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Improving Identification of LDCT Lung Cancer Screening Eligible Patients

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IMPROVING IDENTIFICATION OF LDCT LUNG CANCER SCREENING ELIGIBLE PATIENTS

McKenna Schimmel, BS, AB
South Burlington Family Practice – June 2021
Mentor: Dr. Whitney Calkins
LOW LUNG CANCER SCREENING RATES

• 2021 USPSTF Lung Cancer Screening Guidelines:
  • Annual screening for lung cancer with low-dose computed tomography (LDCT) in adults aged 50 to 80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years.¹
  • Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.¹

• National LDCT lung cancer screening rate for eligible patients in 2018 roughly 5.0%²
  • Uptake varies regionally; 13.8% of eligible Vermonters screened, 2nd highest nationally³
  • 2016 VT breast cancer screening rate: 79%⁴
  • 2016 VT colorectal cancer screening rate: 72%⁴

• Breakdown in EMR trigger for lung cancer screening likely 1 cause of care gap
  • Epic EMR only allows for 1 set of start and stop smoking dates & 1 option for PPD
  • For many smokers this does not allow for an accurate capture of their smoking history
  • This leads to patients who do meet screening criteria being missed because the EMR does not trigger LDCT screening reminder through the Health Maintenance Tab
COST OF LUNG CANCER

• 79% of patients present with regional lymph node involvement or distant metastases, compared to 17% who present with only local disease\(^1\)

• Patients with localized disease have a 59% 5-year survival rate, compared with 32% for those with regional spread, and 6% for those with distant metastases\(^1\)

• Estimated 235,760 new lung cancers and 131,880 lung cancer deaths in 2021\(^5\)

• Average lung cancer treatment costs in 2017:
  • Cost per month during the pre-diagnosis phase was $861. For patients who did not receive surgery, costs during the month of staging range from $6,670 to $13,608\(^6\)
  • For a patient who received surgery, average costs during the month beginning on the date of surgery were $30,096\(^6\)
  • Surgical intervention often more affordable than chemotherapy and/or radiation\(^6\)

• Vermont was one of the 38 states whose Medicaid fee-for-service programs covered lung cancer screening as of February 2020\(^4\)
COMMUNITY PERSPECTIVE

“We all know to do lung cancer screening, but I didn’t know that guidelines had been updated. Our EMR doesn’t trigger reminders for everyone [who meet criteria] or track it correctly”

- Katherine Mariani, MD
South Burlington Family Practice Physician

“Patients are very open to lung cancer screening; they know that they are at risk for lung cancer if they smoke. The LDCT for screening appeals to most as it is well tolerated, quick, and affordable. Getting screens annually is more challenging”

- Clara Keegan, MD
South Burlington Family Practice Physician
INTERVENTION

• 3 SmartPhrases were created in Epic to aid in increasing LDCT lung cancer screening rates
  • Checking if patient meets 2021 criteria: “.LCSCREEN”
  • Counseling statement: “.LDCTCOUNSEL”
  • After visit summary information on LDCT screening: “.LUNGCANCERSCREENING21UPDATE”

• SmartPhrase Summary document distributed to all providers in the department

To access these SmartPhrases in UVMMC Epic, go to SmartPhrases > Manage Phrases > Search
User > Schimmel, McKenna > LCSCREEN or LDCTCOUNSEL or LUNGCANCERSCREENING21UPDATE
I have counseled the patient on the following regarding low-density CT for lung cancer screening:

2021 USPSTF Guidelines: **Annual screening** for lung cancer with low-dose computed tomography (LDCT) in adults aged **50 to 80 years** who have a **20 pack-year smoking history** and currently smoke or have quit **within the past 15 years**. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery. (Grade B)

**Potential Benefits:**
- detecting a lung cancer at a very early stage when it is more likely to be treatable
- reduced risk of mortality from lung cancer
- increased life span

**Potential Risks:**
- being exposed to a low level of radiation from the LDCT scan
- getting a false positive, which can lead to invasive procedures with their own risks
- finding a cancer that does not have a treatment or cure
- short term anxiety or distress over the results
- locating incidental findings that require further work up

Importance of cigarette smoking cessation if an active smoker or maintenance of abstinence if a former smoker.

As of 2021, the US Preventive Services Task Force has updated their lung cancer screening guidelines.

The USPSTF recommends **annual screening** for lung cancer with low-dose computed tomography (LDCT) in adults aged **50 to 80 years** who have a **20 pack-year smoking history** and currently smoke or have quit **within the past 15 years**. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery. This is a **grade B** recommendation.

**Potential Benefits:**
- detecting a lung cancer at a very early stage when it is more likely to be treatable
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**Potential Risks:**
- being exposed to a low level of radiation from the LDCT scan
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RESPONSE

• South Burlington Family Practice Providers were supportive of improving the process for identifying which patients on their panel meet current USPSTF lung cancer screening guidelines

• Providers appreciated having multiple options for integration that they could personalize to their note preferences

• Several providers were not aware that guidelines had been updated
EFFECTIVENESS OF INTERVENTION

PROPOSED EVALUATION

• Follow up survey assessing ease of use
• Track impact on department-wide screening rates

LIMITATIONS

• The information was not conveyed to other types of providers, such as nurses, or support staff at the clinic.
• Short duration of the rotation limited potential of changes to the EMR
• Intervention was focused on providers and not patient perspective
RECOMMENDATIONS

• Vermont has the potential to lead the nation in appropriate lung cancer screening rates
• All providers should be aware of the updated 2021 USPSTF Lung Cancer Screening Guidelines and implementing them in their practice
• Making identification of patients who meet screening guidelines more efficient will help us to get screening to those who qualify and keep Vermonter healthy
• In the future, an Epic update allowing for multiple periods of smoking to be tracked would be immensely beneficial
REFERENCES


