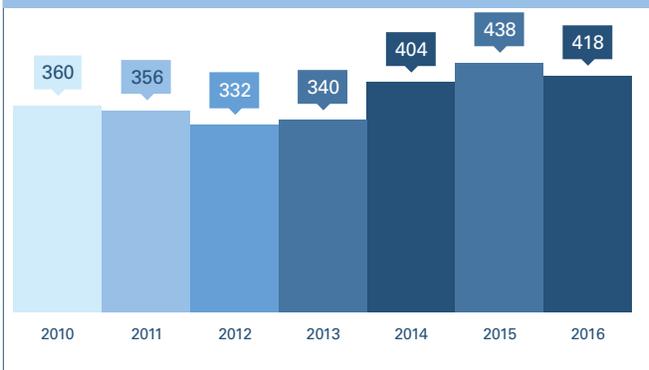
LUNG CANCER - CASES BY STAGE AT DIAGNOSIS



LUNG CANCER - FIRST COURSE TREATMENT 2016



LUNG CANCER CASES



DR. RICHARD ANDERSON LUNG CANCER REPORT



Lung cancer is the number one cancer killer of Americans and what we have done here at OSF HealthCare Saint Francis Medical Center is to expand our lung cancer program. We now offer a multidisciplinary lung cancer clinic, which involves pulmonary, oncology, radiation oncology, pathology, radiology and thoracic surgery all centralized together to better address the patients and their care. Because of our lung cancer clinic, we have also established screening criteria using Low Dose CT at no out-of-pocket cost to those enrolling. Follow-up diagnostic procedures, such as an MRI, PET, lab work and other future testing, however, is forwarded to insurance companies or patients for payment. The criteria have been set forth and were adapted from guidelines of the National Lung Cancer Screening Program.

We have also been participating in the Society of Thoracic Surgery's database for general thoracic surgery. And, when it comes to lung cancer, we have done exceptionally well on our post-operative procedures and complications. We have a very low mortality rate for our operations, and a very short length of stay. We have consistently been at least in the top quarter if not the top 10th percentile of outcomes after lobectomies across the nation, in comparison to the institutions that participate in the STS

database. As of this fall, there were 306 participants internationally with 211 reporting. For the one-year reporting time frame – July 1, 2015 through June 30, 2016 – there was zero discharge mortality for our 178 major reported cases. There was also improvement in length-of-stay rates in numerous categories.

When you look at our lung cancer populations, you will notice that our age distribution for lung cancers is pretty widespread, but the majority of the patients present in the age group between 60-69 and 70-79 years of age. Our hope with our lung cancer clinic and our screenings is that we are able to diagnose lung cancers at a much earlier stage. When you look at our time of diagnoses of stage for our 2016 cases, you will see that the majority of patients were still diagnosed at with Stage IV lung cancer. The second highest group is actually Stage I. These are people whose outcomes we can significantly impact.

Our volume of lung cancer cases has been steadily increasing since 2001. When you look at the distribution of the disease, which is kind of interesting, in a diagram of the lung, you will see that the majority of our tumors actually present with upper lobe disease. There is no data to support this, but most people would believe the reason for this increase in upper lobe disease is predominantly due to the fact that the majority of these cancers are caused by smoking. The upper lobes are where the aerosolized particles would rise to in the lung themselves. According to our data, 50 percent of our lung cancer cases are in the upper lobe.

You will also notice that because of the multidisciplinary team we now have, there is a wide variety of first course treatment options available to our cancer patients. Approximately 24 percent of our patients will receive surgery alone, approximately 8 percent will receive radiation alone, 5 percent will receive chemotherapy alone, 18 percent receive chemotherapy and radiation, and 3 percent will receive a combination of surgery and chemotherapy, with only 19 percent receiving no therapy or palliative care.

As time progresses and our cancer clinic continues to evolve, multimodality therapies will have an increased incidence of use in the future. When you look at survival curves, and compare our survival data to the National Cancer Data Base, you will see that we are right on track with the outcomes for lung cancer survival for Stage I, II, III and IV. We fall within those curves and medians of competence intervals for all stages. We are right where we need to be with five-year survival rates comparable to the NCDB.

