Engaging a Learning Community

to Achieve the Promise of Lung Cancer Screening

Jefferson
Thomas Jefferson University
HOME OF SIDNEY KIMMEL MEDICAL COLLEGE

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ABOUT THE JEFFERSON HEALTH SYSTEM LUNG CANCER LEARNING COMMUNITY (LC2) INITIATIVE

In 2018, the Jefferson Health System (Jefferson) in Philadelphia initiated the Lung Cancer Learning Community (LC2) Initiative, a 4-year project focused on increasing Shared Decision-Making (SDM) and Lung Cancer Screening (LCS) in vulnerable populations. Specific aims of LC2 Initiative are: **Aim 1.** Engage health system patients and providers, health plans, community organizations, and other stakeholders in an effort to increase SDM and LCS in vulnerable populations; **Aim 2:** Identify an effective outreach intervention to increase SDM and LCS in primary care practices that serve vulnerable patients; **Aim 3:** Catalyze health system, health plan, and community support for intervention implementation; and **Aim 4.** Evaluate participation, engagement, and outcomes.

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Contents

Executive Summary

A CALL FOR COLLABORATION TO INCREASE LUNG CANCER SCREENING

Widespread implementation of lung cancer screening (LCS) has the potential to significantly reduce lung cancer mortality.

Current guidelines from the United States Preventive Services Task Force (USPSTF) support lung cancer screening with annual low-dose computed tomography (LDCT) for asymptomatic older adults aged 50-80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years (1). The guidelines state that shared decision making and (SDM) is important when referring for LCS (SDM is currently required in order for LCS to be billed under Medicare) (2). Screening in accordance with these guidelines could reduce both lung cancer mortality and related disparities (1,2). Unfortunately, SDM and LCS occur infrequently (3), and, as a result, the promise of LCS is not being fully realized, especially in populations experiencing disparities in lung cancer incidence and mortality.

Jefferson Health (JH) implemented the Lung Cancer Learning Community (LC2) Initiative in 2018 to increase SDM and LCS in vulnerable populations. Specific aims of the LC2 Initiative are:

- Engage the health system, health plans, community organizations, and other stakeholders to increase SDM and LCS in vulnerable populations;
- Identify an effective intervention strategy to increase SDM and LCS in primary care;
- Catalyze health system, health plan, and community support for intervention implementation; and,
- Evaluate learning community participation, engagement, and outcomes.

To achieve these aims, JH has engaged a lung cancer learning community that includes persons representing the health system, health plans serving JH patients, patients from vulnerable populations, clinical providers, and community organizations. Members of this learning community issue the following call to action for organizations involved in making preventive healthcare a reality for all:

1. **Every health system across the country should organize a lung cancer learning community that guides collaborative efforts of the health system, health plans, and other stakeholders (including FQHCs) to increase shared decision making and screening, promote smoking cessation, and reduce disparities.**
2. **Health system lung cancer learning communities should encourage health systems and health plans to identify individuals eligible for lung cancer screening and ensure that shared decision making, lung cancer screening, and smoking cessation services are offered at multiple "touchpoints" in care.**
3. **Health system lung cancer learning communities should encourage health**

systems and health plans to conduct cost analyses that can guide creation of incentives that support shared decision making, screening, follow-up care, treatment, and smoking cessation.

4. **Health system lung cancer learning communities should advocate for increased public and private investment in effective strategies that can increase shared decision making, lung cancer screening, and smoking cessation.**

This White Paper presents the case for operationalizing these proposals to reduce the risk of lung cancer, discover cancer earlier, prevent lung cancer deaths, and reduce disparities.

Lung Cancer and Screening

SAVING LIVES THROUGH EARLY DETECTION

Lung cancer is the leading cause of cancer-related deaths in the United States, with 131,880 Americans expected to die from the disease in 2021 alone (4). It is the second most commonly diagnosed cancer in Pennsylvania, and causes the most cancer deaths per year in the state (approximately 23%) (5). Unfortunately, most lung cancers are detected when individuals are already symptomatic, leading to late-stage diagnosis and a low five-year survival rate (6,7).

The Pennsylvania Cancer Registry has reported that 78% of newly-diagnosed lung cancer cases are diagnosed at a regional or distant stage, with 5-year survival rates of 31% and 6%, respectively (8). With new initiatives to promote screening and new advances in treatment, there is hope that more lung cancer cases will be detected at an early stage and survival rates will be higher.

- Early detection of lung cancer through LDCT screening has the potential to improve mortality rates significantly. For patients diagnosed at stage I, survival rates can reach ~70% (7).

