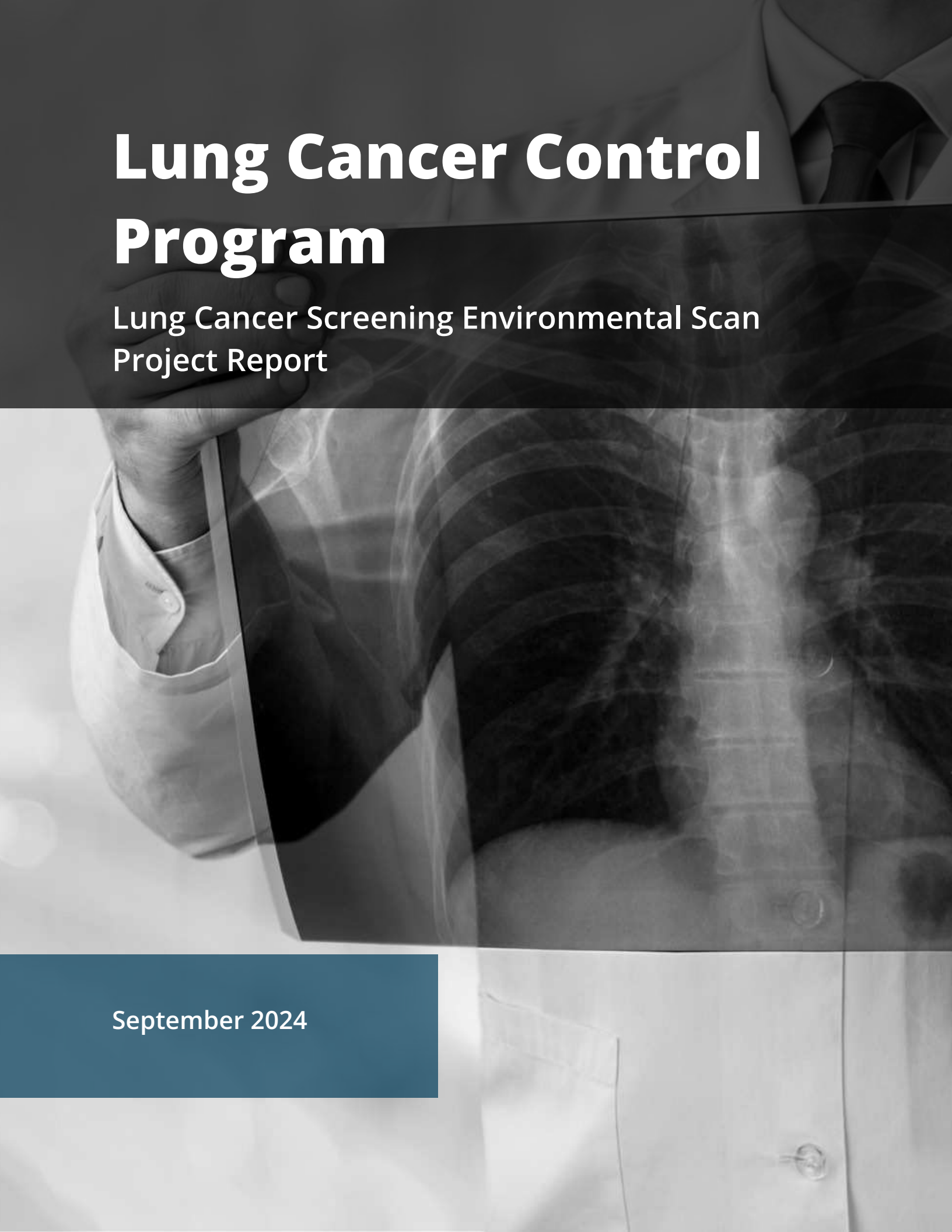




Lung Cancer Control Program

Lung Cancer Screening Environmental Scan
Project Report

September 2024



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<https://www.michigan.gov/mdhhs>

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Executive Summary

Lung Cancer Screening Environmental Scan

Lung cancer is the leading cause of cancer death in Michigan with a mortality rate of

32.4 per 100,000¹

The Lung Cancer Control Program (LCCP) within the Michigan Department of Health and Human Services (MDHHS) is interested in reducing lung cancer incidence through increasing lung cancer screening rates. However, there are a number of barriers that both providers and patients face. To better understand how to help providers increase screening rates, the LCCP conducted an environmental scan consisting of the following elements:



A survey of healthcare providers that conduct, or refer for, lung cancer screenings



Convening of an advisory group of experts to guide the environmental scan and offer recommendations for LCCP's future work



Interviews with health care providers representing a variety of settings



A multistate review of five Initiatives in other states that work to increase lung cancer screening

Who's at Risk?



Adults aged

50 to 80 years

with a 20 pack-year smoking history² who currently smoke or recently quit²



7.1%

of Michiganders

Provider Barriers



The percentage of provider survey respondents who said inability to identify eligible patients, as well as workforce shortages and capacity of screening centers, were the top two most pressing barriers that hinder screening efforts.



The percentage of provider survey respondents who said inconsistency or misclassification of tobacco use was the first- or second-greatest barrier to providing lung cancer screening.

Patient awareness of lung cancer risk and screening also needs to be addressed, with one interviewee stating:

“**We don't approach lung cancer screening [LCS] in the same way [as receiving a mammogram for breast cancer]. We need to normalize talking about it as part of routine care.**”

¹ Michigan Department of Health and Human Services Division for Vital Records & Health Statistics (MDHHS). April 13, 2023. "Cancer Mortality by Primary Site and Age at Death Michigan Residents, 2021." *Michigan Department of Health and Human Services*. <https://vitalstats.michigan.gov/osr/cancer/cdxrecent.asp>

² "A pack-year is equal to smoking one pack (or about 20 cigarettes) per day for a year. For example, a person could have a 20 pack-year history by smoking one pack a day for 20 years, or by smoking two packs a day for ten years" (American Cancer Society 2024).

What Do Providers Need?

Provider survey respondents and interviewees named the following supports as the top resources they would need to increase lung cancer screening rates:



Technical assistance to improve workflow processes to identify eligible patients



Help implementing evidence-based practices such as provider assessment and feedback systems, especially those related to electronic health records



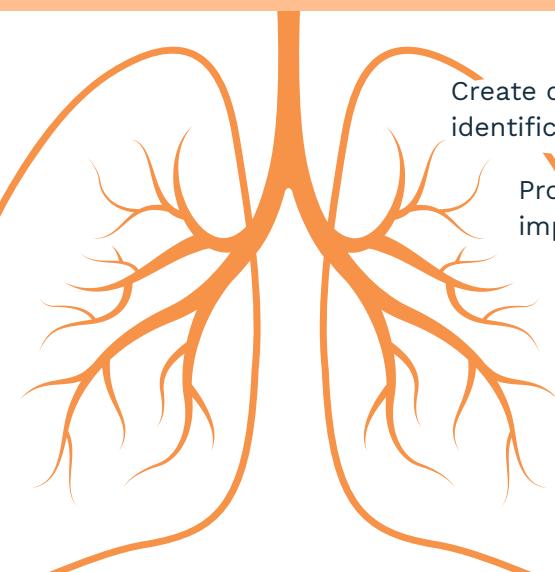
Ways to reduce patient barriers related to social determinants of health, such as utilizing mobile screening units to address transportation barriers.



