

CASE STUDIES FOR REAL-WORLD IMPLEMENTATION OF LUNG CANCER SCREENING

Community hospitals and organizations that adopted lung cancer screening early offer insight into barriers and facilitators encountered during lung cancer screening implementation. Lessons learned from lung cancer screening programs centered in safety net healthcare systems are discussed below.

Case Study #1 (Planning phase of program set-up):

Prior to the COVID-19 pandemic, a rural stand-alone safety net primary care system was enthusiastically planning to implement lung cancer screening within their preventive care plans by exploring how to find eligible screening candidates and how best to perform the low dose CT to the standards recommended by the American College of Radiology. The primary care system was located in a community with strong tobacco control policies that subsequently lead to low cigarette smoking rates minimizing the lung cancer screening eligible population. While the primary care system had a physician champion, there were no established formal lung cancer screening specific working relationships with the imaging department or for management of screen detected pulmonary nodules. The primary care system was affiliated with a large, urban external specialty care hospital, however problems with pinpointing ways to track patients without a shared electronic medical record further complicated lung cancer screening implementation.

Facilitators to Program Planning

- Program was supported by a primary care physician champion and a large external specialty care hospital.
- Internal understanding of lung cancer screening evidence and importance was high as the imaging department had previously obtained state level grants to offer a self-pay option for individuals interested in undergoing screening.
- The primary care offices and the imaging department were in close proximity, reducing the amount of travel for screening participants.

Barriers to Program Planning:

- The lack of a shared electronic medical record with the external specialty care hospital to successfully track patient follow-up, especially for screen detected nodules, proved to be especially challenging.
- Given the needs of the patient population, primary care needed to prioritize acute healthcare needs over preventive cancer screenings.
- Due to strong community tobacco control policies leading to low cigarette smoking rates and low numbers of eligible individuals, primary care did not consider lung cancer screening a priority.

Lessons Learned:

- Competing health priorities for both primary care physicians and patients made fully embracing lung cancer screening for preventive care less of a priority than acute care complicating buy-in from administration and primary care providers.
- Lack of a shared electronic medical record between the primary care system and the external specialty hospital made tracking and follow-up of patients hard and was not solved before the COVID-19 pandemic.

Case Study #2 (Implementation phase of program set-up):

A metro based primary care, safety net setting utilized an existing relationship with a lung cancer specialty care provider to successfully implement a lung cancer screening program with shared responsibilities between primary care and the specialty provider to identify and recruit eligible individuals. In this program, the primary care office completes initial screening outreach and shared decision making and the specialty screening provider reviews and confirms eligibility prior to the low dose CT scan. Both practices share the responsibility of making sure screening participants attend appointments. This working relationship also shares an electronic medical record that provides continuity between each provider type for referral and follow-up tracking, although consistent personnel engagement is needed to maximize quality control initiatives. Difficulties arose when referrals to thoracic surgeons could not be made for uninsured individuals as cost of care became a concern. As a result, only insured patients were referred to screening, potentially undermining equitable approaches to healthcare.

Facilitators to Program Implementation:

- Utilizing an existing relationship between primary and specialty care with combined effort, tracking and dedicated workflow management provides a robust infrastructure for efficacious screening.
- Shared electronic medical record makes follow-up and referral tracking feasible for both primary and specialty care partners.
- Primary care has a strong residency program to maximize lung cancer screening education and awareness, allowing trainees to be involved with shared decision-making.
- Primary and specialty care offices are in close urban proximity, reducing the amount of travel for screening participants.

Barriers to Program Implementation:

- Initial quality control efforts were hampered by low involvement for these efforts by program personnel. After engagement and training, follow-up, tracking, and referrals has become efficient and a program positive.
- Finding surgical partners that would accept uninsured individuals for follow-up care was difficult, resulting in inequitable healthcare among eligible people.

Lessons Learned:

- Leveraging an existing business relationship provided an efficient infrastructure to successfully plan and implement a thriving lung cancer screening program with primary and specialty care support.
- Enthusiastic partnership by both primary and specialty care complete with defined roles and a shared common goal is vital for lung cancer screening processes, patient engagement and tracking to exist in perpetuity.

Case Study #3 (Maintenance phase of program set-up):

Within a statewide cancer program safety net community with established patient navigation services for screening many patients no-show to the baseline appointment, despite dedicated workflows and navigation practices. Most of these no-shows are successfully rescheduled, with no one primary reason for missing the appointment identified as safety net patients often experience several competing life demands. Other common patient trends that have been observed within this statewide cancer program are confusion about why lung cancer screening is needed and only moderate interest in cessation services for those eligible individuals that are currently smoking cigarettes. There are current quality improvement initiatives underway to increase screening navigator and participant education about the importance of screening and tobacco cessation.

Facilitators to Program Maintenance:

- Tracking and following up with individuals that no-show to appointments allows many patients to be rescheduled and complete lung cancer screening.
- Collecting quality metrics allows programs to understand where effort is needed for quality improvement initiatives.

Barriers to Program Maintenance:

- In spite of established patient navigation and workflows, many patients still no-show to the baseline screening appointment. Although most are rescheduled, this puts extra burden on the patients and the navigators.

Lessons Learned:

- Tracking and contacting individuals that do not show up for appointment is vital to maximize the individual and population health benefits of lung cancer screening.
- Continuing education for both navigators and patients helps improve understanding of the importance of screening benefit and processes.