





Engaging Patients & Assisting Primary Care Physicians in Lung Cancer Screening

In 2014 PIH Health Hospital, Whittier, Calif., initiated a lung cancer screening program with the goal of early detection, improving the quality and timeliness of lung cancer care, and refining communication among the multidisciplinary treatment team. This nurse practitioner-run program uses an enrollment method—primary care practitioners can refer or patients can self-refer. Features of the lung cancer screening program include:

- Streamlined scheduling process
- Shared decision-making and counseling
- Ongoing follow-up that relieves the pressure on busy primary care offices.

With reallocation of current support resources and minimal investment, the cancer program achieved return on investment in its lung cancer screening program in the form of an increased number of procedures and referrals. The program is also on its way to realizing a long-term goal of seeing a decrease in diagnosis of late-stage lung cancer for a high-risk patient population. The lung cancer screening program focuses on empowering patients to be advocates for their own health by being involved in screening, follow-up, and smoking cessation.

Our Program At-a-Glance

PIH Health Hospital Whittier is a 548-bed community hospital and is a Commission on Cancer-accredited Community Cancer Center. Located in south Los Angeles County in Whittier, Calif., the cancer program covers a primary service area of 2.1 million people across three counties. PIH Health Hospital includes an associated physician group with 49 primary care practitioners and 94 specialists.

In the primary and secondary service areas there are 17 hospitals with 4 (including PIH Health) offering lung cancer screening services. PIH Health is an American College of Radiology Designated Lung Cancer Screening Center and a Lung Cancer Alliance Screening Center of Excellence

The creation of a lung cancer screening program was fundamental in the formation of a thoracic oncology team. While all the pieces of a strong thoracic oncology team existed, there was no formal lung tumor board or consistent way in which patients were being navigated through the specialties. As a result the two programs were developed simultaneously.

Finding a Model that Works

When the United States Preventive Services Task Force (USPSTF) published its lung cancer screening recommendations in 2013, PIH Health's cancer center became interested in developing a lung cancer screening program. There was strong administrative support and engagement of a physician champion, Daniel Saket, MD, Director of Radiology, from the start. Dr. Saket was instrumental in finding a model that would best serve the patient population in the community.

After evaluating many models used across the United States, he selected the model used by Yale Cancer Center, New Haven, Conn. This model employs an enrollment process with the use of a nurse practitioner (NP). Before launching the lung cancer screening program, conference calls were held with Yale's pulmonologist and cardio-thoracic surgeon to learn more about the logistics of their program.

A top priority for the new lung cancer screening program was to assist primary care physicians (PCPs). Due to the shortage of

PCPs and the aging population, it can be difficult to make a separate appointment to discuss screening in a shared decision-making manner. To make lung cancer screening easy and efficient for both patients and their providers, the goal was to develop a simple process that could be conducted in one visit with the lung cancer screening program's NP.

Developing a Screening Process

With the new and evolving nature of lung cancer screening, there were many different recommendations and the PIH Health Lung Cancer Screening Program felt it was important to clearly state whom it would screen. An enrollment form was created both on paper and in our electronic health record (EHR) that reflected the screening population and could be used to help identify those patients who qualified. View this enrollment form online at: acc-cancer.org/oncology_issues/JA2016. There were two stratifications for those eligible for screening, and all criteria must be met in order for the patient to qualify:

- Age 55 to 80
- Current or former smoker who has quit within the last 15 years
- 30 pack a year or greater smoking history
- OR
- Age 50 (no upper age limit)
- Current or former smoker (no limit to time since quit)
- 20 pack a year or greater smoking history
- Additional risk factor: Occupational exposure to asbestos, silica, arsenic, soot, diesel fumes, nickel, etc. (second-hand smoke is not considered an additional risk factor).

At the time these program criteria were developed the secondary screening criteria was a National Comprehensive Cancer Network (NCCN) 2B recommendation. It was felt that these patients could still benefit from screening based on preliminary research, and

so it was offered with education going out to both the referring physicians and patients that this screening would not be covered by the insurance as a preventive service and the patient would be responsible for any co-pays or deductibles. With the release of the 2016 NCCN Lung Cancer Screening Guidelines, the situation changed and it now has the same level of recommendation as the first category—though payers are still not paying for it as a preventive service.