Educational materials in various languages on radon exposure and radon mitigation resources, **as radon is the second-leading cause of lung cancer after smoking tobacco.**

Recommendations for Future Work

Based on the findings of the environmental scan and ideas provided by the advisory committee, the LCCP should consider the following recommendations in future work:



Create or compile a package of resources for providers on identification of eligible patients

Provide technical assistance to LCS programs focused on how to implement evidence-based practices and improve workflows

Partner with radon experts to enhance awareness of radon's connection to lung cancer among providers and the community

Increase community engagement and education to encourage eligible patients to receive screening

Facilitate partnerships between LCS providers and referral organizations

The LCCP can look to examples in California, Indiana, Kentucky, Vermont, and Maine to guide some of the activities related to these recommendations. For example, California's Dialogue on Cancer provides a social media toolkit to better engage with the community, while the Kentucky LEADS Collaborative has partnered with healthcare systems to act as hosts for prevention and early detection work.

Interested in Getting Screened?

- To learn more about lung cancer screening, visit [this link](#)
- To find the nearest lung cancer screening location, visit [this link](#)
- Interested in becoming tobacco-free? Call the Michigan Tobacco Quitlink at 1-800-QUIT NOW (748-8669)
- To find and learn how to use a radon test kit, [visit this link](#)

This project is sponsored by the Michigan Department of Health and Human Services Lung Cancer Control Program. Visit their website at:

<https://www.michigan.gov/mdhhs/keep-mi-healthy/chronicdiseases/cancer/lung-cancer>

Background

Lung cancer is the leading cause of cancer death in Michigan and across the United States, with mortality rates of 37.5 per 100,000 and 32.4 per 100,000, respectively (MDHHS 2023; National Cancer Institute n.d.). Lung cancer screening (LCS) detects lung cancer earlier, thus reducing the number of lung cancer–related deaths. Annual low-dose CT scans are the LCS method recommended by the United States Preventive Services Task Force (USPSTF) to detect lung cancer and is covered by Medicare and most state-based Medicaid programs, including Michigan’s (American Cancer Society 2022). However, only 7.1 percent of Michiganders considered high risk for lung cancer, or those ages 50 to 80 years with a 20 pack-year smoking history¹ who currently smoke or recently quit, actually receive the recommended screenings (American Lung Association 2023). Further, only one in five individuals return for a second annual screening after they have received a first (American Cancer Society 2022).

Addressing Barriers Related to Lung Cancer Screening

A number of barriers exist on both the patient and provider sides that impede eligible individuals from receiving LCS, thus hindering the opportunity to detect and treat lung cancer at the earliest stage possible. Research has shown that some of the barriers that patients face include unawareness of LCS benefits and risks, fear of cancer diagnosis, stigma associated with lung cancer, concerns around costs, and access issues (Lin et al. 2023; Wang et al. 2019).

The Lung Cancer Control Program (LCCP) within the Michigan Department of Health and Human Services (MDHHS), in an effort to better understand the barriers that providers face, undertook an environmental scan project. This project included a multistate review of initiatives in other states, engaging providers through surveys and interviews, and developing recommendations for how the program could best support them in implementing evidence-based interventions (EBIs) to increase LCS rates among recommended patients.

The American Thoracic Society and American Lung Association recommend a number of EBIs to increase LCS rates; these interventions are the basis of the LCCP’s environmental scan and are referenced throughout the report. To reduce some patient barriers, the American Thoracic Society and American Lung Association recommend:

- *Reducing patient out-of-pocket costs:* Minimizing or removing economic barriers, such as through reimbursements, copay reductions, or insurance coverage

¹ “A pack-year is equal to smoking one pack (or about 20 cigarettes) per day for a year. For example, a person could have a 20 pack-year history by smoking one pack a day for 20 years, or by smoking two packs a day for ten years” (American Cancer Society 2024).

- *Reducing structural barriers:* Overcoming noneconomic barriers to screening through interventions such as modifying hours of service to meet patient needs, reducing travel to service delivery sites, or simplifying administrative procedures
- *Patient reminders:* Written or telephone messages advising people they are due for screening
- *Group education:* Health professionals deliver information about the indications for, benefits of, and ways to overcome barriers to screening to groups through lectures or other interactive formats to encourage and motivate audience members
- *One-on-one education:* Health professionals deliver information to individuals about the indications for, benefits of, and ways to overcome barriers to screening to inform, encourage, and motivate them

Similarly, the following interventions are recommended to reduce provider barriers:

- *Provider reminder and recall systems:* Reminders that inform health professionals when it is time for a patient's screening, or if a screening is overdue
- *Promoting informed decision making for LCS:* Health professionals work with patients to make decisions about screening consistent with the patients' values
- *Engaging community health workers through patient navigation:* Utilizing frontline health professionals to aid patients, families, and caregivers to overcome barriers to screening
- *Multicomponent interventions:* Work that includes a number of the aforementioned interventions (American Cancer Society 2023).

Key Findings

- Health care providers face a number of barriers in offering lung cancer screenings. A survey of providers showed that providers' inability to identify eligible patients and workforce shortages are two of the most pressing barriers.
- In addition to identifying eligible patients and workforce shortages, providers who participated in an interview also reported patient fear and stigma related to lung cancer, social determinants of health such as transportation, and issues with electronic health records were challenges that their organizations faced.
- Radon, despite being the second leading cause of lung cancer, and the first among nonsmokers, is not adequately discussed or understood among care teams.²
- Healthcare providers are already implementing some of the EBIs recommended by the American Thoracic Society and American Lung Association, such as patient and provider reminder systems, but could use additional support implementing more interventions.

² Radon exposure is not included in the eligibility criteria for LCS.

- Some of the strategies that providers reported that would be helpful to increase lung cancer screening include conducting community outreach efforts to spread awareness of LCS, offering technical assistance to improve workflow processes, and providing patient resources and education.

Project Activities

LCCP engaged Public Sector Consultants (PSC), a nonpartisan research and consulting firm, to support the environmental scan process. To do this, PSC and LCCP convened an advisory committee, conducted a multistate review of best practices to address barriers, distributed a survey to providers across the state, and hosted interviews with key stakeholders involved in lung cancer screening programs in Michigan. Further details on these activities are included in the following sections.

Advisory Committee

An advisory group of experts (listed in Appendix A) provided oversight and direction of the environmental scan project including confirming the research questions, project survey, and interview guide. This group met twice to provide feedback and brainstorm recommendations for the LCCP's future work. They also provided ongoing support related to engaging providers to take the survey and participate in interviews.

Multistate Review

PSC completed a review of initiatives in five other states to learn about their ongoing work to increase LCS rates. With guidance from the advisory committee, PSC and LCCP chose to review initiatives in California, Indiana, Kentucky, Maine, and Vermont and considered the following research questions:

- What EBIs does each initiative endorse or support?
- How is each initiative addressing health equity?
- How is each initiative financially supported?
- What partnerships exist within each initiative?
- What outreach approaches does each initiative use?

To answer the research questions, PSC used publicly available materials, such as presentations and reports, and data from each state initiative. Additionally, PSC contacted staff from some of these initiatives to gather more knowledge to inform this summary. As such, the review was limited by what materials and data were available for public use.

Provider Survey

PSC developed an online survey via Qualtrics that was distributed to healthcare providers across the state. This survey was intended to reach a variety of healthcare settings including federally qualified health centers (FQHCs), nonprofit organizations, hospitals, primary care providers, imaging centers, and tribal health centers, among others, and asked about the barriers these settings faced in offering LCS and what interventions they have implemented, if any.

