

St Mary's of Michigan
Seton Cancer Institute
2016 LUNG CANCER SCREENING
PROGRAM OUTCOMES REPORT

According to the American Cancer Society (ACS) and the Michigan Department of Community Health (MDCH), lung cancer accounts for more deaths than any other cancer for both men and women in the United States and Michigan. In 2013, 7,538 men and women were diagnosed with lung cancer and 5,761 individuals died of the disease in Michigan.

Smoking is by far the most significant risk factor for lung cancer and causes 87% of lung cancer deaths among men and 70% of lung cancer deaths among women. The risk of developing lung cancer increases with the quantity and duration of tobacco smoking. In 2012, statistics from the MDCH revealed that approximately 23.3% of Michigan adults were current smokers (23.8% men and 22.8% women). The state of Michigan has higher rates of smoking among adults compared with the national rate (23.3% vs. 19.6%).

In the 2014 County Health Rankings & Roadmaps report sponsored by the Robert Wood Johnson Foundation program and the University of Wisconsin, counties in Michigan received two ranks:

- Health Outcomes – based on an equal weighting of length and quality of life. Ranking represents the health of the county
- Health Factors – based on weighted scores for health behaviors, clinical care, social and economic factors, and the physical environment

Within the report, each of these ranks represent a weighted summary of a number of measures. Saginaw County ranked 73rd out of 82 counties for Health Outcomes and 64th for Health Factors.

The Saginaw County Roadmap to Health Improvement Plan (2014-2016) and Community Health Status Assessment identified several goals related to chronic diseases. The #1 goal is to reduce the overall cancer death rate. This report concluded that deaths due to cancer increased between 2010 and 2011 for the total county population and for White residents in Saginaw County. Deaths due to cancer remain greatest for African American county residents.

Lung and bronchus cancer has been the top cancer site at St. Mary's of Michigan for 10 years. In calendar year 2014, lung and bronchus cancer cases represented 22% of all cancers. During that year, the Cancer Registry accessioned a total of 236 cases of lung cancer into their database. Of these, 207 cases were analytic and 29 cases were non-analytic. The majority of lung cancer patients diagnosed and/or treated at St. Mary's of Michigan in 2014 were at Stage III and Stage IV.

Prior to 2010, the diagnosis and treatment of lung cancer had not changed much over the past 40 years. However, with the introduction of lung screening, minimally invasive navigational diagnostic tools and molecular profiling, both early detection and targeted therapies became available in the last 5-7 years.

On the basis of the National Lung Screening Trial (NLST) data released in 2011, the U.S. Preventative Services Task Force (USPSTF) made Lung Cancer Screening with low-dose computed tomography a public health recommendation in 2013. The NLST was the first randomized controlled trial to report a significant reduction in disease-specific lung cancer mortality due to screening. Results showed a 20% reduction in

deaths from lung cancer among current or former heavy smokers who were screened with low-dose helical CT vs. those screened by chest x-ray.

Based upon the USPSTF recommendations, most private insurances now cover annual lung cancer screening with low-dose CT as a preventive service for their beneficiaries. Per the provisions of the Patient Protection and Affordable Care Act, starting in 2015 private insurance companies participating in the health insurance exchanges must provide lung cancer screening using low-dose CT without cost sharing. For patient without any health insurance, St Mary's of Michigan offers a reasonably priced self-pay option.

Effective in February 2015, the Centers for Medicare & Medicaid Services (CMS) issued a final national coverage determination providing Medicare coverage of Screening for Lung Cancer with Low Dose Computed Tomography (LDCT) once-per-year for beneficiaries who meet the following eligibility criteria:

1. they are age 55-77, and are either current smokers or have quit smoking within the last 15 years;
2. they have a tobacco smoking history of at least 30 "pack years" (an average of one pack a day for 30 years or 2 packs a day for 15 years);
3. they have no signs or symptoms of lung cancer;
4. they have a visit for counseling and shared decision-making on the benefits and risks of lung cancer screening with their provider;
5. they receive a completed written order from a physician or qualified non-physician practitioner.

The CMS national coverage determination also defined minimum quality standards and requirements which both imaging centers and radiologists must meet when providing and interpreting low-dose CT scans.

These include:

1. achieving a low dose CT dose index (CTC/vol) of less than 3.0mGy;
2. collecting and submitting required data elements to CMS approved national registry for each scan provided.