Table 1. Lung Cancer Incidence and Mortality

Lung Cancer Incidence (2018)[1]	
United States	53.1 per 100,000
Pennsylvania	59.9 per 100,000
Philadelphia County	66.4 per 100,000
Lung Cancer Mortality (2018)	
United States	38.5 per 100,000
Pennsylvania	37.4 per 100,000
Philadelphia County	40.6 per 100,000

1. Source: Pennsylvania Department of Health, Cancer Statistics Dashboard, accessed on June 3, 2021 at the website https://www.health.pa.gov/topics/HealthStatistics/CancerStatistics/dashboard/Pages/Cancer-Dashboard.aspx; and National Cancer Institute, Surveillance, Epidemiology, and End Results Program accessed and Cancer Stat Facts Lung and Bronchus Cancer, accessed on June 3, 2021 at the website https://seer.cancer.gov/statfacts/html/lungb.html.

Screening Reduces Mortality

- The National Lung Screening Trial demonstrated a 20% reduction in relative risk for lung cancer mortality among individuals who underwent LDCT screening compared to standard chest x-ray (6).
- The NELSON Trial reported a 24% reduction in relative risk for lung cancer mortality overall among participants who were screened with LDCT compared to those who were not offered screening (9).
- The Multicentric Italian Lung Detection (MILD) trial showed a 39% reduced risk of lung cancer mortality at 10 years among participants who underwent annual vs biennial LDCT screening (10).

Recommended Screening Protocols and Coverage

- The United States Prevention Services Task Force (USPSTF) recommends annual LDCT screening for lung cancer for individuals who:
    1. Are aged 50-80 years
    2. Have at least a 20-pack year smoking history
    3. Currently smoke or have quit within the past 15 years (1)
- Because annual LCS has a B-rating from the USPSTF, LCS must be covered as a preventive benefit with no cost-sharing for beneficiary.
    1. Within all non-grandfathered individual and small group plans sold on state health insurance exchanges;
    2. Within non-grandfathered large group and self-insured plans for large employers;
    3. Within Medicaid, for beneficiaries who receive Medicaid as a result of the Affordable Care Act's option to expand the program to cover adults up to 138% of the Federal Poverty Level (11).
- In 2015, annual LDCT screening for lung cancer became a preventive benefit for asymptomatic Medicare beneficiaries who meet the following eligibility criteria:
    1. Aged 55-77 years with
    2. At least a 30-pack year smoking history
    3. Currently smoke or have quit within the last 15 years
    4. Undergo SDM and
    5. Receive a written order for screening (12).[2]

LCS RATES REMAIN LOW

- Only 5.0% of eligible individuals reported LDCT screening in 2018 (12). In selected geographic areas, the highest screening rate reported was 13.7% (12). The American Lung Association estimates that if everyone eligible is screened, 48,000 lives could be saved nationwide (13).
- There are racial disparities in the follow-up on abnormal CT screening results and repeat annual screening, and the incidence and death rate of lung cancer are higher for African-Americans than for whites (7).

2. As of April 2021, CMS has not issued a new National Coverage Determination that reflects the USPSTF's Screening for Lung Cancer Recommendation issued in March of 2021.

PUBLIC INVESTMENT TO INCREASE LCS IS LIMITED

It is clear that there is an important opportunity to increase the early detection of lung cancer and address disparities in Pennsylvania by increasing SDM and LCS. However, the allocation of federal and state resources to address these needs has been limited. As shown in **Table 2**, the total amount of state and federal funds appropriated for all cancer-related activities in FY 2018 was $7.1 million ($3.4 million in state funds and $3.7 million in federal funds.) The total amount of state and federal funding dedicated to lung cancer prevention and early detection was just under $35,000 ($23,499 and $10,000, respectively) (14).

In the wake of the COVID-19 pandemic, cancer screening rates across the country have declined precipitously for several months, and do not appear to have completely returned to pre-pandemic levels. As a result, rates of late-stage cancer detection and related disparities are likely to rise (15). Thus, there is a pressing need to increase support the implementation of intervention strategies that can increase LCS rates, especially in vulnerable populations.

Table 2. The Lung Cancer Funding Landscape in Pennsylvania (2017-2018)[3]

