2015 Cancer Committee

Ashraf About-Elella, MD
Pathologist

Valerie Adams, MSN, RN, CCRN
Director of Nursing

Caroline Barnhart, LCSW
Licensed Clinical Counselor

Vanessa Bramble
Director of Cancer Clinic Operations

Krista Budzik, BSN, RN, OCN
Clinical Trials Coordinator

Nikolas Buescher
Executive Director of Cancer Services

Mark Burlingame, MD
Chairman, Department of Surgery

Amanda Coble, BSN, RN, OCN
Clinical Trials Coordinator

Daleela G. Dodge, MD
Cancer Liaison Physician

Kelly Edwards
American Cancer Society Representative

Stephanie Swavely, RD, LDN
Dietitian, Patient Navigator

Jeffrey Eshleman, MD
Medical Director, Radiation Oncology

Kim Evans-Whitney, MSW, LSW
Social Work

Marianne Gault, BS, RN, OCN
Nurse Navigator

Rachelle Gehr, MS, CGC
Genetic Counselor

Walid Hesham, MD
Colorectal Surgery

Rachel Holliday
Data Analyst, Oncology
Data Management

Emily Hershey, BSN, RN, OCN
Manager, Oncology Outpatient Infusion

Elizabeth C. Horenkamp, MD
Medical Oncologist

Heather Hostetter, MBA, LPC
Art Therapist, Cancer Committee Coordinator

Shana Jacobs, CTR
Certified Tumor Registrar

Peter Jupin
Chaplain, Psychosocial Coordinator

Jessica Klinkner, MPH, CHES
Community Outreach Coordinator

Caitlyn McNaughton, PA-C
Hematology/Oncology Medical Specialists

Melanie McCurdy, BA, RTT
Administrative Director Radiation Oncology & Gamma Knife

Kristina Newport, MD
Palliative Care

Randall Oyer, MD
Oncology Program Director, Cancer Committee Chairman

Amy Jo Pixley, MSN, RN, OCN
Nurse Navigator

Patti Roda, MSN, BS, RN
Manager, Oncology Clinical Support Services

Paul Russinko, MD
Urologist

Deborah Schrodi, DPT/CLT-LANA
Rehabilitation Supervisor

Phyllis Steinman, BSN, RN
Unit Case Manager

Erin Sutcliffe, MS, CGC
Genetic Counselor

Tammy Jo Stetler, BSN, CNML
Nurse Manager, 8 Lime

Nitin Tanna, MD
Radiologist

Justin Wolgemuth, BSN, RN, CRNI
Manager Nursing Services-HHS

Elizabeth Wilkie
Penn Cancer Network Administrator

Michael Wnek, MBA, LSSBB
Performance Improvement

Kimberlee Young, BSPharm.
Pharmacist

Nik Buescher
Executive Director of Oncology Services

Mark Burlingame MD
Cardiothoracic Surgeon and Chairman, Department of Surgery

Lee Monty Duke II MD
Chief Physician Executive

Edgar Fearnow III
Radiology

Lorenzo Galindo, MD
Medical Director Laboratory/Pathology

Craig Horvat, MD
Pulmonary Medicine

Samuel Kerr, MD
Medical Oncologist

Randall Oyer, MD
Medical Director of Oncology, Cancer Committee Chairman

Amy Jo Pixley, MSN, RN, OCN
Nurse Navigator

Kishor Singapuri MD
Medical Director, Radiation Oncology

Elizabeth Wilkie
Penn Cancer Network Administrator

Jennifer Worth, MD
Cardiothoracic Surgeon

2015 Cancer Committee

Thoracic Steering Committee Members

Nik Buescher
Executive Director of Oncology Services

Mark Burlingame MD
Cardiothoracic Surgeon and Chairman, Department of Surgery

Lee Monty Duke II MD
Chief Physician Executive

Edgar Fearnow III
Radiology

Lorenzo Galindo, MD
Medical Director Laboratory/Pathology

Craig Horvat, MD
Pulmonary Medicine

Samuel Kerr, MD
Medical Oncologist

Randall Oyer, MD
Medical Director of Oncology, Cancer Committee Chairman

Amy Jo Pixley, MSN, RN, OCN
Nurse Navigator

Kishor Singapuri MD
Medical Director, Radiation Oncology

Elizabeth Wilkie
Penn Cancer Network Administrator

Jennifer Worth, MD
Cardiothoracic Surgeon
Since July 2013, our community has counted on the Ann B. Barshinger Cancer Institute to provide centralized, convenient access to cancer specialists and support services. The number of patients and families who come to the Cancer Institute and Lancaster General Health for cancer care continues to grow.