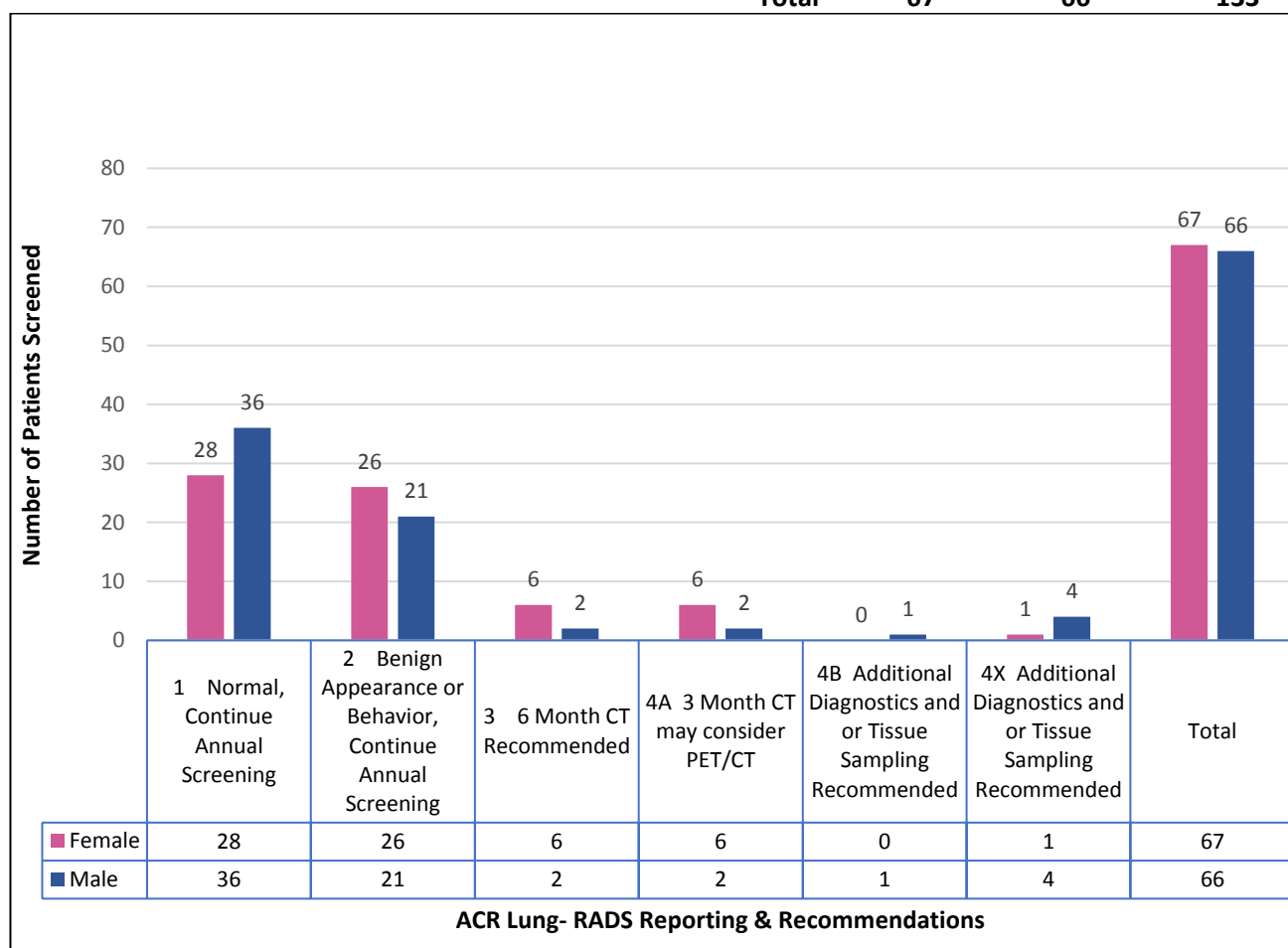
In May 2016, St Mary's of Michigan launched the Lung Cancer Screening Program with low dose imaging per Medicare guidelines. The decision to implement the program received unanimous support from the executive team, Cancer Committee, and St. Mary's of Michigan Foundation. The strong leadership support and significant financial investment for the new program made it possible to provide well-coordinated services to patients at high risk for developing lung cancer in our primary and secondary service areas. These services include coordination of shared decision-making office visits, information about tobacco cessation and resources, scheduling of low dose computed tomography (LDCT) screening procedures, education about LDCT and diagnostic testing results to recommendations, and nurse navigation support for lung cancer patients. The comprehensive new Lung Cancer Screening Program at St. Mary's of Michigan has several strengths and accomplishments worth noting:

- Dedicated full time Lung Screening Coordinator/Medical Assistant (MA) to simplify and streamline the process for physicians and patients. The primary responsibilities of this critical role include coordination and scheduling of low-dose CT (LDCT) scan appointments, receipt and review of physician orders, assuring timely reporting of LDCT results to providers and patients, education regarding LDCT and tobacco cessation resources, patient follow-up and monitoring, and required documentation for the American College of Radiology Lung Cancer Screening Registry.