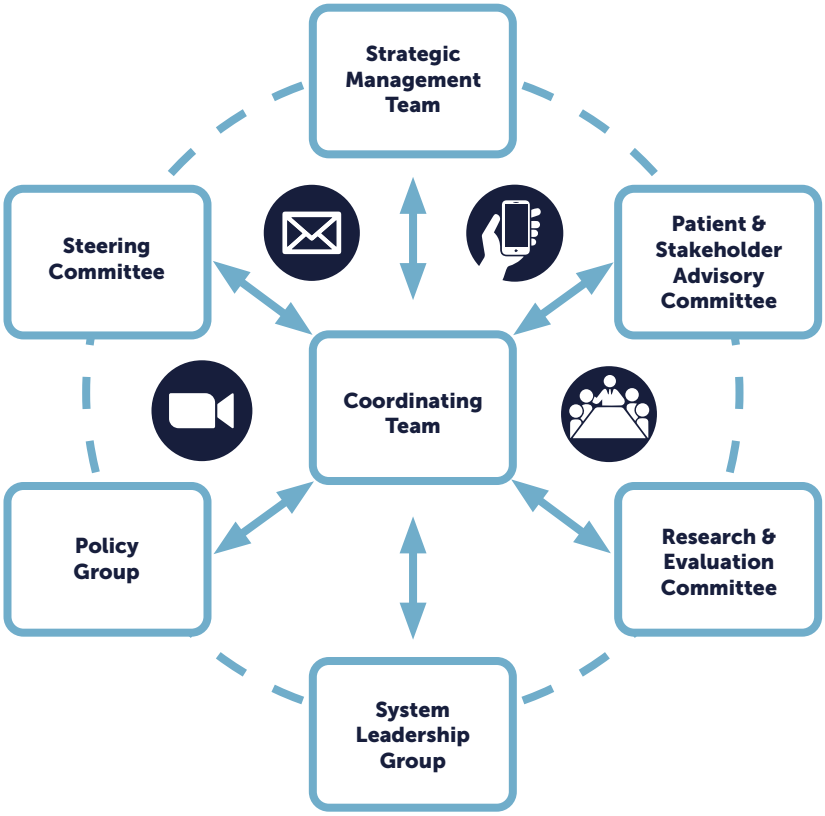
Total State Appropriated Funds (All Cancer-Related Activities)	$3,420,000
Total Federal Funds Utilized in Pennsylvania (for all Cancer-Related Activities via the Centers for Disease Control and Prevention)	$3,700,763
Total State and Federal funds appropriated for all cancer-related activities:	**$7,120,763**
Lung Cancer Prevention and Detection (State funds)	$23,499
Percent of total cancer state appropriated funds appropriated for Lung Cancer Prevention and Detection:	**0.7%**
Lung Cancer Prevention and Detection (Federal funds)	$10,000
Percent of total cancer federal funds: 0.3%	**0.3%**
Lung Cancer Prevention and Detection (Total State and Federal Funds)	$33,499
Percent of total cancer funds (state and federal) appropriated for Lung Cancer Prevention and Detection:	**0.47%**

3. 2017-2018 Pennsylvania Cancer Prevention and Control Annual Report (Feb. 2018), P.A. Dep't of Health.

The LC2 Initiative

THE LC2 INITIATIVE: ORGANIZATION AND STRUCTURE

The LC2 Initiative is comprised of over 100 individuals organized across six subgroups, guided by a Coordinating Team. The groups meet formally and engage in informal communication between meetings to further the goal of increasing rates of SDM and LCS, especially among vulnerable populations identified in a Needs Assessment as at risk of being underserved (Asian immigrants, African-Americans, veterans, and individuals from the LGBTQ community).



Jefferson launched the LC2 Initiative in 2018 to address the challenges of increasing SDM and LCS and reducing disparities (16–17). Currently, the LC2 Initiative involves over 100 individuals representing the JH, major health plans, and the community. It includes a Patient and Stakeholder Advisory Committee (PASAC) (see Figure 1).

GREATER PHILADELPHIA NEEDS ASSESSMENT

An early step in the LC2 Initiative involved a needs assessment to assess facilitators of and barriers to SDM and LCS among primary care providers, patients and persons who represent vulnerable populations. In-person and telephone interviews were conducted with primary care providers and patient/community members to elicit their views about SDM and LCS.

Primary care providers reported that their challenges include:

- Limited knowledge about how to identify patients who are potentially eligible for LCS.
- A lack of time to educate patients about screening and assess pack-years of exposure to cigarette smoking.
- A need for SDM training.
- Concern about allocating time to integrate LCS activities into the practice workflow.

Highlights from patient/community member interviews include the following:

- A lack of knowledge in vulnerable populations about LCS.
- Concerns about perceived cost/insurance coverage for screening.
- Fear, stigma, and problems with accessibility (i.e. transportation, work/family-related conflicts).
- Cultural and health literacy barriers that limit receptivity to screening.

Together, these findings highlight the need for collective action to increase screening involving the health system, health plans, and the community.

IDENTIFYING AN INTERVENTION STRATEGY

The LC2 Initiative carried out a pilot study that was designed to determine LCS rates in the context of usual care and assess the impact of an outreach contact approach and an outreach contact plus decision counseling strategy on LCS in four primary care practices that serve substantial numbers of African American, Chinese, and Korean patients. The pilot study showed that patient outreach alone increased LCS over usual care, and inclusion of SDM in patient outreach contacts was associated with the highest level of screening among individuals eligible for LCS.