Once these referrals are received via fax or through the EHR, the patient is contacted by the centralized scheduling department to verify the information. This step became necessary because 90 percent of the time the forms were incompletely or incorrectly filled out. The information on the enrollment is linked to payment, so it is essential to ensure that patients meet all the criteria prior to scheduling. If there are any questions about a patient qualifying, the NP is notified and speaks with the patient directly. Once a patient is verified as being a screening candidate, the NP places an order for the low-dose computed tomography (LDCT) exam. The patient is scheduled for a shared decision-making education session and LDCT scan on the same day, and any necessary insurance authorization is obtained.

The Lung Cancer Screening Program is responsible for:

- Receiving enrollment forms and fielding patient self-referral calls
- Pre-screening patients
- Verifying insurance and obtaining authorization
- After confirming patients have met the screening criteria, placing the order for the LDCT scan and scheduling the patient.

Patients are allowed to self-refer to the lung cancer screening program, and this can be a controversial topic at some facilities. However, this program has found that patients who self-refer are taking initiative with their own healthcare, and they should be



The Lung Cancer Screening Program strives to put patients first by providing a personal and hands-on approach to care.



PIH Health Hospital Whittier is a community cancer center serving three California counties.

empowered and not made to jump through hoops. Self-referring patients are required to have a physician to whom results can be sent, but the patient does not need to see the physician first to obtain a referral or order.

Leveraging Existing Resources

Initially, the NP was responsible for all of the tasks listed above, but as the lung cancer screening program grew, it was no longer feasible for one person to handle everything. In lieu of hiring additional staff, the centralized radiology scheduling department began to support the lung cancer screening program. By drawing on processes already in place, this department took over the pre-screening verifications and appointment scheduling. Any clinical questions, concerns, or patient education needs are escalated to the NP—thus improving resource utilization within designated scopes of practice. If patients do not meet the screening criteria the NP is notified, communicates back to the referring physician, and provides any patient education regarding why they do not qualify.

Marketing and business development were additional existing resources that were leveraged. These departments already had a relationship with community providers and knew our target audience. By providing them with a fact sheet and enrollment forms they were able to get the word out to the community providers about this new guideline and the service provided at PIH Health. View this fact sheet online at: acc-cancer.org/oncology_issues/JA2016.

Putting Patients First

In alignment with PIH Health's directive of "patients first" a primary goal was to make the lung cancer screening process as easy as possible for patients.

On the day of the scheduled low-dose CT, patients are asked to arrive 30 to 45 minutes prior to their radiology appointment. This allows time for the patient to be checked in and have a 15 minute shared decision-making meeting with the NP prior to the exam. This implementation of a shared decision-making and education session from the inception of the program—before it was mandated by the Centers for Medicare & Medicaid Services (CMS)—has been one of the biggest keys to success. It sets the stage for ongoing follow-up, compliance, and making sure patients understand the risks and benefits of the lung cancer screening.

Shared decision-making is about empowering patients. Patients are made aware of the risks of developing lung cancer and how screening can help with early detection. Patients are encouraged to quit smoking (if they have not already), and they receive information on the different options available to help them quit. Educated patients are empowered patients and for many smokers or former smokers it is a way for them to take back control of their health.

The shared decision-making session always starts with finding out the patient's knowledge level as it relates to lung cancer screening. Patients are asked: "What did the doctor tell you about this test you are having today?" The most common answer is: "My doctor says I need to have it because I smoke/smoked." Physicians have a lot of information to cover with patients, who often have many co-morbidities, and they do not have the time to provide them with extensive education about lung cancer screening or smoking cessation. Having the lung cancer screening program's NP meet with patients allows time to thoroughly explain screening and answer any questions. Some of the main points covered include:

- A brief history of lung cancer screening
- The benefits and risks of screening, the mortality decrease, the use of the low-dose technology, and how this type of screening differs from a typical chest X-ray
- Smoking cessation advice.