Overall, when you look at our cancer program, you will see that we have a very well-rounded, multidisciplinary team approach to the patient with lung cancer. We have outstanding outcomes when it comes to surgical therapy and an extremely efficient clinic for the diagnosis and treatment of patients. OSF Saint Francis provides outstanding care for the lung cancer patient in all aspects of care.



Richard Anderson, MD, FACS, FACC
Surgery

Cancer Committee
Vice Chair and Physician Liaison

LUNG CANCER SCREENINGS

5% in 5 Years: Lung Cancer Mortality Reduction

Multiple scientific and public health bodies have identified Low Dose CT (LDCT) lung cancer screenings to be safe, clinically effective in reducing lung cancer mortality and cost effective. The national coverage determination by the Centers for Medicare & Medicaid in 2015, to reimburse LDCT screenings removed a final barrier to offer this service to eligible patients.

For programs with the infrastructure to offer LDCT services, emphasis now shifts to encouraging patient enrollment in LDCT protocols. According to the 2011 National Lung Cancer Screening Trial (NLST), clinically appropriate patients enrolled in screening experienced a 20 percent reduction in lung cancer-specific mortality.

OSF HealthCare Saint Francis Medical Center Oncology program has organized a pilot initiative to reduce lung cancer mortality by 5 percent in the region through enrollment in LDCT screening. Utilizing state cancer registry data, we calculated the overall mortality rate for lung cancer in counties of the medical center's primary service area, and the required reduction in lung cancer mortality to achieve the goals of the pilot initiative.

Primary Service Area Statistics	
High Risk (Cat. 1 or 2) Pts Eligible for Lung CT Screening	11,738
Lung Cancer Incidence	331
Lung Cancer Mortality	232
Targeted Mortality Reduction	5% 12.0

12 epidemiologically-predicted lung-cancer specific mortality events must be prevented to achieve desired outcome.

The number of screenings per life saved reported by the NLST was multiplied against the target number of lung-cancer specific mortality reduction in the service area.

Mortality Reduction/LDCT Screening	Lung CA
Number of Screenings per Life Saved (NLST)	320
No. Annual Screenings for 5% Mort. Reduction	3,840
Percent of CT Eligible Population	32.7%

3,840 eligible patient-screenings must be performed in target year to achieve target public health outcome.

Outreach and education efforts were implemented by the facility to encourage screening, including public and physician-focused education. As self-referrals were permitted, physician offices as well as patients that might be eligible for screening were provided mock-prescriptions that included the screening telephone hotline. (Patients are interviewed by an APN to prove eligibility before screening). Screening are offered with a "no out-of-pocket" charge for those enrolling.

Predictable Effect on Clinical Outcomes

Stage Shift	Unscreened	CT Screened
Early Stage (I & II)	30%	70%
Late Stage (III & IV)	70%	30%

5% in 5 Years Initiative: Effect on Clinical Outcomes

Number of Cancers Identified by LDCT	38
Number of LUNG Cancers Identified by LDCT	26
Lung Cases Shifted from Late to Early Stage	18
Lung Cancer Lives Saved	12
Before Screening, Avg Lung Cancer Survival	3 years
Low Dose CT Screened Cohort, N LST	7 years

Retention Rate	t=0	t+1	t+2
Pt Retention Rate for CT Screening	100%	80%	75%

Protocol for CT Screening is for three scans, one year apart. Assumes lower retention for follow-up scans.