Engaging Health Systems and Health Plans in Screening Outreach Efforts

DEVELOPING PROPOSALS FOR COLLABORATION

Recognizing the fact that SDM and LCS rates are low, especially in vulnerable populations, and that there has been limited investment in raising these rates, the LC2 initiative committed to encouraging collaborative action by the health system and health plans in the region. The LC2 Initiative Policy Group embarked on gathering information on potential areas for collective action.

To accomplish this task, the LC2 Policy Group initially identified 13 health system and health plan leaders for an in-person or telephone-based key-informant interview on this topic. All interviews were completed, and qualitative analyses were performed using NVivo qualitative data management software.

In conducting interviews with health system leaders, we hypothesized that collaboration would be influenced by a variety of factors, including the extent to which they believed the following:

- Early detection aligns with the mission and core values of the health system.
- Screening offers opportunities for the health system to provide additional needed health services to patients that increase patient engagement, improve quality of care, and reduce cost.
- Action can address disparities in incidence and mortality rates, especially in vulnerable patient populations.
- The cost of treating early-stage lung cancer patients is significantly less than costs for treating individuals diagnosed at a late stage (18).
- Efforts to engage members and patients in LCS offer a touchpoint for referring individuals who smoke for tobacco treatment services, a key step toward reducing smoking-related illness costs (about $170 billion per year in direct medical care) (19).
- LCS can also be a touchpoint for reminding patients about and coordinating other important services, such as breast, cervical, or colon cancer screenings or annual wellness visits; and, thus have a positive impact on quality measures, such as Healthcare Effectiveness Data and Information Set (HEDIS) measures, CMS Star Ratings, Core Quality Measures, and more.[4] (20)

4. CMS Star Ratings are used as a quality indicator for Medicare Advantage and prescription drug Medicare Advantage plans.

HEDIS Cancer Screening Measures

- *Breast cancer screening:* Women 50–74 years of age who had at least one mammogram to screen for breast cancer in the past two years.
- *Cervical cancer screening:* Women 21–64 years of age who were screened for cervical cancer using either of the following criteria: Women age 21–64 who had cervical cytology performed every 3 years, or, women age 30–64 who had cervical cytology/human papillomavirus (HPV) co-testing performed every 5 years.
- *Colorectal cancer screening:* Adults 50–75 who had appropriate screening for colorectal cancer with any of the following tests: annual fecal occult blood test, flexible sigmoidoscopy every 5 years, colonoscopy every 10 years, computed tomography colonography every 5 years, stool DNA test every 3 years.

CMS - STAR Cancer Screening Ratings

- *Breast Cancer Screening:* Percent of female plan members ages 40 – 69 who had a mammogram during the past two years.
- *Colorectal Cancer Screening:* Percent of plan members ages 50 – 75 who had appropriate screening.

THE CASE FOR HEALTH SYSTEM ENGAGEMENT

Table 3 summarizes findings from the qualitative analysis of health system key-informant interviews.