Expanding our team
We have added three new oncology physicians who are now seeing patients full time in the Cancer Institute.

- **Matthew Brennan, MD**, medical oncologist specializing in urologic oncology, from Penn State Hershey
- **Ami Jahveri, MD**, medical oncologist specializing in breast cancer, from Yale University
- **Caitlyn Stashwick, MD**, gynecologic oncologist, from University of Pennsylvania

These physicians join over 20 other physicians and mid-level practitioners caring for cancer patients here in the Cancer Institute.

Multidisciplinary expertise
Multidisciplinary teams meet regularly at the Cancer Institute for tumor boards. At these meetings, the team reviews and discusses in depth a patient’s pathology specimens, diagnostic X-rays, and clinical history in order to determine the best individualized treatment recommendations to present to the patient, family and physician team.

LG Health and Penn Medicine
LG Health’s oncology program has been a member of the Penn Cancer Network since the network was founded in 1994. On August 1, 2015, Lancaster General Health joined Penn Medicine. The combined clinical experience and expertise of the oncology specialists at the Cancer Institute and the Abramson Cancer Center of the University of Pennsylvania ensures that each patient receives the best care, including:

- Accurate diagnosis and customized, evidence-based treatment
- Access to clinical trials with the most promising new therapies
- Holistic care focusing on psychologic and spiritual well-being
- Support programs addressing nutrition, exercise and other needs beyond medical care

Bringing trusted care to Lancaster
We are grateful for our community’s support and for all of the patients and families who have entrusted their care to our Cancer Institute and the people who work here. We also thank our generous donors, who make it possible for us to provide state-of-the-art cancer care here in our community.

This 2015 Annual Report is focused on our advances in LG Health’s lung cancer program. There are special highlights on molecular diagnostics informing targeted treatments and important clinical trials making new therapies available for our patients. We are very proud of our team and of their work. We hope you will find this report informative and look forward to any questions and comments.
Support groups meet in the Seraph Conference Room on the second floor of the Ann B. Barshinger Cancer Institute. Patients and caregivers can register for classes, ask questions or get more information about the support groups currently being offered by calling 1-888-LGH-INFO (544-4636).

Attendance based on monthly participation annually totaled.

Support groups and participation

<table>
<thead>
<tr>
<th>Support Group</th>
<th>Attendance</th>
<th>Support Group</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brain Tumor Community Group</td>
<td>60</td>
<td>Support for People with Oral and Head and Neck Cancer (SPOHNC)</td>
<td>43</td>
</tr>
<tr>
<td>Iris Support Group – Breast Cancer</td>
<td>60</td>
<td>Survivorship Support Group</td>
<td>23</td>
</tr>
<tr>
<td>Leukemia and Lymphoma Support Group</td>
<td>116</td>
<td>Urological Cancer Support Group</td>
<td>481</td>
</tr>
</tbody>
</table>

Support groups meet in the Seraph Conference Room on the second floor of the Ann B. Barshinger Cancer Institute. Patients and caregivers can register for classes, ask questions or get more information about the support groups currently being offered by calling 1-888-LGH-INFO (544-4636).
The Oncology Data Management Team is responsible for abstracting and compiling data from each newly diagnosed cancer case annually. The team consists of certified tumor registrars (CTRs) as well as support staff.