CT Screening Utilization Projection	Year 1	Year 2	Year 3
New Enrolled Patients	1514	1514	1514
Repeat CT Screening		1211	2347
Pts refusing Repeat LDCT		303	681
Total CT Screened Patients	1514	2725	3861
Lung CA-specific Mortality Reduction	5	9	12
Mortality Reduction Percentage	2.0%	3.7%	5.2%

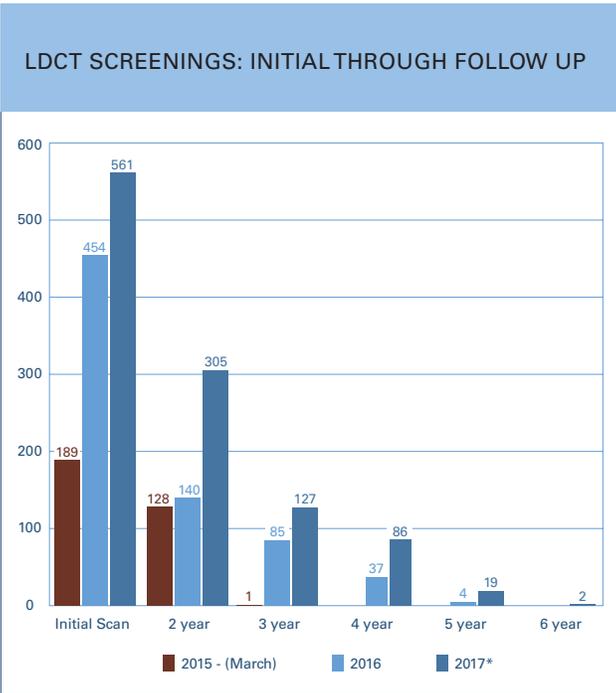
SFMC must enroll the green highlighted number of patients, each year for three years to achieve the targeted mortality reduction.

The 5% in 5 years effort exemplifies the OSF Mission "improving the lives of those we serve." Its focus is to provide awareness, early detection and curative treatment to a vilified disease. In addition, the "halo effect" of this screening initiative will hopefully increase patient compliance with other screenings such as mammography, colonoscopy and other evidence-based interventions.

LUNG CANCER SCREENING

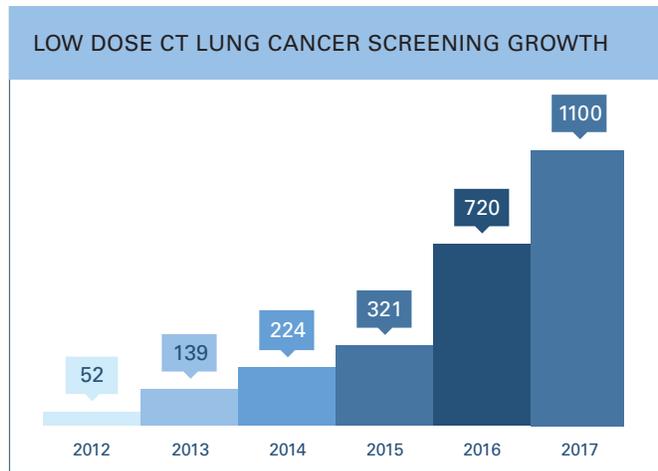


The number of patients participating in LDCT screening continues to grow significantly; initial through yearly follow ups.



*2017 Projected Growth

There has been significant growth in our initiative, although many more patients will need to be enrolled in the LDCT program to achieve the desired mortality reduction. LDCT screening has the potential to achieve the greatest reductions in cancer mortality of any medical intervention attempted since mammography. Future efforts must be made to continue to increase enrollment.



Make it a priority to get screened.



5TH ANNUAL KICK BUTTS EVENT FOR STUDENTS IN 4TH GRADE THROUGH HIGH SCHOOL

Kick Butts Day is a day of activism that empowers youth to stand out, speak up and seize control against Big Tobacco at more than 1,000 events planned by independent organizers across the United States and around the world.

There has been great strides in the fight against tobacco. But every day, more than 3,000 kids under 18 try smoking for the first time and 700 kids become new regular, daily smokers. Tobacco use is still the leading cause of preventable death in the U.S., killing more than 480,000 people every day.

This year OSF Cancer Services, under the leadership of OSF Illinois Lung and Critical Care Institute physicians, Drs. B. Aulakh and K. Verma, teamed up with Jump Simulation & Education Center to develop a 3-D video game demonstrating the impact of tobacco use on the formation of lung cancer lesions in a simulated patient. Held in the Jump auditorium, this event drew our biggest crowd yet of over 230 people experiencing the virtual world of the causes of lung cancer and its treatment.