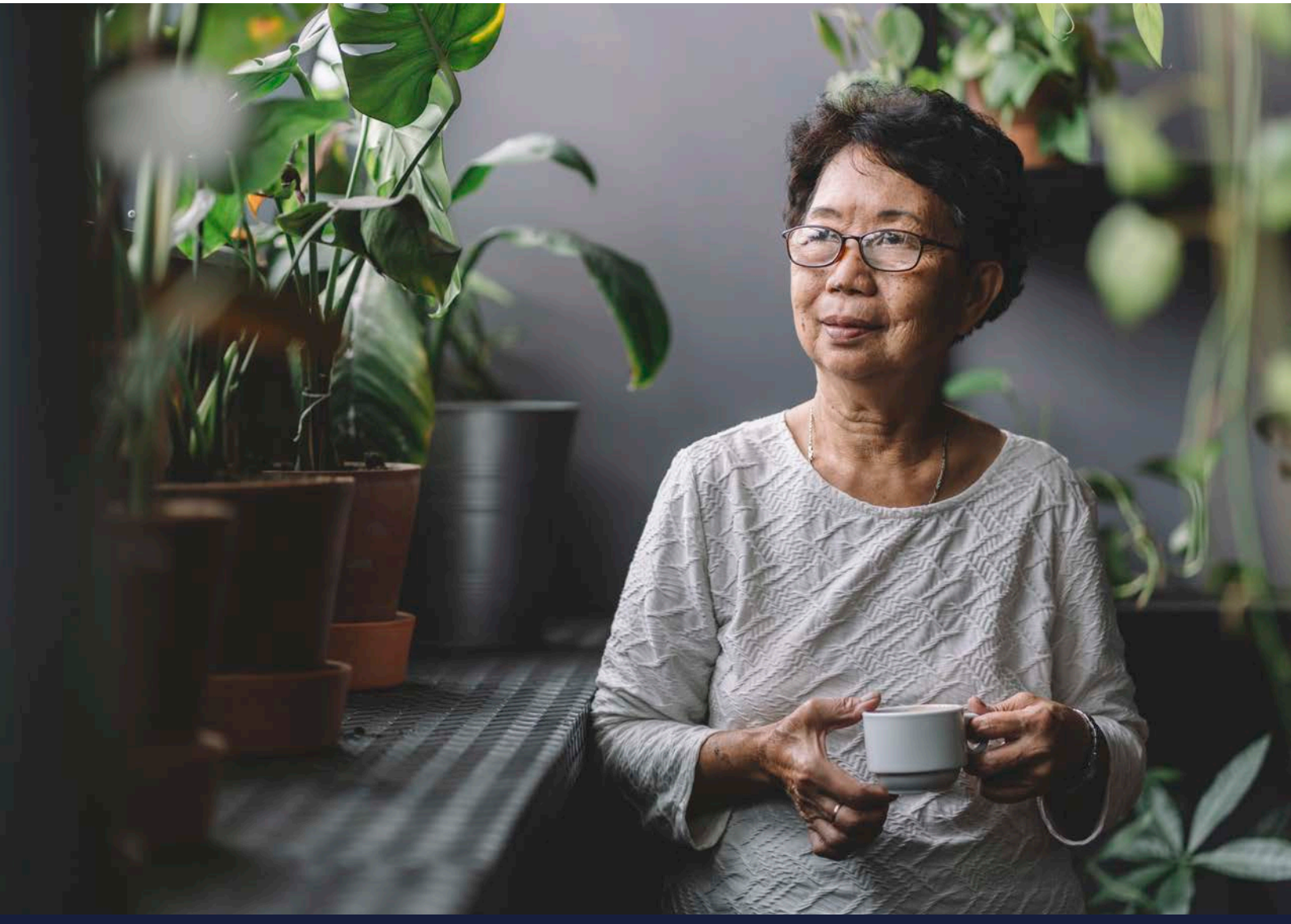
Table 3. The Health System and Lung Cancer Screening

Touchpoints with the health system through LCS outreach provide opportunities to offer other screenings and provide referrals for a range of health services. As a result, the health system may see revenue gains from follow-up and treatment.
The structure of EMRs can pose a challenge to identifying persons eligible for screening; there is a risk that some screening-eligible patients will be missed by only querying the system.
Improving use of the EMR and other data sources to ascertain patient eligibility for screening may require the allocation of substantial resources.
Screening programs that take place within the facility's four walls may not be sufficient to reach vulnerable populations experiencing disparities. Health systems should initiate outreach efforts to meet patients where they are.
Health systems can work collaboratively with health plans to disseminate screening eligibility assessment support and screening education materials in the community through trusted influencers.
As some patients may not have a primary care physician; encouraging specialists such as cardiologists, urologists, and gynecologists to assess eligibility and refer for screening opens other access pathways for patients.
While health system leaders hope that health plans will invest in screening outreach by supporting eligibility assessment, patient education, shared decision-making, and screening outreach, they also recognize that the health system and health plans may not have sufficient resources to do so. Interviewees suggest that they might therefore look for other sources of funding for screening or the establishment of a joint fund for outreach and navigation, including revenue from the Tobacco Master Settlement Agreement.[5]
Health systems leaders believe that it is less costly to treat an early stage lung cancer patient than an individual diagnosed with a later stage cancer. Analysis of cost of treatment by stage of diagnoses would be a useful data point for discussions with health plans.

5. Currently the Pennsylvania Tobacco Master Settlement Agreement (MSA) funds are directed to a variety of health-related purposes, including Home and Community-Based Services for seniors eligible for Medicaid, tobacco use prevention and cessation, health research, hospital uncompensated care, etc. 2017/18 Budget Briefing: Report on Key Issues – Tobacco Settlement Fund, P.A. House Appropriations Committee, Jan. 12, 2018.

Interviewees recommended that the following steps be taken:

1. Increase provider awareness and training on the benefits of LCS for patients. The concept of "provider" should be broad, and include primary care clinicians, specialists, nurses, and more.
2. Support providers in the use of standard methods to assess patient LCS eligibility, educate patients, engage patients in SDM, and report smoking status and history in the EMR.
3. Leverage LCS outreach as an opportunity to offer tobacco treatment and other preventive health care services to patients.
4. Tailor screening outreach initiatives and programs to vulnerable population patient needs, striving to meet patients "where they are" in the community.
5. Make culturally competent or bilingual LCS education and outreach intervention materials and methods available to health plans for use with their members.
6. Share outcomes data with health plans that show the short-term and long-terms effects of screening and follow-up on patients/members.
7. Consider conducting a cost-effectiveness analyses related to the implementation of LCS outreach programs.