PSC, LCCP staff, and members of the advisory committee reached out to representatives of 102 healthcare centers via email and postcard. The survey was open from May to June 2024 and received 20 responses (approximately a 20 percent response rate) that represented a number of roles, including clinic directors, medical directors, and nurse navigators, among others. A full version of the survey is available in Appendix B and a full summary of results is available in Appendix C.

Provider Interviews

Providers who took the survey were able to opt-in to a more in-depth discussion on barriers related to LCS. PSC conducted these virtual interviews with five people who represented both LCS providers and referral organizations. During these discussions, interviewees were asked about unique challenges their organizations face, how they are addressing those challenges, and what resources or support would be most useful to increase LCS uptake. An interview guide can be found in Appendix D.

Findings

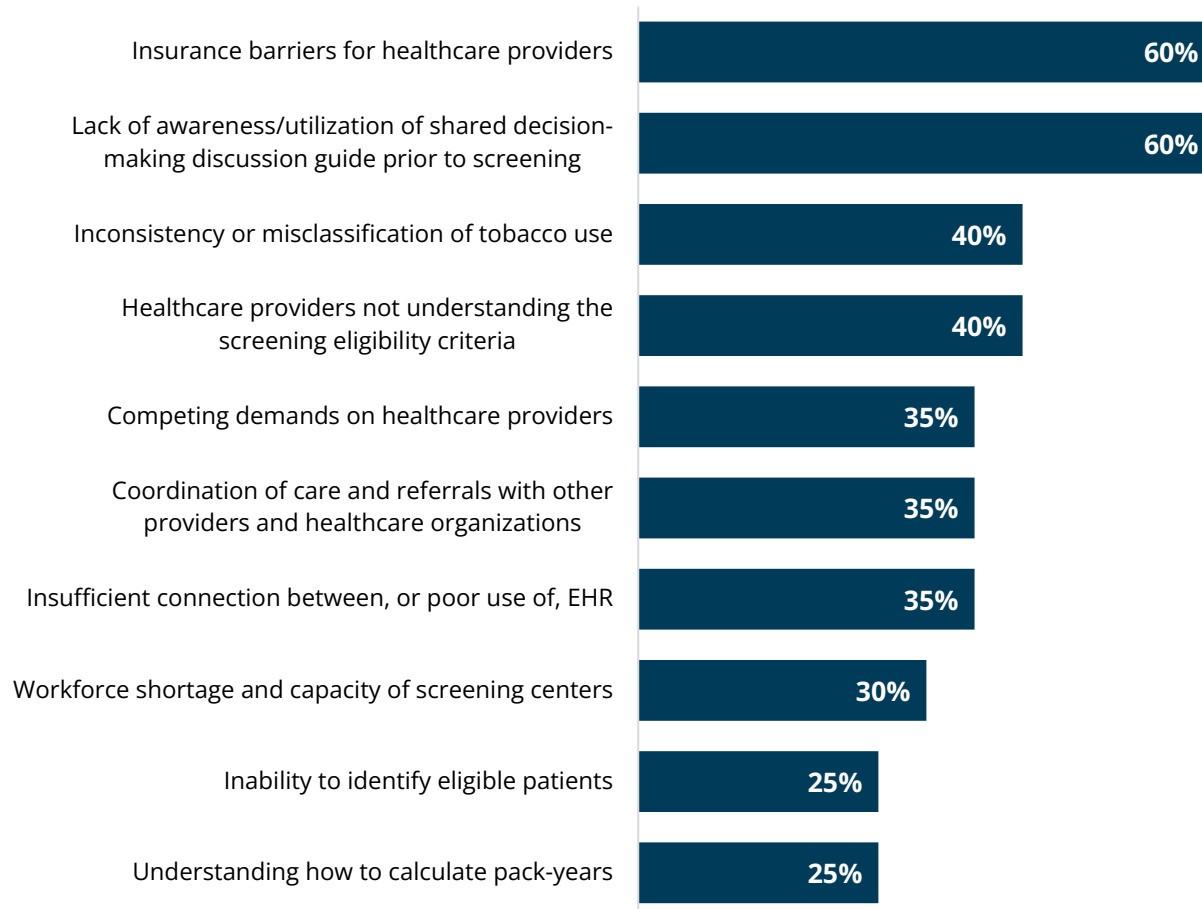
The following sections describe the findings drawn from the surveys and interviews. The findings encompass the barriers to screening, strategies to increase screening rates, and current use of EBIs as reported by healthcare providers. Findings from the multistate review are also included to provide additional details on how EBIs are implemented in other states.

Barriers

Through the survey, interviews, and advisory committee discussions, the top barriers identified include the inability to identify eligible patients, workforce shortages, patients' fear and stigma related to lung cancer or the healthcare system generally, social determinants of health, and shortcomings with electronic health records (EHRs). Sixty percent of survey respondents said that insurance barriers and the lack of awareness, or utilization of, a shared decision-making guide prior to screening are among the top-five barriers, and 40 percent said that inconsistencies or

misclassification of tobacco use and lack of provider understanding about LCS criteria create challenges (Exhibit 1). The full results from the survey can be found in the analysis in Appendix C.

EXHIBIT 1. Top-Five Barriers to Screening Patients for Lung Cancer



N = 20

Note: Percentages total more than 100 because more than one barrier could be selected.

A number of barriers shown in Exhibit 1 were expanded upon by interviewees. While some agreed that identifying patients and the workforce were primary issues at their organization, others said that issues like fear and stigma for patients were among the top barriers they faced in screening people for lung cancer.

The Workforce

People highlighted several interconnected barriers, including workforce shortage, competing demands of healthcare providers, inability to identify eligible patients, and insufficient EHRs. One person said that a shortage of radiologists and lack of awareness of LCS among the broader care team, such as community health workers and nurses, causes LCS to become a lower or overlooked

priority to discuss with patients. Interviewees also cited high turnover rates as a contributing factor that impacts the quality of care which patients receive. Workforce shortages and turnover barriers are exacerbated by the lack of tools available to walk through with clients to determine eligibility for LCS and by the limited EHR capabilities related to LCS.

Patient Stigma and Fear-Based Marketing

Despite facing a number of provider-side barriers, interviewees also highlighted that patient barriers, such as stigma and unawareness, still need to be addressed:

“ When you think about women and breast cancer, receiving a mammogram is commonplace and it’s normal to talk about. We don’t approach lung cancer screening in this same way; we need to normalize talking about it as a part of routine care. ”
—Interview participant

In addition to the stigma surrounding LCS specifically, some patients, such as those within tribal communities, are navigating generations of justifiable mistrust concerning the foundation of western medicine, research, and government practices. An interviewee shared that this lack of trust reduces the patients’ likelihood of seeing a provider or taking their provider’s recommendations into consideration, such as pursuing lung cancer screening. Should the patient experience negative interactions with providers or support staff, potentially rooted in provider bias, the patient concerns are often reinforced. This interviewee noted that individuals will share their negative experience with their neighbors to protect their community from further harm, however this also perpetuates the barrier to avoid engagement with the health care system.

Interviewees said that fear-based marketing, such as commercials with people who have lost their voices from smoking, as well as the fear surrounding cancer diagnosis, generally, can cause hesitation among patients. Though this is largely a barrier for patients seeking LCS, some interviewees also said that some providers are hesitant to offer information on cancer and LCS because of their patients’ fear.