KICK BUTTS DAY
STAND OUT • SPEAK UP • SEIZE CONTROL

Smoking From the Inside Out

A day of activism that empowers youth to stand out, speak up and seize control against tobacco.

6-9 P.M. MARCH 14
Jump Trading Simulation & Education Center
1306 N. Berkeley Ave., Peoria • Auditoriums A & B

The free event is open to the public and targeted to students in fourth grade through high school. Refreshments will be served.
Visit osfsaintfrancis.org/kick-butts

VIRTUAL REALITY

The Jump Interactive Symposium features multiple gaming adventures to demonstrate the effect smoking has on the body. Participants will be able to virtually fly through the lungs and other parts of the body to see what "smoking from the inside" looks like!

Other activities include:

- A simulated smoker's lung comparison
- Gross mouth and other visual aids
- Virtual reality station and 8 gaming stations
- 3-D demonstrations

OSF HEALTHCARE

The involvement of OSF Cancer Services in the Kick Butts Program raises awareness in young people about the tobacco problem, encourages peers to be tobacco-free and supports effective solutions to reduce tobacco use. We look forward to March 21, 2018, to once again participate in this great effort.

Physician Champions



Bhagat Aulakh, MD, FCCP



Kaninikia Verma, MD

CANCER PROGRAM SERVICES: OSF HEALTHCARE SAINT FRANCIS MEDICAL CENTER

616 Acute medical/surgical beds | 20 bed specialty Cancer Care Unit | Weekly Site Specific | Prospective Breast and Central Nervous System Cancer Conferences | Monthly Pediatric Cancer Conference | Weekly Cancer Multidisciplinary Conference | Certified by American College of Surgeons Commission on Cancer | Certified by National Accreditation Program for Breast Centers

BOARD-CERTIFIED PHYSICIAN ONCOLOGY SPECIALISTS

- Medical Oncologists
- Radiation Oncologists
- Gynecologic Oncologists
- Pediatric Oncologists
- Specialists in Pathology, Hematology, Endocrinology, Urology, Pulmonology, Breast Imaging, Thoracic Imaging, Pediatric Surgery, Thoracic and General Surgery

OTHER ONCOLOGY SPECIALISTS

- Certified Oncology Nurses
- Certified Pediatric Oncology Nurses
- Cancer Psychosocial Counselor
- Clinical Case Manager
- Medical Physicist
- Registered Radiotherapy and Mammography Techs
- Certified Tumor Registrars
- Palliative Care Team
- Navigators
- Clinical Dietitian

CANCER CARE UNIT

- Certified Oncology Nurses
- Chemotherapy Administration
- Pastoral Care
- Home Healthcare Planning
- Family Member Facilities
- Pain Management
- Symptom Management
- Patient Care Facilitator
- Patient and Family Library
- Patient and Family Prayer Room or Unit

RADIATION ONCOLOGY

- TrueBeam XLT Linear Accelerator with IMRT and IGRT Including Body Stereotactic RT and Body Radiosurgery
- RapidArc
- RIT-Radioimmunotherapy
- PET-CT Radiotherapy Simulator
- Computerized Four-Dimensional Dosimetry and Treatment Planning
- Linear Accelerator: IMRT, IGRT, Respiratory Gating, Triggered Imaging
- Gamma Knife PERFEXION Radiosurgery
- Complete Brachytherapy Service:
 - High Dose Rate Brachytherapy to Breast, Prostate, GYN and Head and Neck Cancers
 - Low Dose Rate Iridium Treatments
 - Accelerated Partial Breast Brachytherapy

INPATIENT SURGERY FACILITIES

- da Vinci® Xi Robotic Surgery System
- iMRI – Intraoperative MRI for Brain Tumor Resection
- Thoracic Center of Excellence
- Pediatric Surgery
- Specialty Acute and Tertiary Care Services