Caring for our community
In addition to providing superior care and service to each and every patient, the staff of the Cancer Institute is devoted to making ours a healthier community. We work with local providers and organizations to provide cancer prevention and screening programs that are based on specific needs within our community. We also host annual community education programs to teach individuals about personalized cancer prevention and risk-based screening. On September 17, 2015, nearly 100 guests attended an evening program at the Ann B. Barshinger Cancer Institute to learn about nutrition, cancer prevention and cancer screening.

Accreditations
- American College of Surgeons-Commission on Cancer (ASOC-CoC) Accredited Cancer Program
- National Accreditation Program for Breast Centers (NAPBC)
- Breast Imaging Center of Excellence (BICOE)
- American College of Radiology (ACR) Breast MRI Accreditation
- American College of Radiology (ACR) for Radiation Therapy

<table>
<thead>
<tr>
<th>2014 Newly Diagnosed Cases</th>
<th>Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Breast</td>
<td>407</td>
</tr>
<tr>
<td>Lung and Bronchus</td>
<td>237</td>
</tr>
<tr>
<td>Colon Excluding Rectum</td>
<td>133</td>
</tr>
<tr>
<td>Urinary Bladder</td>
<td>114</td>
</tr>
<tr>
<td>Prostate</td>
<td>100</td>
</tr>
<tr>
<td>Brain and Other Nervous System</td>
<td>98</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>87</td>
</tr>
<tr>
<td>Melanoma—Skin</td>
<td>86</td>
</tr>
<tr>
<td>Leukemia</td>
<td>83</td>
</tr>
<tr>
<td>Other—Urinary System</td>
<td>71</td>
</tr>
<tr>
<td>Uterus</td>
<td>69</td>
</tr>
<tr>
<td>Thyroid</td>
<td>68</td>
</tr>
<tr>
<td>Other—Female Genital System</td>
<td>63</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>59</td>
</tr>
<tr>
<td>Pancreas</td>
<td>58</td>
</tr>
<tr>
<td>Rectum and Rectosigmoid</td>
<td>52</td>
</tr>
<tr>
<td>Oral Cavity and Pharynx</td>
<td>34</td>
</tr>
<tr>
<td>Other—Digestive System</td>
<td>34</td>
</tr>
<tr>
<td>Stomach</td>
<td>31</td>
</tr>
<tr>
<td>Myeloma</td>
<td>25</td>
</tr>
<tr>
<td>Esophagus</td>
<td>22</td>
</tr>
<tr>
<td>Liver and Intrahepatic Bile Duct</td>
<td>20</td>
</tr>
<tr>
<td>Other Endocrine Including Thymus</td>
<td>15</td>
</tr>
<tr>
<td>Soft Tissue</td>
<td>12</td>
</tr>
<tr>
<td>Larynx</td>
<td>11</td>
</tr>
<tr>
<td>Hodgkin Lymphoma</td>
<td>10</td>
</tr>
<tr>
<td>Other—Male Genital System</td>
<td>9</td>
</tr>
<tr>
<td>Mesothelioma</td>
<td>7</td>
</tr>
<tr>
<td>Other—Skin Excluding Basal and Squamous</td>
<td>5</td>
</tr>
<tr>
<td>Bones and Joints</td>
<td>3</td>
</tr>
<tr>
<td>Kaposi Sarcoma</td>
<td>2</td>
</tr>
<tr>
<td>Eye and Orbit</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>2,026</td>
</tr>
</tbody>
</table>
A team approach using national evidence-based guidelines

Lung cancer remains the leading cause of cancer-related death among both men and women in the United States. Most lung cancers are caused by cigarette smoking. The prognosis for lung cancer remains challenging and there is a critical need for new strategies for prevention, screening and treatment.

The key to treating lung cancer is a coordinated team approach that addresses every aspect of a patient’s care. This occurs seamlessly at the Ann B. Barshinger Cancer Institute, where patients have access to a team of healthcare providers dedicated to lung cancer treatment, state-of-the-art technology, multiple support services, and cutting-edge clinical trials.

The Cancer Institute’s multiprofessional team includes pulmonologists, surgeons, radiation oncologists, medical oncologists, interventional radiologists, nurse navigators, and dietitians. Support from social workers, financial counselors, image recovery, and oncology counselors is also available as needed.