Social Determinants of Health: Transportation

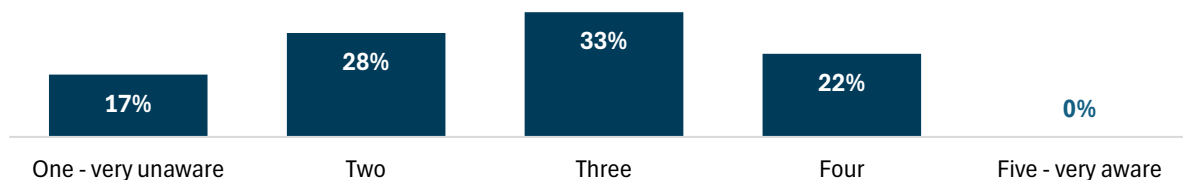
Interviewees, particularly at FQHCs, nonprofit health systems, and tribal health centers talked about how social determinants of health impact their patients who may be eligible for LCS. Transportation is one of the top barriers they cited and reported that there are limited resources available to providers to help address these types of patient barriers.

Despite offering bus passes or medical transportation through Medicaid, interviewees said these types of resources are inconsistent and may not improve a patient's ability to receive LCS. Medicaid transportation, specifically, varies in reliability across plans, and bus passes may not afford someone enough transfers to get to a screening location. When transportation, or other barriers, cause a patient to cancel or reschedule their appointments, providers have found that they are even less likely to follow up again to reschedule.

Resources for Radon Exposure and Tobacco Risk

Radon is the second leading cause of lung cancer and the first among nonsmokers (United States Environmental Protection Agency 2024). Despite few survey respondents saying that lack of awareness of radon's risks is a barrier, nearly half (45 percent) rated their staff's awareness of the effects of radon on lung cancer risk as unaware or very unaware (Exhibit 2).

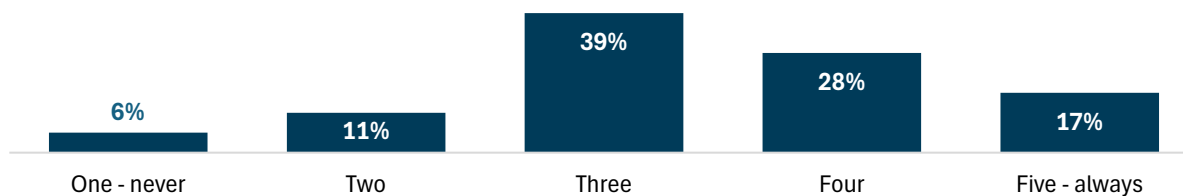
EXHIBIT 2. Level of Staff Awareness of Effects of Radon on Lung Cancer Risk



N = 18

In contrast, respondents are more likely to refer patients to tobacco-cessation resources such as the Michigan Tobacco Quitlink. Nearly 20 percent said that they always refer patients to Quitlink resources (Exhibit 3), indicating a possible discrepancy between understanding of, and providing resources for, tobacco compared to radon exposure that could lead to barriers for assessing LCS risk for nonsmokers.

EXHIBIT 3. Frequency with Which Staff Refer Relevant Clients to Michigan Tobacco Quitlink Resources



N = 18

Note: Percentages total more than 100 due to rounding.

Strategies to Increase Lung Cancer Screening Rates

In addition to barriers, providers, both in the survey and interviews, offered insights on activities that could work to increase LCS rates. Information from the multistate scan also provides guidance on some of the best practices that may work to do so. All these insights served as the basis for the development of recommendations for LCCP's future work. The multistate scan of initiatives in California, Indiana, Kentucky, Maine, and Vermont offers macro-level direction on how an initiative can leverage multisector partnerships, conduct community outreach and engagement, and integrate EBIs into statewide strategic plans. Providers expanded on some of these ideas through the survey and interviews.

Multisector Partnerships

Each of the five state initiatives is supported by **multisector partnerships** to increase reach. Of note, the state health entity—typically a state department of health and human services—is always involved with the initiative at some level. Other typical partners include those from the federal government, research and advocacy groups, universities, and the private sector.

Addressing Health Equity

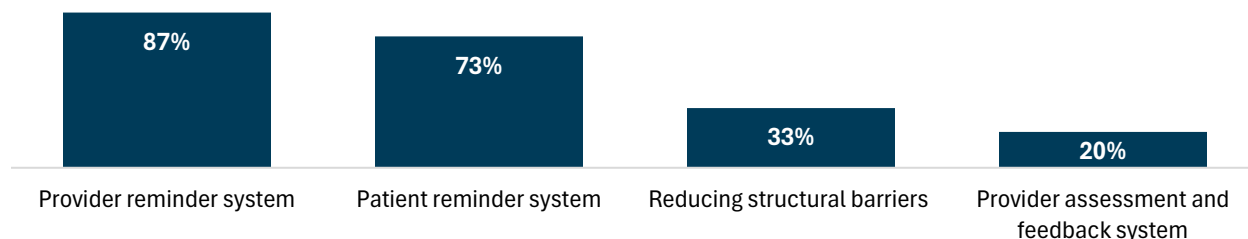
Each initiative **addresses health equity** by working to identify the populations in their state that are underserved or have disproportionately high rates of lung cancer and/or low LCS rates and exploring ways to best reduce barriers for these populations. Survey takers and the advisory committee echoed a need for exploring how to better serve diverse populations. Thirty-nine percent of survey respondents identified providing patient resources on LCS and radon exposure in languages other than English as a top support strategy that would be effective in increasing LCS (Appendix C). Interviewees also noted the importance of using culturally competent and relevant outreach and education materials to attract attention to the information and signify a desire to connect with those patients.

Evidence-Based Interventions

The American Thoracic Society and American Lung Association have endorsed the aforementioned list of nine **evidence-based interventions** to increase LCS rates through working with both patients and providers including reducing patient out-of-pocket costs and structural barriers, overcoming noneconomic barriers to screening, implementing patient reminders, and providing group and one-on-one education opportunities. Every state initiative highlighted in this report endorses some, or all, of these interventions, as well as others such as tobacco-cessation work. Typically, these interventions are included in their strategic planning documents or other statewide cancer plans and reports. Survey respondents reported that their organizations already use some of the recommended EBIs; 87 percent said that their organization had a provider reminder system in place,

73 percent use a patient reminder system, 33 percent work to reduce their patients' structural barriers, and 20 percent have implemented a provider assessment and feedback system (Exhibit 4). Notably, many interviewees stated that their patient reminders, either via phone call or text, are most successful when staff make the contact personally, instead of through an automated or mass messaging system.

EXHIBIT 4. Use of EBIs to Increase Screening Rates



N = 15

Note: Percentages total more than 100 because more than one intervention could be selected.

Funding

While neither the survey nor interviews involved funding as a topic, funding did appear as a theme in the multistate review research. Initiatives make use of **diverse funding streams** applicable to coalition-based work. For example, some initiatives use public funding from federal or state sources, while others use grant or philanthropic sources or a combination of public and private funds.

Community Engagement

Social media and engagement through community events are the two most common outreach strategies used by initiatives to spread the word about LCS. Additionally, each initiative leverages their cross-sector partnerships to reach and educate the public about LCS. Among survey takers, 39 percent said that they believed that conducting community outreach efforts to spread awareness is a strategy that would help increase LCS rates (Appendix C).