PHARMACY

- St. Jude Satellite Pharmacy
- Laminar Flow Bio Safety Cabinet for Prep of Chemotherapy Agents
- Pharmacokinetic Drug Monitoring
- Adverse Drug Event Screening/Monitoring
- Drug Interaction/Antibiotic Review
- Drug Culture/Sensitivities Review
- Patient Controlled Analgesic Program
- Pharmacist Available 24 Hours a Day
- Pharmacist Consult and Monitoring
- Renal Function Screening
- Chemotherapy Dose Verification
- Oncology Pharmacist Specialist

LABORATORY

- Oncotype DX - Cancer Genetic Assays
- Prolaris Prostate Cancer Genetic Assay
- Carcinoembryonic Antigen
- CA 125, CA 15-3 and CA 19-9
- PSA and Other Tumor Markers
- Flow Cytometry
- Her2/Neu Protein
- Estrogen/Progesterone Receptor
- Surgical Pathology/Cytology
- Automated Hematology and Coagulation
- Microbiology, Parasitology, Mycobacteriology
- Blood Bank Transfusion Service
- Automated Blood Chemistry Analysis
- Automated Electrophoresis

MULTIDISCIPLINARY CANCER CONFERENCES

- Prospective Breast Cancer
- Pediatric Cancers
- Lung Cancer
- GU (Prostate and Bladder) Cancers
- GI (Gastrointestinal) Cancer
- Central Nervous System Cancers
- Liver Cancer
- Weekly Site Specific (rare cancers)
- Gamma Knife Clinic
- Spine Cancer Clinic

OUTPATIENT SURGERY/SPECIALTY SERVICES

- SIR-Spheres for Liver Cancer
- Bone Marrow Biopsies
- Paracentesis, Thoracentesis
- Laser Surgery
- Incisional and Excisional Biopsies
- Major and Minor Procedures
- Fine Needle Aspirations

HOSPICE

- Richard L. Owens Hospice House
- Pain Management
- Symptom Control
- Personal Care
- Social Worker
- Spiritual Support
- Volunteer Services
- Grief Support
- Registered Nurses
- Registered Dietitian

REHABILITATION AND ANCILLARY SERVICES

- Nutrition and Dietary Services
- Occupational Therapy
- Pastoral Care
- Physical Therapy
- Speech Therapy
- Lymphedema Clinic
- Enterostomal Teaching
- Lymphedema Therapy

DIAGNOSTIC IMAGING

- Angiography
- Preoperative Embolization/Devascularization of Tumors
- Ultrasonography
- Interventional Intraarterial Chemotherapy of Tumors
- Magnetic Resonance Imaging
- Nuclear Medicine
- Multidetector Spinal Computerized Tomography with Multiplanar and 3-D Reconstruction Capabilities
- Radiology-Directed Needle Biopsies
- Interventional Radiologic Techniques for Relief of Biliary and Urological Obstruction
- Localization and Drainage of Neoplastic and/or Infected Fluid Collections
- Tag Monoclonal Antibodies for Imaging Ovarian and Colorectal Cancers
- Functional MRI Brain Studies for Tumor Resection
- Positron Emission Tomography
- CT/MR Perfusion Studies
- Board Certified, Fellowship Trained, Subspecialties in Nuclear Medicine, Body Imaging, IR, Neuroradiology, Musculoskeletal, Breast Imaging and Pediatric Radiology
- Percutaneous and Open Cryoablation and Radiofrequency Ablation of Primary and Metastatic Neoplasms

COMMUNITY SERVICES

- Smoking Cessation Program
- Public Cancer Education Programs
- Nutrition Classes at RiverPlex

RIVERPLEX RECREATION AND WELLNESS CENTER

- Medically Based Exercise Program
- Combating Fatigue Program
- Weight Loss Center
- Personalized Health Risk Assessment with Clinical Testing
- Individual Consults with Health Professionals

CANCER SCREENINGS

- Low Dose CT Lung Cancer Screenings
- Colonoscopy
- Virtual Colonoscopy
- Sigmoidoscopy
- Fecal Occult Blood Test
- 3D Mammography
- Tomosynthesis
- Skin Cancer Screening