Our program focuses not only on treatment, but also on prevention, with easy access to smoking cessation programs. Early detection through our lung cancer screening program allows us to detect early stage curable lung cancers. This primary-care-friendly program is similar to breast cancer screening with mammography, where a healthcare provider enters a single electronic order, setting in motion a comprehensive screening process. When an individual is diagnosed with lung cancer, our nurse navigator, Amy Jo Pixely, guides the patient through the continuum of care by facilitating and coordinating appointments, arranging testing, and providing invaluable emotional and educational support.

Locally advanced lung cancer requires a multimodal approach incorporating surgery, chemotherapy and radiation to achieve optimal outcomes. At the Cancer Institute, patients can see their individual specialists in one central location, often in the same day. More importantly, the Cancer Institute facilitates communication between the healthcare providers which enhances patient care.

Stage at Diagnosis for All Lung Cancers

<table>
<thead>
<tr>
<th>Stage</th>
<th>National Cancer Data Base (NCDB)</th>
<th>Lancaster General Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>II</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>III</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>IV</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>Unknown</td>
<td>20%</td>
<td>20%</td>
</tr>
</tbody>
</table>
The Cancer Institute’s Thoracic Steering Committee meets on a regular basis to develop treatment protocols based on national guidelines, plan medical education events for both patients and healthcare providers, and institute quality goals for the program. Our multidisciplinary tumor boards, comprised of all the specialists involved in a patient’s lung cancer care, meet weekly to prospectively review cases and to form a consensus on the best treatment for that particular patient. Letters summarizing these recommendations are then sent to the primary care physician and all specialists involved in the patient’s care. Our colleagues at Penn Medicine frequently attend these tumor boards and provide their expertise.

Finally, patients with lung cancer require access to novel therapies. At the Cancer Institute and through Penn Medicine we have access to clinical trials for all stages of the disease.

Screening for lung cancer with low-dose computed tomography
In order to diagnose lung cancer at an earlier stage and improve survival, Lancaster General Health and Lancaster Radiology Associates have established a lung cancer screening program utilizing low-dose computed tomography (CT). This evidence-based program is based upon the National Lung Screening Trial (NLST), a randomized U.S. study of adults age 55–74 who were at high risk of lung cancer. Among those who were screened using low-dose CT, there was a 20 percent reduction in cancer-related deaths.

LG Health’s lung screening program follows the eligibility guidelines of the NLST:
- Age 55–77 years
- Asymptomatic (no signs or symptoms of lung cancer)
- Tobacco smoking history of at least 30 pack-years (a pack year is the number of packs of cigarettes smoked daily, multiplied by the number of years smoking, such as a pack a day for 30 years, or two packs a day for 15)
- Current smoker or one who has quit smoking within the last 15 years

Benefits of lung cancer screening at LG Health
Since its inception in April 2014, 528 patients have gone through the LG Health formal low-dose CT screening program.

Nearly 10% of the individuals were found to have lung cancer requiring potential lifesaving treatment.

How to refer for lung screening
A written order for low-dose CT lung cancer screening must be placed by the primary care physician. Patients are also referred for smoking cessation programs. LG Health’s lung cancer screening program adheres to strict quality and reporting standards. Eligible individuals can be referred through LG Health’s electronic medical record or by calling the Department of Radiology at 717-544-4900.

Age at Diagnosis of Lung Cancer

<table>
<thead>
<tr>
<th>Age Range</th>
<th>% of Patients Diagnosed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lancaster General Health</td>
<td>0% of patients were diagnosed at ages 0–39</td>
</tr>
<tr>
<td>National Cancer Data Base (NCDB)</td>
<td></td>
</tr>
</tbody>
</table>

The pulmonologists and surgeons who provide care through the Cancer Institute are part of the LG Health team that is consistently ranked by US News & World Report among the best in the nation for pulmonology.
Lung Cancer diagnosis: traditional and novel techniques

A definitive diagnosis of lung cancer requires a tissue sample which can be obtained by pulmonary medicine physicians, diagnostic radiologists, and surgeons. Pulmonary physicians utilize traditional and novel bronchoscopic technologies to obtain tissue samples from deep within the lung and chest cavity. Traditional bronchoscopes can be placed directly into the airways for inspection and biopsy. Endobronchial ultrasound (EBUS) adds an ultrasound probe to the tip of the bronchoscope, allowing for visualization of structures that otherwise cannot be readily seen, and can be used to biopsy lesions outside of the airway.