Additional Support Strategies

In addition to the EBIs, respondents said they use a number of other support strategies to increase LCS rates. Among them were collaborating with other healthcare providers to ensure patient follow-up (78 percent), utilizing patient-focused support staff (56 percent), distributing materials to inform and motivate people to be screened (50 percent), and offering technical assistance to provider organizations to improve workflow processes to identify eligible patients (39 percent). Full results related to what strategies providers believe would be effective are in Appendix C.

Recommendations

Results from the provider survey were presented to the advisory committee to inform a brainstorming session. After reviewing the data, the committee was asked to identify themes in the data and provide recommendations for how the LCCP could address these themes through future work. The committee's themes included:

- The top barriers for providers include identifying eligible patients and calculating pack-years
- A high percentage of providers implement patient and provider reminder systems but may need additional technical assistance to support providers in effectively using these systems
- Increasing awareness of the connection between lung cancer and radon exposure is valuable to providers
- Competing priorities and demands on providers intersect with the need for improvements to EHRs; when an EHR does not flag providers to offer LCS, their other priorities may take precedence

With these themes in mind, as well as the findings gleaned from the multistate review, survey, and interviews, the LCCP could consider the following recommendations for future work.

Recommendation One: Create or Compile a Package of Resources for Providers to Identify Eligible Patients

Rationale: Providers' ability to identify eligible patients was ranked as a top barrier to providing LCS. However, the advisory committee said that there may be a host of resources already available that the LCCP could compile and package to use for consistent messaging to offer to healthcare settings.

Activity 1a: Review existing guidance documents and tools related to calculating pack-years and identifying eligible patients to determine whether new resources need to be created.

Activity 1b: Work with existing platforms, such as AZARA, to create LCS-eligibility flags and gaps in care reports to integrate with EHRs.

Activity 1c: Educate healthcare providers on how to accurately assess patient family histories.

Recommendation Two: Provide Technical Assistance to LCS Programs Focused on Implementing Evidence-Based Practices and Improving Workflows

Rationale: EHRs and implementation of evidence-based practices were offered as two areas where providers could use additional support to help overcome competing priorities and to help the entire care team, including patient navigators and community health workers, better engage with eligible patients.

Activity 2a: Engage patient navigators and community health workers to work with patients when they come in for initial appointments to increase the points of communication about LCS, risks, and available resources.

Activity 2b: Connect with initiatives in other states to determine what supports they offer to increase uptake of evidence-based practices.

Activity 2c: Offer resources to providers on assessing their patients' preferred language and screening for social determinants of health to better understand what technical assistance LCCP could provide (e.g., resources in languages other than English, resources to better provide transportation).

Activity 2d: Educate providers on Health Effective Data Information System (HEDIS) measures

Activity 2e: Partner with Michigan health plans to further spread awareness on HEDIS measures to their in-network providers.

Recommendation Three: Partner with Radon Experts to Enhance Awareness of Radon's Connection to Lung Cancer Among Providers and the Community

Rationale: Radon is the second leading cause of lung cancer behind smoking, and the first-leading cause among nonsmokers. The provider survey showed that provider organization staff could improve their understanding and awareness of radon exposure, and that providing resources for radon mitigation would be a useful support strategy.

Activity 3a: Explore options for a public awareness campaign on radon.

Activity 3b: Collaborate with local health departments and the Michigan Department of Environment, Great Lakes, and Energy's Indoor Radon Program to enhance awareness of radon exposure among community members and providers (e.g., partner to offer provider education courses to LCS providers).

Activity 3c: Determine need for additional radon-related resources to add to the LCCP website.

Recommendation Four: Increase Community Engagement and Education to Encourage Eligible Patients to Receive Screening

Rationale: Patient stigma and lack of awareness surrounding lung cancer risks and screenings were brought up as an issue during multiple interviews, as the stigma associated with lung cancer and tobacco use can prevent patients from accurately disclosing their smoking or family history, or from seeking screening altogether. As such, helping patients become more aware of lung cancer risks and screenings without reinforcing fear or stigma can aid providers in screening at higher rates. All of the initiatives in other states displayed various ways to engage with the community.

Activity 4a: Attend more community events where the LCCP can continue to use inflatable lungs to provide more hands-on and demonstrative education surrounding lung cancer health.

Activity 4b: Create population-specific awareness campaigns (e.g., LGBTQ+, populations that have been historically underserved), including those that can be shared on social media. These campaigns should be fact-based and avoid messaging that creates fear or further stigma associated with tobacco use or lung cancer. The LCCP can partner with community representatives or those with related lived experience when creating these population-specific campaigns to ensure alignment with cultural conventions.

Activity 4c: Meet people where they are by offering educational materials in nontraditional places such as bars, restaurants, casinos, or other places where people may commonly gather.

Activity 4d: Engage with groups that already exist and are interested in reducing their risk for lung cancer, such as those who are enrolled in current tobacco-cessation programming.

Activity 4e: Widely promote National Lung Cancer Screening Day in November and encourage providers to sign up to offer LCS.

Activity 4f: Work with LCS providers to offer LCS services outside of traditional hours (e.g., weekends, evenings).

Recommendation Five: Facilitate Partnerships between LCS Providers and Referral Organizations

Rationale: Stronger connections between providers that refer for, and directly offer, LCS may allow for better follow-up and patient trust. The LCCP could play a key role in offering spaces for providers to meet face-to-face to network, exchange resources and strategies related to LCS, and create methods to ensure follow-through on referrals.

Activity 5a: Create networking events for LCS providers and referral organizations to build a stronger peer network.

Activity 5b: Encourage LCS providers to create partnerships with referring organizations where a certain number of LCS scheduling slots are held for patients of referral organizations.

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<https://doi.org/10.1148/radiol.2018180212>

Appendix A: Advisory Committee Members

- Julee Campbell, iMPROve Health
- Brittany Hemraj, Michigan Cancer Consortium
- Kristin Maki, Wayne State University School of Medicine
- Kerry Murphy O'Donnell, American Cancer Society
- Noel Pingatore, University of Michigan Rogel Cancer Center
- Audra Putt Brown, Michigan Cancer Consortium
- Mohammed Saquib, Michigan Department of Health and Human Services Tobacco Section
- Beth Sieloff, Inter-Tribal Council of Michigan
- Les Smith III, Michigan Department of Environment, Great Lakes, and Energy Indoor Radon Program

Appendix B: Provider Survey

Introduction

The Michigan Department of Health and Human Services (MDHHS) strives to increase the rate of lung cancer screening in Michigan. By participating in this survey, you can contribute to the knowledge around barriers to screening patients from a healthcare organization perspective. This survey should take approximately ten minutes to complete.

Please note, participation in this survey is voluntary and no personally identifiable information is required to be collected or reported via this survey.

If you represent more than one healthcare setting or location, please complete this survey for one setting at a time.

Questions

1. From an organizational perspective, please identify and rank the top-five barriers you face in screening patients for lung cancer.
 - a. Coordination of care and referrals with other providers and healthcare organizations
 - b. Competing demands on healthcare providers
 - c. Insurance barriers for healthcare providers
 - d. Insufficient connection between, or poor use of, electronic health records (EHR)
 - e. Healthcare providers not understanding the screening eligibility criteria
 - f. Inconsistency or misclassification of tobacco use
 - g. Understanding how to calculate “pack-years”
 - h. Lack of information or awareness about radon and its impact on lung cancer rates
 - i. Workforce shortage and capacity of screening centers
 - j. Cultural competency regarding priority populations
 - k. Lack of funding or financial incentive
 - l. Inability to identify eligible patients
 - m. Lack of awareness, or utilization of, shared decision-making discussion guide prior to screening
 - n. Other, please explain [Open-ended]
2. Please indicate any evidence-based interventions (EBIs) that your organization currently has in place to increase lung cancer screening rates. Select all that apply.
 - a. Patient reminder system to remind patients when they are due for lung cancer screening (written in paperwork, postcard, email, text, automated messages, etc.)