In addition to these basics, each patient receives a copy of the Lung Cancer Alliance's brochure called "Lung Nodules." View this brochure online at: acc-cancer.org/oncology_issues/JA2016. This brochure educates patients on what nodules are and how different sizes will affect follow-up. This information helps prepare patients for the results and instills in them that this is not a one-time exam. Spending the time discussing the follow-up care upfront along with the program tracking has helped to improve compliance in follow-up because the patients know what to expect from the beginning.

The shared decision-making session is a vital part of patient empowerment. The lung cancer screening program encourages patients to commit to ongoing screening by undergoing the scan every year, as they may be at risk for developing a lung cancer in the future.

Once patients have had their shared decision-making session, they receive their low-dose CT exam. Once the scan is complete, patients are told that they will receive a call from the NP within 48 hours and are provided with her contact information in case they have any questions. From start to finish, patients have personal contact with someone whom they know they can call. Currently, the imaging center blocks one CT scanner for two 15-minute time slots a day for lung cancer screening.

Patients are anxious to receive their test results, so all attempts are made to notify patients within two business days via telephone. A letter with a copy of the report is also sent to the referring physician. If there is a suspicious finding that may require additional imaging or a biopsy, the NP reaches out to the referring physician. A discussion occurs about who will inform the patient of the results and a follow-up plan is put into place. This conversation is also an opportunity to discuss a pulmonary referral since input from the referring physician will be important if a biopsy is necessary. The goal is to have the patient seen by a pulmonologist and have any additional workup and biopsies within two weeks.

For patients who require interval or ongoing annual follow-up (Lung-RADS™ 1-3), the lung cancer screening program tracks and contacts patients when they are due for follow-up. When patients are due to be screened, the radiology scheduling department reaches out to them and obtains any insurance authorizations. Then, the NP provides an order, schedules the patient, and sends the referring provider a letter and radiology report once it is complete.

Table 1. Lung Cancer Patients Diagnosed & Treated, 2013-2015

STAGE	2013 (Baseline)	2014 (Screening initiated 6/2014)	2015
0	0	2	1
I	25	31	32
II	4	11	10
III	15	16	16
IV	52	47	51
Unknown	1	3	1
TOTAL	97	110	111

Below is a snapshot of the PIH Health Lung Cancer Screening Program to date:

- Total patients screened: 424
- Cancers detected: 12
- Suspicious in progress (being worked up): 5
- False positives (negative biopsies): 3
- Screening follow-up rate: 96 percent.

A Brief History of Lung Cancer Screening

Lung cancer is the leading cause of cancer-related mortality for both men and women. It kills more people every year than colon, pancreatic, breast, and prostate cancers combined.¹ Viewed as a women’s health issue, it kills more women than breast, uterine, and ovarian cancer combined.² Lung cancer remains a serious problem; however, early detection through advances in lung cancer screening is bringing earlier diagnosis and treatment to more patients.

In 2013 the National Lung Screening Trial (NLST) results were published. This major, multi-site study covered more than 50,000 people from across the nation, and showed a 20 percent decrease in mortality rate with the use of low-dose CT scans for the high-risk population (people between the ages of 55 to 74, current smokers or former-smokers that quit within the last 15 years, and who had a minimum of a 30-pack year history).³

In December 2013, the United States Preventive Services Task Force (USPSTF) published its recommendations making lung cancer screening a grade B recommendation. The significance of this recommendation is that under the Affordable Care Act, all grade B recommendation preventive

services must be covered by insurers with no cost-sharing to the patient—meaning no co-pays and no deductibles. This recommendation took effect in January 2015 and was a big win for lung cancer care.

Additionally, the USPSTF recommendations raised the qualifying age to 80 years old. The NLST trial results looked at patients up to age 74 (50% of lung cancers). By raising the age to 80, it is possible to potentially capture the additional 20% typically found in that age range.