Interventional radiologists perform percutaneous biopsies when a suspicious lesion is close to the surface of the lung. Patients receive local anesthesia in addition to conscious sedation, while a needle is passed through the skin to sample the lesion. This is often done under the guidance of computed tomography (CT) to ensure correct needle placement and adequate tissue sampling.

Electromagnetic navigational bronchoscopy (ENB) is a new and advanced diagnostic modality that is offered at LG Health. Using sophisticated GPS software, 3D CT images are used to guide the bronchoscope and tools directly to remote locations in the patient’s lung that are not otherwise reachable. In addition, the ENB can leave behind markers such as dye to guide later surgical treatment, or gold markers that assist with localization of radiation therapy using the CyberKnife® platform.

Lung Cancer diagnosis: the role of advanced pathology

LG Health has been a national leader in the implementation of advanced diagnostic testing for lung cancer. The Association of Community Cancer Centers, an organization whose membership represents over 60 percent of cancer care professionals in the U.S., has recognized LG Health’s molecular testing program as a best practice.

Molecular diagnostics, also referred to as “precision medicine”, involves the precise identification of the molecular or genetic changes in cancer cells compared to normal cells. Understanding these molecular and genetic changes allows for development of precision or targeted therapies that affect cancer cells and not normal cells. Targeted therapies are often much more successful and less toxic than traditional cancer treatments such as chemotherapy. The pathologist establishes the fundamental cancer diagnosis and then determines if advanced testing should be ordered.

Historically, the pathologist made the distinction between small cell carcinoma and non-small cell, and this was all that was required to guide clinical decision-making. Although this distinction is still important in selecting treatment, newer targeted therapies require the pathologist to even more precisely sub-classify lung cancers. In order to reach a specific diagnostic classification, the laboratory at Lancaster General Hospital utilizes a series of complex immunohistochemical stains of tissue samples obtained from a patient’s tumor. The pathologist must select the proper stains which can delineate molecular alterations, interpret the results, and issue a description and interpretation with sufficient detail to guide modern therapy.

Important tests done as part of the LG Health lung cancer diagnostic protocol look for epidermal growth factor receptor (EGFR) mutations, rearrangement in the ALK gene (most commonly resulting in an EML4-ALK fusion gene), ROS1 rearrangements, MET amplification, Her2 mutations, RET rearrangements, and MET genes. Identifying each of these genetic alterations leads the treating physician to a specific therapy with a higher likelihood of success. The pathologist’s role in clinical treatment has never been more important.

In partnership with the Lung Cancer Steering Committee and Penn Medicine’s Center for Personalized Diagnostics (CPD), LG Health has established reflex molecular testing on all appropriate lung cancer specimens. This ensures that patients automatically have access to the most up-to-date testing. LG Health’s molecular diagnostics education program for all specialists on the lung cancer care team led by Dr. Samuel Kerr, including diagnostic radiologists, pulmonologists, pathologists, surgeons, and medical oncologists, has greatly enhanced the use of molecular diagnostics in lung cancer management. The Quality Department in the laboratory established the baseline testing rate at 68 percent of specimens having the recommended molecular testing. The new process has increased the molecular testing compliance rate to over 95 percent. Additionally, if lung cancer recurs after initial targeted treatment, new tissue specimens are sent to Penn CPD for repeat and expanded testing to look for molecular markers which occur when lung cancer cells undergo additional genetic mutation. New mutations are used to guide therapy changes and eligibility for clinical trials. The laboratory’s work is essential to the evolution in lung cancer care.
Lung cancer treatment: an initial focus on surgery

At LG Health, lung cancer surgery is performed by lung cancer surgical specialists who work closely with pulmonary medicine, medical oncology, and radiation oncology to provide each patient with a multidisciplinary, evidence-based diagnostic and therapeutic plan.