- b. Provider reminder system to inform providers that a patient is due (or overdue) for lung cancer screening (placing reminders in patient charts, EHR alerts, emails to the provider, etc.)
 - c. Provider assessment and feedback system to deliver information to providers about their performance in providing screening services (scheduling one-on-one meetings with providers, creating a scorecard with other providers' screening rates, etc.)
 - d. Reducing structural barriers through interventions to address noneconomic burdens or obstacles that make it difficult for people to access cancer screening (providing transportation to appointments, flexible scheduling hours, reduced paperwork, etc.; does not include patient navigation or community health workers)
3. What support strategies is the organization currently using to increase lung cancer screening rates at your location? Select all that apply.
- a. Utilize patient-focused support staff (e.g., patient navigators, community health worker outreach coordinators, or similar roles) to assist clients in overcoming barriers to cancer screening
 - b. Distribute small media materials to inform and motivate people to be screened
 - c. Administer a public awareness campaign to improve community perception and knowledge of lung cancer screenings
 - d. Conduct community-led outreach efforts to spread awareness and encourage patient participation in lung cancer screenings
 - e. Offer provider education opportunities
 - f. Collaborate with other healthcare providers and specialists to ensure patients receive lung cancer screenings and follow-up
 - g. Deploy mobile screening units to bring services to underserved communities
 - h. Utilize community and/or individual data to support health equity efforts by identifying disparities and targeting outreach
 - i. Ask patients if they have tested their home for radon to assess radon exposure risk
 - j. Provide access to affordable resources to mitigate radon exposure
 - k. Provide patient resources on lung cancer screening and radon exposure in languages other than English
 - l. Other, please explain [Open-ended]

4. Which of the following support strategies that you are not currently utilizing would help your organization improve its lung cancer screening rates? Select all that apply.
- a. Utilize patient-focused support staff (e.g., patient navigators, community health worker outreach coordinators, or similar roles) to assist clients in overcoming barriers to cancer screening
 - b. Distribute small media materials to inform and motivate people to be screened
 - c. Administer a public awareness campaign to help with community perception and knowledge of lung cancer screenings
 - d. Conduct community-led outreach efforts to spread awareness and encourage patient participation in lung cancer screenings
 - e. Offer provider education opportunities
 - f. Collaborate with other healthcare providers and specialists to ensure patients receive lung cancer screenings and follow-up
 - g. Deploy mobile screening units to bring services to underserved communities
 - h. Utilize community and/or individual data to support health equity efforts by identifying disparities and targeting outreach
 - i. Ask patients if they have tested their home for radon to assess radon exposure risk
 - j. Provide access to affordable resources to mitigate radon exposure
 - k. Implement EBIs such as patient and provider reminder systems, structural barrier reduction, and provider assessment and feedback systems
 - l. Provide patient resources on lung cancer screening and radon exposure in languages other than English
 - m. Offer technical assistance to improve workflow processes to identify eligible patients, create a follow-up process, etc.
 - n. Other, please explain [Open-ended]
5. On a scale of one to five, where one is very unaware and five is very aware, how aware are the staff at your organization about the effects of radon on lung cancer risk?
[rank scale]
6. On a scale of one to five, where one is never and five is always, how frequently do the staff at your organization refer relevant clients to the Michigan Tobacco Quitlink (formerly known as Quitline) resources to help them quit smoking?
[rank scale]

7. On a scale of one to five, where one is very unaware and five is very aware, how aware is your organization of the upcoming lung cancer screening measure in HEDIS (Health Effective Data Information System)?

[rank scale]

8. Please select all designations that apply to your healthcare setting.

- a. Federally qualified health center (FQHC)
- b. University associated
- c. Nonprofit organization 501(c)(3)
- d. Hospital
- e. Primary care provider
- f. Screening/imaging center
- g. Mobile screening unit
- h. Tribal health center
- i. Research institution
- j. Lung cancer screening program within a health system (e.g., the Lung Cancer Screening Clinic within Henry Ford Health)

9. [If Q8 = h or Q8= d] Is your location an American College of Radiology (ACR)-accredited imaging facility? (Y/N)

10. Please select the county of your healthcare setting from the drop-down menu.

[drop-down menu of Michigan counties]

11. Please select all roles that best apply to your position.

- a. Nurse practitioner
- b. Medical doctor
- c. Social worker
- d. Radiologist
- e. Oncologist
- f. Office manager
- g. Patient coordinator
- h. Clinic director
- i. Quality specialist
- j. Other administrative staff
- k. Other, please explain [Open-ended]

Closing

Thank you for your participation. The information you provided will aid MDHHS in their efforts to improve the early detection of lung cancer among Michigan residents.

If you would be willing to participate in a more in-depth discussion about lung cancer screening in the future, please note your contact information below.

[Name, Organization, Email text fields]

For more information about lung cancer early detection, please visit

<https://www.michigan.gov/mdhhs/keep-mi-healthy/chronicdiseases/cancer/lung-cancer>.

Appendix C: Lung Cancer Control Program Survey Summary

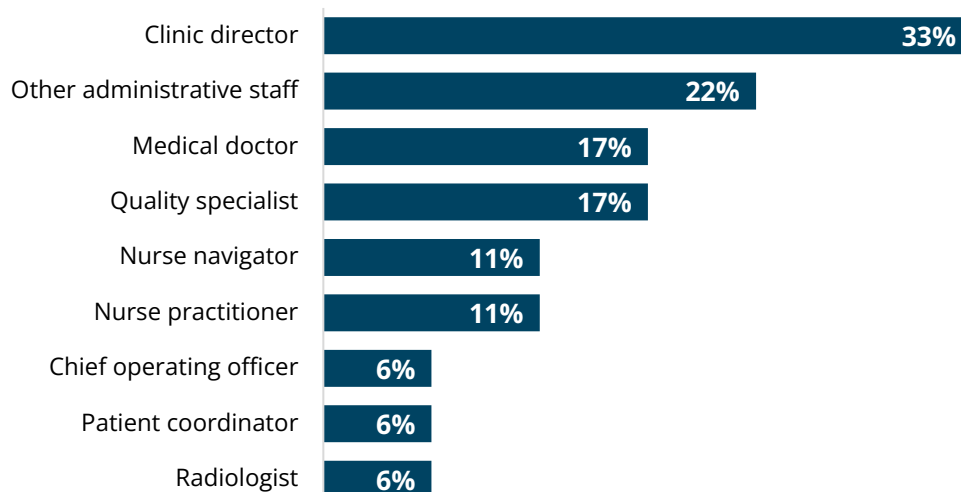
Introduction

Lung cancer is the number-one cause of cancer deaths in Michigan. In an effort to reduce the number of lung cancer deaths, the Lung Cancer Control Program (LCCP) at the Michigan Department of Health and Human Services (MDHHS) is working to increase lung cancer screening rates. MDHHS engaged Public Sector Consultants (PSC) to research how to increase these screening rates. As part of this work, the LCCP is interested in learning more about healthcare provider organizations' barriers to offering lung cancer screenings. The LCCP and PSC developed and fielded a healthcare provider survey to gather this information about the barriers.