THE CASE FOR HEALTH PLAN ENGAGEMENT

Table 4 highlights findings from qualitative analyses of health plan key-informant interviews.

Table 4. Health Plans and Lung Cancer Screening

Many health plans cannot identify members who are eligible for LCS, because they do not have access to reliable smoking history data for members. While health plans might include information about LCS in information materials sent to all members, they face barriers to doing targeted outreach due to lack of smoking behavior data.
Health plans have not conducted internal cost-benefit analyses around LCS and early detection.
Health plans use outreach resources to close "gaps in care," which are identified by the content of quality measures (HEDIS, Comprehensive Primary Care-Plus (CPC+), Merit-Based Incentive Payment System (MIPS), and CMS Star Ratings measures. However, LCS is not currently identified as a quality measure.[6] If completion of SDM and LCS were quality measures, health plans would be incentivized to invest additional resources in screening outreach.
Health plans could give providers LCS education materials to pass on to their patients, or incentivize health systems and providers to do outreach to their members.
Health plans can independently (or in partnership with health systems) disseminate LCS outreach and education materials in community gathering places, such as barber shops; health plans have successfully distributed materials on other health topics in these venues.

Health plan leaders shared specific recommendations that they thought could increase support for reaching patients/members who are eligible for LCS. Specifically, they suggested that health plans:

1. Identify patient touchpoints that could be used to encourage referral for LCS and other important preventive services, such as breast and colon cancer screening.
2. Train health coaches and other staff on LCS so that staff members can assess member eligibility and make referrals for LCS.
3. Include information about LCS in promotional materials about other preventive services.
4. Make relevant screening education materials available to providers for use in reinforcing preventive health care and making referrals for screening.
5. Consider encouraging members to disclose accurate tobacco use history to providers, so they can appropriately recommend services.
6. Track the number of quit attempts resulting from referral to tobacco cessation services arising from the screening process.
7. Consider working with health systems to conduct cost-benefit analyses related to screening and cost-effectiveness analyses related to screening outreach strategies.

6. As of April 2021, the National Lung Cancer Roundtable and the National Committee for Quality Assurance are working together to develop a HEDIS measure for lung cancer screening.

Support for Health System, Health Plan, and Stakeholder Collaboration

The LC2 Initiative Policy Group reviewed findings from the health system and health plan leadership interviews and distilled the following proposals for catalyzing collective action by the health system and health plans: 1) Support a learning community infrastructure; 2) Share educational resources for providers, patients, and the community; 3) Advocate for public investment in LCS; 4) Consider conducting cost analyses related to LCS; 5) Explore the addition of LCS to value-based contracting; and, 6) Develop effective methods that providers can use to assess screening eligibility.

To assess receptivity to these proposals, the Policy Group surveyed 25 designated leaders of the health system and area health plans, and representatives of area public and private health organizations and community organizations. Specifically, the Policy Group sent an invitation to complete the survey to 12 health system leaders, six health plan leaders, representatives of three health organizations, and four community representatives via email. The initial invitation and follow-up reminders resulted in a 100% response rate.

Table 5 shows that all survey respondents expressed support for maintaining a learning community infrastructure, sharing education resources and effective interventions, and advocating for investment in raising LCS rates. The overwhelming majority of respondents also supported undertaking LCS-related cost analyses, evaluating value-based contracting to include LCS, and exploring the development of incentives to facilitate screening eligibility assessment. LC2 Initiative Steering Committee members reviewed these survey findings and recommended taking action to operationalize these proposals.

Table 5. Survey on Support for Call to Action Proposals (N=25)

Collaborative Action Proposals	**Support**				**Total**	
	Yes		**No**			
Health plans and health systems should...	N	%	N	%	N	%
Support a learning community infrastructure.	25	100.0	0	0.0	25	100.0
Share educational resources and interventions for physicians, patients, and the community.	25	100.0	0	0.0	25	100.0
Advocate for investment in lung cancer screening.	25	100.0	0	0.0	25	100.0
Conduct cost analyses related to screening.	23	92.0	2	8.0	25	100.0
Use value-based contracting to support screening.	21	84.0	4	16.0	25	100.0
Incentivize the assessment of screening eligibility.	20	80.0	5	20.0	25	100.0

Call to Action

LET'S SHAPE THE FUTURE OF LUNG CANCER SCREENING

The early detection of lung cancer through LCS offers hope for decreasing mortality and increasing long-term survival from this disease. All stakeholders should find a way to work together to ensure that every individual who meets the eligibility criteria has access to high-quality SDM, LCS, and follow-up care.