• **Weekly case review**—Lung cancer surgeons review complex lung cancer cases at the Cancer Institute’s weekly multidisciplinary chest tumor board conference, and collaborate closely with our colleagues at the Abramson Cancer Center at the University of Pennsylvania to ensure that each patient has the best possible options and is aware of the latest advances in lung cancer research.

• **Advanced surgical techniques**—Our surgeons utilize the most advanced minimally-invasive techniques for surgical resection including VATS (video-assisted thoracoscopic surgery) and robotic-assisted approaches. These techniques allow for faster recovery times, lower need for pain medication, and smaller surgical incisions.

• **Quality outcomes**—LG Health’s thoracic surgeons participate in the most well-established, quality surgical database in the U.S. through the Society of Thoracic Surgeons. We continually provide our outcome and complication statistics for comparison with other programs nationwide, showing that our program consistently rates better than national averages in both morbidity and mortality.

• **Collaborative approach**—Surgeons collaborate with other specialists for alternatives to lung surgery, when needed. We work closely with radiation oncologists in our comprehensive CyberKnife program to formulate treatment plans for lung cancer patients who are not candidates for surgical resection. In addition, we collaborate with medical oncologists for systemic treatments, and pulmonologists for interventional pulmonary therapies.

Nurse navigation for lung cancer patients and families

Navigating the complexity of the healthcare system along with a life-changing illness can be challenging. At the time of diagnosis, patients and families may face multiple physician appointments, diagnostic tests, and decision-making where everything is described in new, and often technical, terms. With many concerns competing for attention and energy, the whole process can be stressful, which is why the lung cancer program at the Cancer Institute offers patients and families the services of a dedicated oncology nurse navigator.

The oncology nurse navigator is an expert with years of experience guiding patients and families through the cancer treatment process. This seasoned, advanced practice nurse provides lung cancer education, stress reduction counselling and support. Nurse navigators interact with every member of a cancer patient’s care team and are the constant healthcare provider across the continuum of care. The navigator helps create a sense of stability, giving the patient and family the confidence to explore treatment options and bring their own values and preferences into shared decision making.

The importance of support groups

The Cancer Institute’s support groups provide emotional and social support as well as education to assist participants with the challenges associated with their disease. The groups are facilitated by LG Health staff and provide a safe environment for those who are looking to meet others for camaraderie and open discussions about cancer and its impact on the patient and family. Most groups are co-facilitated by a nurse, social worker, and/or chaplain.

<table>
<thead>
<tr>
<th>First Course Lung Surgery</th>
<th>LG Health</th>
<th>NCDB*</th>
</tr>
</thead>
<tbody>
<tr>
<td>No surgery</td>
<td>75%</td>
<td>75%</td>
</tr>
<tr>
<td>Excision or resection of less than one lobe, NOS</td>
<td>8%</td>
<td>6%</td>
</tr>
<tr>
<td>Resection of lobe or lobectomy, but less than the whole lung (partial pneumonectomy, NOS)</td>
<td>16%</td>
<td>16%</td>
</tr>
<tr>
<td>Lobe or lobectomy extended, NOS</td>
<td>0%</td>
<td>1%</td>
</tr>
<tr>
<td>Pneumonectomy, NOS</td>
<td>0%</td>
<td>1%</td>
</tr>
</tbody>
</table>

*National Cancer Data Base
Lung cancer research: providing more options for patients

In order to rapidly bring new knowledge and novel therapies to our patients, all lung cancer patients at the Cancer Institute are screened for clinical trials eligibility. The lung cancer studies provided for our patients have been developed either by large cooperative cancer research organizations and vetted by the National Cancer Institute, or by pharmaceutical research organizations and vetted by the Food and Drug Administration. LG Health’s Institutional Review Board provides oversight of all clinical trials to ensure the safety of every participant. The Cancer Institute’s dedicated cancer research nurses consult with lung cancer patients to discuss clinical trials available in Lancaster and query OncoLink, Penn Medicine’s online cancer resource network, for additional trials available to our patients at the Abramson Cancer Center at the University of Pennsylvania.