In February 2015, the Centers for Medicare & Medicaid Services (CMS) issued a decision memo for screening for lung cancer with low-dose computed tomography (CAG-00439N) covering this exam, including these additional stipulations:

- Screening programs must report to a national registry.
- Shared decision-making/counseling sessions must be provided to the patients before their first exam.
- Standardization in reporting through the Lung-RADS system.
- The upper age limit for participants was lowered to 77.

Percentages of Initial Screening by Lung-RADS Classification:

- Lung-RADS 1: 36 percent
- Lung-RADS 2: 41 percent
- Lung-RADS 3: 18 percent
- Lung-RADS 4A: 3 percent
- Lung-RADS 4B: 2 percent

A True Team Effort

Lung cancer screening is a great tool for early detection, but it is only one small component of a successful lung cancer program. PIH Health employs an excellent team of physicians, and it was apparent early on that a mechanism for communication amongst these specialists was needed. This realization led to the development and implementation of our Multidisciplinary Lung Cancer Conference. The multidisciplinary team includes the following: radiologist, interventional radiologist, pulmonologist, cardiothoracic surgeon, oncologist, radiation oncologist, pathologist, and the lung cancer screening program NP. Prior to this conference, a patient diagnosed with lung cancer could be referred to a pulmonologist, cardiothoracic surgeon, or oncologist, depending on where their primary provider sent them. Patients would often get one or two tests done and then get referred to the next specialist for one or two more tests while weeks went by. The multidisciplinary team agreed that this scenario was problematic and created an agreed-upon patient flow, beginning with the pulmonologists, with the goal of having the patient staged and ready to start treatment within two weeks of diagnosis.

There was much variation in practice with different specialties following different guidelines, so standardized treatment pathways were created based on the NCCN guidelines. It was the task of the NP navigator to create algorithms for the treatment of each stage. These were then presented at the multidisciplinary conference, adjustments were made and put into place once all of the physicians were in agreement. This process has helped to streamline the work up of lung cancer patients and to provide consistent high-quality care.

PIH Health began offering lung cancer screening in June 2014. The Multidisciplinary Lung Cancer Conference began bimonthly in July 2014 and by 2015 became a weekly occurrence. In 2013 there were 97 lung cancer patients diagnosed and treated at PIH Health. In 2014 the number increased to 110, and in 2015 the number held steady at 111. Since the screening program began, there has been an increase in diagnosis of early-stage lung cancer. While the stage IV diagnosis rate has remained high over the last two years, the hope is that it will decrease as screening becomes a standard of care. The data collected reflects lung cancer patients that were diagnosed and treated at PIH Health. With the availability of many new lung cancer treatment options for late-stage lung cancers, many more patients are opting for treatment when previously they would go on hospice and not receive treatment. This could be an explanation for the increase in stage IV lung cancer in our data. Table 1, page 34, shows the number of lung cancer patients diagnosed and treated at PIH Health Hospital Whittier in 2013-2015.




The Multidisciplinary Lung Cancer Conference is key to the success of the lung cancer screening program. Left to right, back: Lisa Wang, MD (Oncology); Jessica Peckham, NP-C (Navigator); Daniel Saket, MD (Radiology); Dustin Stevenson, DO (Oncology); Nannette Kovash, MD (Radiology); Nathan Honda, MD (Pathology); front: Daniel Akhavan, MD (Pulmonary); Eduardo Tovar, MD (Cardiothoracic Surgery); Nadeem Chishti, MD (Pulmonary); Kuimars Saketkhuo, MD (Pulmonary).

Lessons Learned

The success of the PIH Health lung cancer screening program can be attributed to tremendous administrative support and a strong physician champion from the beginning. Improved communication and utilization of the multidisciplinary team has been vital to the success of the program. Many of the physician practices are seeing more lung cancer patients than ever before.

Critical to the program's success was the ability to leverage existing resources. Initially, the NP navigator position was the only position created for the formation of this program. The additional support provided by marketing, radiology centralized scheduling, and the cancer program helped to get the lung cancer program up and running quickly, resulting in positive patient outcomes.

The multidisciplinary approach to care, especially through the formation of pathways, has helped to streamline the lung cancer screening experience for patients. With ongoing data collection and tracking, there is room to build on our current success and search for quality improvement opportunities. 

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