To achieve the promise of screening and tobacco treatment, it is important to take collective action. It is recommended that the path forward in Philadelphia and elsewhere should focus on operationalizing the proposals outlined below.

1. **Every health system across the country should organize a lung cancer learning community that can guide collaborative efforts of the health system, health plans, and other stakeholders (including FQHCs) to increase shared decision making and screening, promote smoking cessation, and reduce disparities.**

    - The LC2 Initiative infrastructure is an effective means to facilitate continuous communication related to SDM, LCS, and tobacco cessation among stakeholders. In Philadelphia, the LC2 Initiative team has created a learning community that includes over 100 health system leaders, providers, patients, community members, and representatives from multiple health plans. Branding this infrastructure as a forum for collaboration is a simple and powerful way to align activities, share resources for the benefit of patients/plan members, identify gaps in services or information, and support the implementation of best practices. Existing channels of communication among community members may be expanded by the use of social media tools and the identification and inclusion of "trusted influencers" in the community.

2. **Health system lung cancer learning communities should encourage health systems and health plans to identify individuals eligible for lung cancer screening and ensure that shared decision making, lung cancer screening, and smoking cessation services are offered at multiple "touchpoints" in care.**

    - Assessing eligibility for LCS depends on accurate pack-year data. Sporadic and inaccurate documentation in the EMR presents major barriers to the delivery of LCS and tobacco cessation services. Health systems can do internal training and work with EMR vendors to make tobacco use documentation simple and uniform. Health plans could offer contractually-based incentives to encourage providers to collect and enter data from patients. The health system and health plans could also co-invest in providing financial incentives to patients to accurately disclose their tobacco use history.

- The learning community can leverage existing data repositories to create a registry of individuals who are eligible for LCS and tobacco cessation at provider/patient/member touchpoints, where population health needs are addressed. These touchpoints should be leveraged to meet the needs of persons, especially those who speak different languages and have low levels of health literacy, and to explore how to use telehealth, along with traditional and new media channels to foster engagement. Furthermore, health systems and health plans can facilitate the delivery of SDM training and support for providers, care coordinators, and practice personnel. Moreover, the health system and health plans can explore ways to minimize duplication of effort.

3. Health system lung cancer learning communities should encourage health systems and health plans to conduct cost analyses that can guide creation of incentives designed to support shared decision making, screening, follow-up, treatment, and smoking cessation.

- Both health system leaders and health plan representatives reported that they did not know the revenue implications of screening. Health plans are likely to see a return on investing in screening outreach if cancers are detected at earlier stages, when the recommended course of treatment for their members is simpler and less costly. Health systems are likely to see an increase in revenue, when screening outreach leads to more screening, diagnostic evaluation of patients with abnormal screening results, delivery of state-of-the-art treatment, and referrals to other needed services, such as tobacco treatment. Screening outreach programs represent one among many competing priorities health systems and health plans looking to best serve their patients, members, and the community. Having a clearly defined case for return on investment (ROI) can gain increased support for screening outreach.
- While ROI is a key practical consideration for health systems and health plans, there are other important factors that often lead to embedding incentives into contracts between payers and health systems. The goal of reducing disparities in screening rates and outcomes for certain patient/member groups also drives payment arrangements. Health systems and health plans can work together to develop interconnected health programs to engage primary care practices and patients in LCS. They can achieve clinical and financial goals by expanding services included in existing Value Based Programs (VBP) and take advantage of current tools used to link patients to needed care. Through these programs, the health system and health plans can boost member engagement, increase early detection, improve outcomes, and reduce medical costs. Existing VBP payment mechanisms, such as care management fees, gaps in care metrics, and form-based fees, can be adjusted through contracts to offset the additional cost incurred by the clinically integrated network associated with engaging at risk patients.

4. Health system lung cancer learning communities should advocate for increased public and private investment to identify and implement effective strategies that can increase shared decision making, screening, follow-up, treatment and smoking cessation.

- In the Commonwealth of Pennsylvania, less than 1% of the total state and federal dollars invested in cancer prevention and control were dedicated to lung cancer prevention and detection activities in 2017-2018 (14). The learning community can work together to articulate the need for increased public and private investment to support SDM, LCS, and tobacco treatment.

By operationalizing the LC2 Initiative Call to Action, health systems, health plans, and communities can engage in continuous communication and embrace a shared commitment to operationalizing the proposals outlined above. As a result, we can build a better future for all, including those individuals and populations at risk for lung cancer and related disparities.