Lung cancer trials are matched to specific subtypes of lung cancer. Targeted therapies can then be selected based upon genetic alterations identified in a patient’s biopsy specimen. Trials in which a therapy is matched to a specific abnormality in tumor tissue are referred to as targeted therapy trials. Three of the five trials listed below are targeted therapy trials. Targeted therapies are not yet available for many of the genetic alterations identified in cancer cells, however, the number of targeted therapies that are currently available or under development is growing. Researchers at LG Health and Penn Medicine continue to test new therapies, noting that targeted therapies are often more effective and less toxic than the lung cancer therapies previously offered.

Stage at Diagnosis for All Lung Cancers

<table>
<thead>
<tr>
<th>Therapy Type</th>
<th>Lancaster General Health</th>
<th>National Cancer Data Base (NCDB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surgery Only</td>
<td>25%</td>
<td>15%</td>
</tr>
<tr>
<td>Radiation Only</td>
<td>20%</td>
<td>10%</td>
</tr>
<tr>
<td>Surgery &amp; Chemotherapy</td>
<td>15%</td>
<td>5%</td>
</tr>
<tr>
<td>Radiation &amp; Chemotherapy</td>
<td>10%</td>
<td>0%</td>
</tr>
<tr>
<td>Chemotherapy Only</td>
<td>5%</td>
<td>0%</td>
</tr>
<tr>
<td>Chemotherapy &amp; BRM</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>other Specified Therapy</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>No First Cancer Tx</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>
Melanie’s story

It started as a cough that wouldn’t go away. By the end of June 2013, 49-year-old Melanie had been to the doctor several times for what she thought was allergies. As her cough continued, she decided to visit her previous family doctor who had changed practices.

“My doctor knew me well and suspected that something else was going on. She sent me for a chest X-ray,” Melanie said. The X-ray revealed a spot that her doctor wanted to get a better look at with a CT scan. Before Melanie had a chance to schedule the scan, she ended up in the emergency room at Lancaster General Hospital.

“My X-ray came back on a Friday. By Saturday, I was having extreme difficulty breathing, and by early Sunday, I was having an emergency CT scan. The emergency room doctor broke the news that I had lung cancer.

“My family drove home in shock. I had been a smoker for more than 30 years, but still, we were not expecting this. No one gives you a handbook that tells you what to do.

Melanie’s two adult daughters began researching cancer programs and scheduled a consultation with a doctor in Philadelphia. Around the same time, LG Health hosted an open house for its new Ann B. Barshinger Cancer Institute. Melanie toured the Cancer Institute with her family. She scheduled an appointment with one of the Cancer Institute’s physicians, and after meeting the lung cancer team, chose the Cancer Institute for her care.

Melanie’s lung cancer was diagnosed at stage III. She underwent six rounds of chemotherapy and 31 days of radiation therapy. The three tumors that were located in the center of her chest have since disappeared, and though she experiences radiation pneumonitis, a side effect of her radiation treatments, she is grateful to be alive and cancer-free.

During her treatment, Melanie took advantage of support programs like yoga classes and the Cancer Rehab and Exercise Program (Ca.R.E.), which provides free exercise therapy at local YMCAs. “The programs helped me regain stability and strengthen my lungs, which enabled me to return to work,” she said.

Melanie credits the warmth and support of the Cancer Institute staff with helping her maintain a positive attitude. “From my nurse navigator, Amy Jo, to my infusion and radiation teams, and everyone I met throughout my treatment, I was surrounded by kindness. I’ve made good friends throughout this experience, and they gave me the inspiration to fight this disease.”

Motivation also came in the form of family. “My husband Doug and I are blessed with six grandbabies. Our oldest was six years old at the time, and I promised myself that I would make it to his high school graduation.”

Melanie has shared her story with other patients diagnosed with lung cancer, in hopes of inspiring optimism and strength. “From the time of my diagnosis, I never asked, ‘Why me?’ Instead, I asked how I could use this experience to help others. That’s where I’ve been with my journey.”