SERVICES AVAILABLE

- Navigation
- Palliative Care
- Social Services
- Dietitian
- Financial Assistance
- Smoking Cessation
- Pulmonary Rehabilitation
- Pastoral Care
- Community Services
- Community Education
- Community Awareness

AMERICAN CANCER SOCIETY SERVICES

- (800) 227-2345 Available 24 Hours a Day, 7 days a week, 365 Days a Year
- www.cancer.org Nationwide Website
- Road to Recovery for Free Transportation Services
- Free or Reduced-Cost Lodging Services
- Reach to Recovery, Peer One-On-One Support Services for Breast Cancer Patients
- Look Good... Feel Better, Free Skincare Class to Assist Women with Appearance-Related Side Effects From Their Treatment
- Free Local Wig Boutique for Women Facing Hair Loss
- Assistance with Insurance, Financial Questions, Questions Regarding Your Diagnosis

OSF SAINT FRANCIS MEDICAL CENTER CANCER SUPPORT SERVICES

- Individual Counseling
- Family Counseling
- Support Groups
- Individual Nutrition Counseling
- Healthy Living Classes
- Therapeutic Massage

CENTER FOR BREAST HEALTH

- NAPBC Accredited Breast Center
- Dedicated MQSA Accredited Mammography Center
- Breast Imaging Center of Excellence Awarded by the American College of Radiology
- Digital Mammography/Tomography
- Breast Ultrasound
- Needle Core Biopsies
- Breast MRI
- Certified Mammography Technologists
- Fellowship Trained Radiology Physician Breast Imaging Specialists
- Registered Nurses Certified as Breast Cancer Patient Navigators
- Comprehensive Breast Center
- Pre-Operative Breast Surgery Class
- Beyond Breast Cancer Support Group
- Survivor for Life Program
- Family Education and Support Group
- Clinical Trials: U-Systems Somo-V Screening Ultrasound Trial, Vitamin D and Breast Cancer Biomarkers, Identification of Blood-Based Biomarkers of Breast Neoplasia in Women Requiring a Breast Biopsy

PATIENT SUPPORT RESOURCES

- Breast Cancer Support Group
- Cancer Educational/Support Group
- Family Support Group for Leukemia, Lymphoma, Myeloma
- Patient-Family Library
- Just Breathe, a joint effort with UnityPoint Health, for people affected by lung cancer.
- Colon Cancer Support Group
- Cancer Support Services
- Survivorship
- Counseling
- Financial Counseling
- Dietitian

Call (309) 308-0202 for more information on any of the support resources.

OSF HEALTHCARE SAINT FRANCIS MEDICAL CENTER DIRECTORY

Vice President of Quality and Safety

Cassy Horack

Radiation Oncology

James L. McGee, MD, SM
(309) 655-3258

Cancer Care Unit

(309) 655-7191

Cancer Registry

(309) 655-3734

Center for Breast Health

(309) 683-5009

Home Health Services

(309) 683-7700

Hospice

(309) 683-7700

Cancer Multidisciplinary Clinics

Cancer Support Services
(309) 308-0200

Lymphedema Services

(309) 624-8575

Pastoral Care

(309) 655-2084

Rehabilitation

(309) 624-8575

Social Work Services

(309) 655-2311

St. Jude Midwest Affiliate

(309) 624-4945

Wellness Services

(309) 282-1600

2017 ANNUAL REPORT

Special thanks to contributors:

James McGee, MD, SM
Richard Anderson, MD
Patrick Whitten, MD

References:

- OSF HealthCare Saint Francis Medical Center Cancer Registry
- American College of Surgeons Commission on Cancer, National Cancer Data Base

This report is available online at www.osfsaintfrancis.org

This report prepared by Cancer Committee members:

Keren Greenawalt, BSN, MS, CTR
Kathi Copelen, RDMS, RTR

For more information about cancer services and programs at OSF HealthCare Saint Francis Medical Center, call **(309) 624-4505**.





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