REFERENCES

1. Screening for Lung Cancer: US Preventive Services Task Force Recommendation Statement, JAMA 325:10 [Mar. 9, 2021].
2. CMS. Medicare Coverage of Screening for Lung Cancer with Low Dose Computed Tomography (LDCT). 2015 [cited 2018 May 10]; Available from: https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/ MLNMattersArticles/Downloads/mm9246.pdf.
3. Tanner NT, Silvestri GA. Shared Decision-making and Lung Cancer Screening: Let's Get the Conversation Started. Chest. 2019;155(1):21–4.
4. American Cancer Society. Cancer Facts & Figures: 2021. Atlanta: American Cancer Society; 2021 [cited 2021 Apr 1].
5. American Cancer Society. Pennsylvania Cancer Statistics | American Cancer Society - Cancer Facts & Statistics [Internet]. [cited 2021 Apr 1]. Available from: https://cancerstatisticscenter.cancer.org/#!/state/Pennsylvania
6. Siegel RL, Miller KD, Fuchs HE et al. Cancer Statistics, 2021, CA Cancer J Clin 2021; 71:7-33 1.
7. Lake M, Shusted CS, Juon HS et al. Black patients referred to a lung cancer screening program experience lower rates of screening and longer time to follow-up. BMC Cancer 2020 20:561.
8. American Lung Association. State Data | Pennsylvania [Internet]. [cited 2020 Jul 27]. Available from: https://www.lung.org/research/state-of-lung-cancer/states/pennsylvania
9. de Koning HJ, van der Aalst CM, de Jong PA, Scholten ET, Nackaerts K, Heuvelmans MA, et al. Reduced Lung-Cancer Mortality with Volume CT Screening in a Randomized Trial. N Engl J Med. 2020 Feb 6;382(6):503–13.
10. Pastorino U, Sverzellati N, Sestini S, Silva M, Sabia F, Boeri M, et al. Ten-year results of the Multicentric Italian Lung Detection trial demonstrate the safety and efficacy of biennial lung cancer screening. Eur J Cancer. 2019 Sep;118:142–8.
11. Affordable Care Act. Patient Protection and Affordable Care Act (Affordable Care Act) Public Law 111-148. 2010 Mar 23 [cited 2020 Aug 19]; Available from: https://www.congress.gov/111/plaws/publ148/PLAW-111publ148.pdf
12. Fedewa SA, Kazerooni EA, Studts JL, et al. State Variation in Low-Dose CT Scanning for Lung Cancer Screening in the United States. J Natl Cancer Inst 2020.
13. American Lung Association. Lung Cancer Key Findings [Internet]. American Lung Association. 2020 [cited 2020 Jul 27]. Available from: https://www.lung.org/research/state-of-lung-cancer/key-findings
14. Pennsylvania Cancer Control, Prevention and Advisory Board Research Advisory Board. 2017-2018 Pennsylvania Cancer Prevention and Control Annual Report . 2019 Sep 1 [cited 2020 Jul 20];26. Available from: https://www.health.pa.gov/topics/Documents/Diseases%20and%20Conditions/Cancer/2017-2018%20Annual%20Cancer%20Report.pdf
15. London JW, Fazio-Eynullayeva E, Palchuk MB, Sankey P, McNair C. Effects of the COVID-19 Pandemic on Cancer-Related Patient Encounters. JCO Clin Cancer Inform. 2020;4:657–65.
16. Carter-Harris L, Slaven JE, Monahan PO, Shedd-Steele R, Hanna N, Rawl SM. Understanding lung cancer screening behavior: Racial, gender, and geographic differences among Indiana long-term smokers. Prev Med Rep. 2018 Jun;10:49–54.
17. Centers for Disease Control and Prevention. Community Profile - Philadelphia, PA [Internet]. Centers for Disease Control and Prevention. 2013 [cited 2020 Jul 27]. Available from: https://www.cdc.gov/nccdphp/dch/programs/communitiesputtingpreventiontowork/communities/profiles/both-pa_philadelphia.htm
18. Sheehan DF, Criss SD, Chen Y, Eckel A, Palazzo L, Tramontano AC, et al. Lung cancer costs by treatment strategy and phase of care among patients enrolled in Medicare. Cancer Med. 2019;8(1):94–103.
19. Centers for Disease Control and Prevention. Economic Trends in Tobacco [Internet]. Centers for Disease Control and Prevention. 2020 [cited 2020 Jul 27]. Available from: https://www.cdc.gov/tobacco/data_statistics/fact_sheets/economics/econ_facts/index.htm
20. Centers for Medicare and Medicaid Services (CMS). CMS Star Ratings are used as a quality indicator for Medicare Advantage and prescription drug Medicare Advantage plans. Fact Sheet – 2020 Part C and D Star Ratings. 2019 Sep 10 [cited 2020 Jul 27]; Available from: https://www.cms.gov/Medicare/Prescription-Drug-Coverage/PrescriptionDrugCovGenIn/Downloads/2020-Star-Ratings-Fact-Sheet-.pdf/

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