Respondents and Respondent Organizations

The survey was completed by 20 healthcare providers across the state. One-third of respondents are clinic directors and 22 percent are other administrative staff (Exhibit 1).

EXHIBIT 1. Respondent Roles

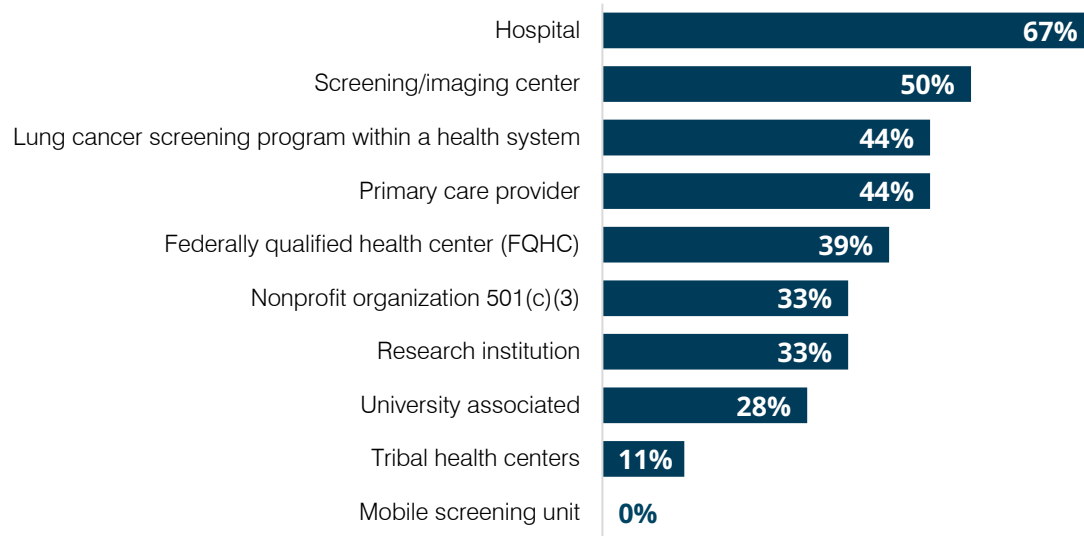


N = 18

Note: Percentages total more than 100 because more than one choice could be selected.

Two-thirds of respondents represent hospitals, and half represent a screening or imaging center. Nearly half (44 percent) work in a lung cancer screening program within a health system or a primary care setting (Exhibit 2). Seven of these locations are American College of Radiology (ACR)—accredited imaging facilities.

EXHIBIT 2. Respondent Healthcare Setting



N = 18

Note: Percentages total more than 100 because more than one choice could be selected.

One respondent is from a healthcare setting in Chippewa County in the Upper Peninsula, with the rest working at locations spread throughout the lower peninsula (Exhibit 3).

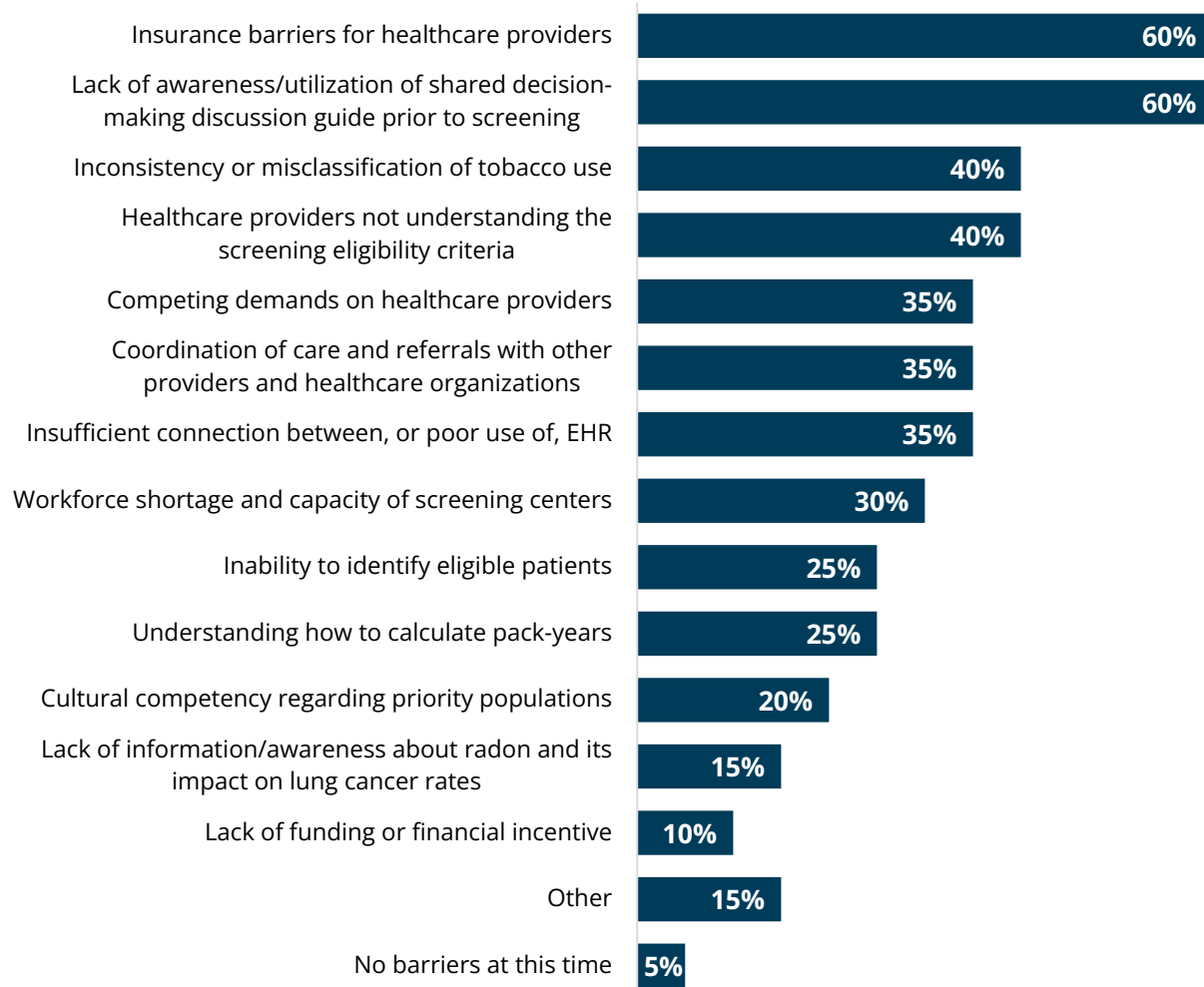
EXHIBIT 3. Healthcare Organization Location

County	Number of Respondents
Upper Peninsula	
Chippewa	1
Northern Lower Peninsula	
Bay	1
Emmet	2
Isabella	1
Midland	1
Roscommon	1
Mid-Michigan	
Calhoun	2
Ingham	1
Jackson	1
Southeast Michigan	
Washtenaw	1
Wayne	5

Survey Findings

From an organizational perspective, 60 percent of responding providers said that insurance barriers and the lack of awareness or utilization of a shared decision-making discussion guide prior to screening were among the top-five barriers to screening patients for lung cancer. Additionally, 40 percent of respondents said inconsistency or misclassification of tobacco use and healthcare providers not understanding the screening eligibility criteria were among the top-five barriers. More than one-third of respondents chose competing demands on healthcare providers, coordination of care and referrals with other providers, and insufficient connection between or poor use of electronic health records (EHRs) as top barriers (Exhibit 4).