- Additional ACR-accredited technology purchased for Saginaw CT equipment (financial support totaling over \$205,000 provided by the St. Mary's of Michigan Foundation).
- Board certified Radiologists utilize the American College of Radiology (ACR) Lung-RADS assessment categories and management recommendations when interpreting and reporting results of LDCT screening study to referring physicians and patients.
- From May 1, 2016 – December 31, 2016, a total of 133 patients (67 females and 66 males) at high risk for lung cancer had a LDCT screening exam at St. Mary's of Michigan. Following additional diagnostic testing and biopsy per ACR and NCCN guidelines, 3 patients had a confirmed diagnosis of lung cancer. Two patients were Stage IIA at initial diagnosis and one patient was diagnosed late-stage IV.

St Mary's of Michigan - 2016 Final Report
LDCT Lung Cancer Screening Program Reporting/Results
May 1, 2016 to December 31, 2016

ACR Lung-RADS Reporting & Recommendations	Female	Male	Combined
1 Normal, Continue Annual Screening	28	36	64
2 Benign Appearance or Behavior, Continue Annual Screening	26	21	47
3 6 Month CT Recommended	6	2	8
4A 3 Month CT may consider PET/CT	6	2	8
4B Additional Diagnostics and or Tissue Sampling Recommended	0	1	1
4X Additional Diagnostics and or Tissue Sampling Recommended	1	4	5
Total	67	66	133



- Patients were referred for a low-dose CT screening by over 60 individual physicians with office locations in our primary and secondary service areas.
- Patient feedback (via mailed survey) related to their experience at our facility and low-dose CT screening procedure was overwhelmingly positive with an overall satisfaction rating of 95%.
- State-of-the-art diagnostic equipment, including Medtronic superDimension Navigation System.
- Pulmonologists and Cardiothoracic Surgeon trained and skilled in endobronchial ultrasound (EBUS) and electromagnetic navigational bronchoscopy (ENB).
- Experienced Oncology Nurse Navigator who serves newly diagnosed lung cancer patients following a LDCT screening exam suspicious for malignancy (Lung-RADS 4A, 4B, 4X). The Nurse Navigator provides emotional support and education to patients, ensures the case is presented at the multidisciplinary lung cancer conference for review and treatment recommendations, assists with care coordination throughout treatment, and connects patients with internal and external resources as needed.
- Prospective lung cancer tumor conferences to improve the monitoring of care of patients by providing multidisciplinary treatment planning and physician and allied medical staff collaboration (site-specific lung cancer conference implemented November 2016). These conferences include discussion of stage, including prognostic indicators, and treatment planning using the National Comprehensive Care Network (NCCN) guidelines.

Given the high number of current and former smokers within the state of Michigan and our region at risk for lung cancer, identifying and treating early-stage lung cancers with low-dose CT screening remains the primary goal of the St. Mary's of Michigan Lung Cancer Screening Program. Evidence shows early-stage lung cancer is associated with lower mortality vs. late-stage disease. The St. Mary's of Michigan Cancer Committee and Oncology Service Line is committed to developing and improving our comprehensive lung cancer program. There is more work to be done. Our immediate goals include: 1) monitor and reduce the total number of days between diagnosis and start of treatment for lung cancer patients; 2) offering a regularly scheduled, on-site tobacco cessation program to reduce smoking rates. Early detection and treatment of lung cancer is a top priority, however, reducing smoking is the most important approach to reducing morbidity and mortality from lung cancer (American Cancer Society).

The continuation of the Mid-Michigan Regional Screening Operational Committee will safeguard goal progress in real-time. This committee meets twice a month and includes physician champions and leaders from the Oncology Service Line, Radiology and Marketing. The committee will review all programmatic and survey data, as well as review and follow up on any negative patient comments related to the Lung Cancer Screening Program. Any modifications and/or recommended changes to the Lung Cancer Screening Program will be communicated to the Cancer Committee quarterly and as needed.