EXHIBIT 4. Top-Five Barriers to Screening Patients for Lung Cancer



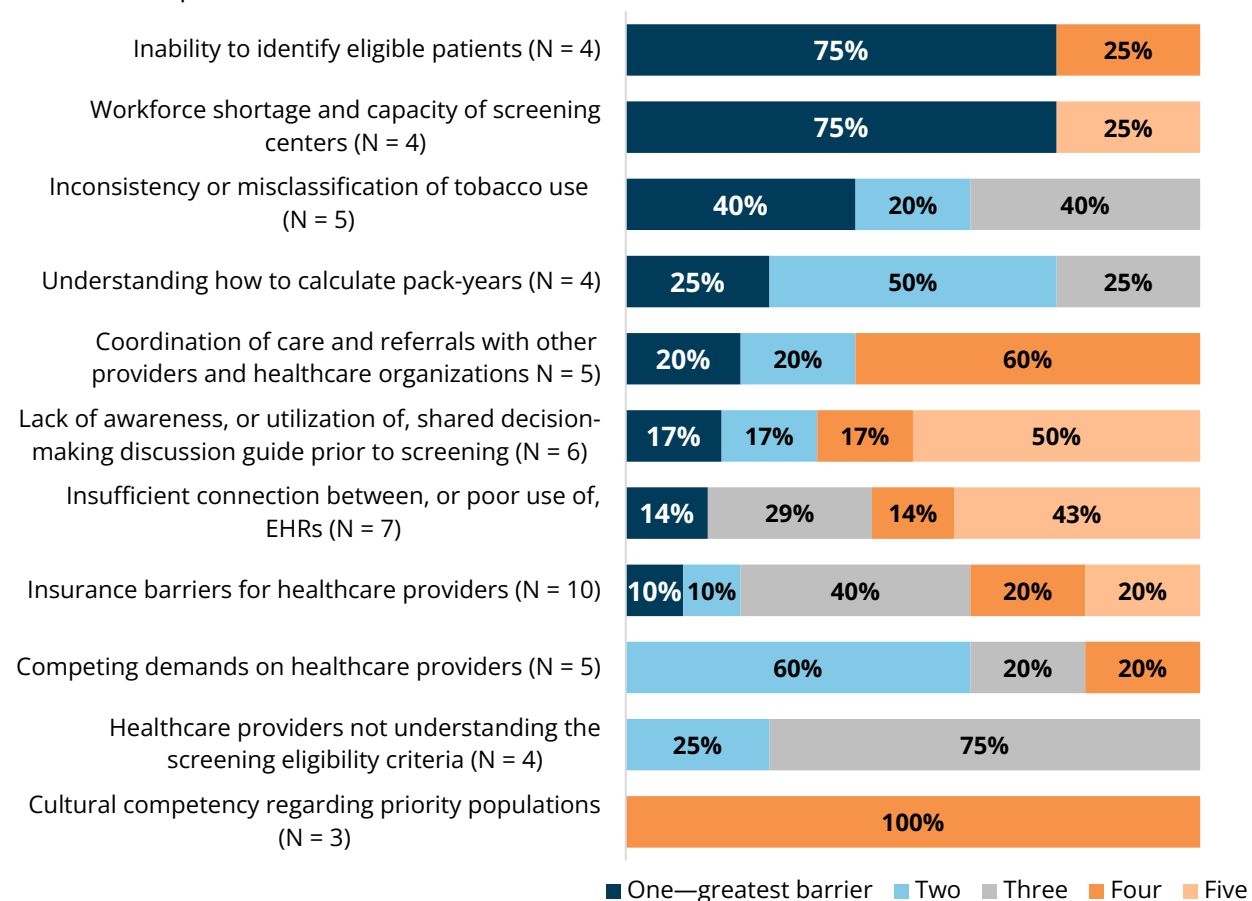
N = 20

Notes: Percentages total more than 100 because more than one barrier could be selected. "Other" responses were: Having to fill a separate order form rather than a simple order in the EHR; differing guidelines between USPSTF, ACS, and CMS; and struggle with the documentation for pack-year.

When asked to rank their top-five selected barriers in order from one to five, with one being the greatest barrier, respondents ranked inability to identify eligible patients and workforce shortage and capacity of screening centers as the greatest barriers. Among those who chose inconsistency or misclassification of tobacco use as one of their top-five barriers, 40 percent said it was the greatest barrier, 20 percent ranked it the second-greatest barrier, and 40 percent ranked it as the third barrier. Among those who chose understanding how to calculate pack-years as a top-five barrier, 75 percent ranked it either the greatest or second-greatest barrier (Exhibit 5).

The two barriers that appeared most in respondents' top five—"insurance barriers for healthcare providers" and "lack of awareness or utilization of shared decision-making discussion guide prior to screening"—were not ranked as high among the greatest barriers. Two-thirds of respondents ranked the lack of awareness of a shared decision-making guide as a four or five, and 40 percent ranked insurance barriers on the low end of the five-point scale.

EXHIBIT 5. Top-Five Barriers Ranked



N varied by response.

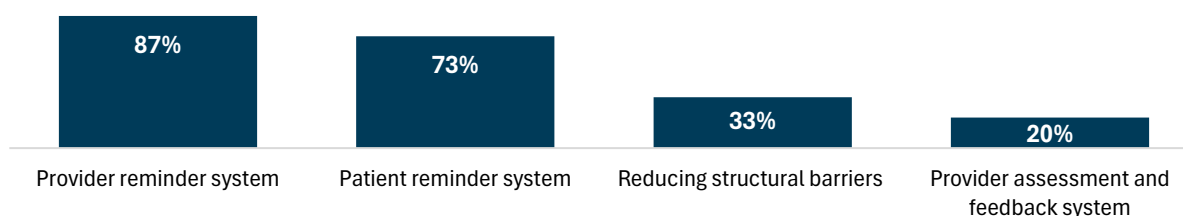
Notes: Percentages may not total 100 due to rounding; question response choices varied based on responses to the previous question; due to respondent drop-off and the variance in response choices, low numbers make it difficult to draw conclusions from these data.

Many of the respondents' organizations have at least one of four evidence-based interventions in place to increase lung cancer screening rates. These interventions are:

- **Patient reminder system** to remind patients when they are due for lung cancer screening (written in paperwork, postcard, email, text, automated messages, etc.)
- **Provider reminder system** to inform providers that a patient is due (or overdue) for lung cancer screening (placing reminders in patient charts, EHR alerts, emails to the provider, etc.)
- **Provider assessment and feedback system** to deliver information to providers about their performance in providing screening services (scheduling one-on-one meetings with providers, creating a scorecard with other providers' screening rates, etc.)
- **Reducing structural barriers** through interventions to address noneconomic burdens or obstacles that make it difficult for people to access cancer screening (providing transportation to appointments, flexible scheduling hours, reduced paperwork, etc.; does not include patient navigation or community health workers)

Nearly 90 percent of respondents said that their organization uses a provider reminder system and nearly three-quarters said they have a patient reminder system in place (Exhibit 6).

EXHIBIT 6. Use of Evidence-Based Interventions to Increase Screening Rates



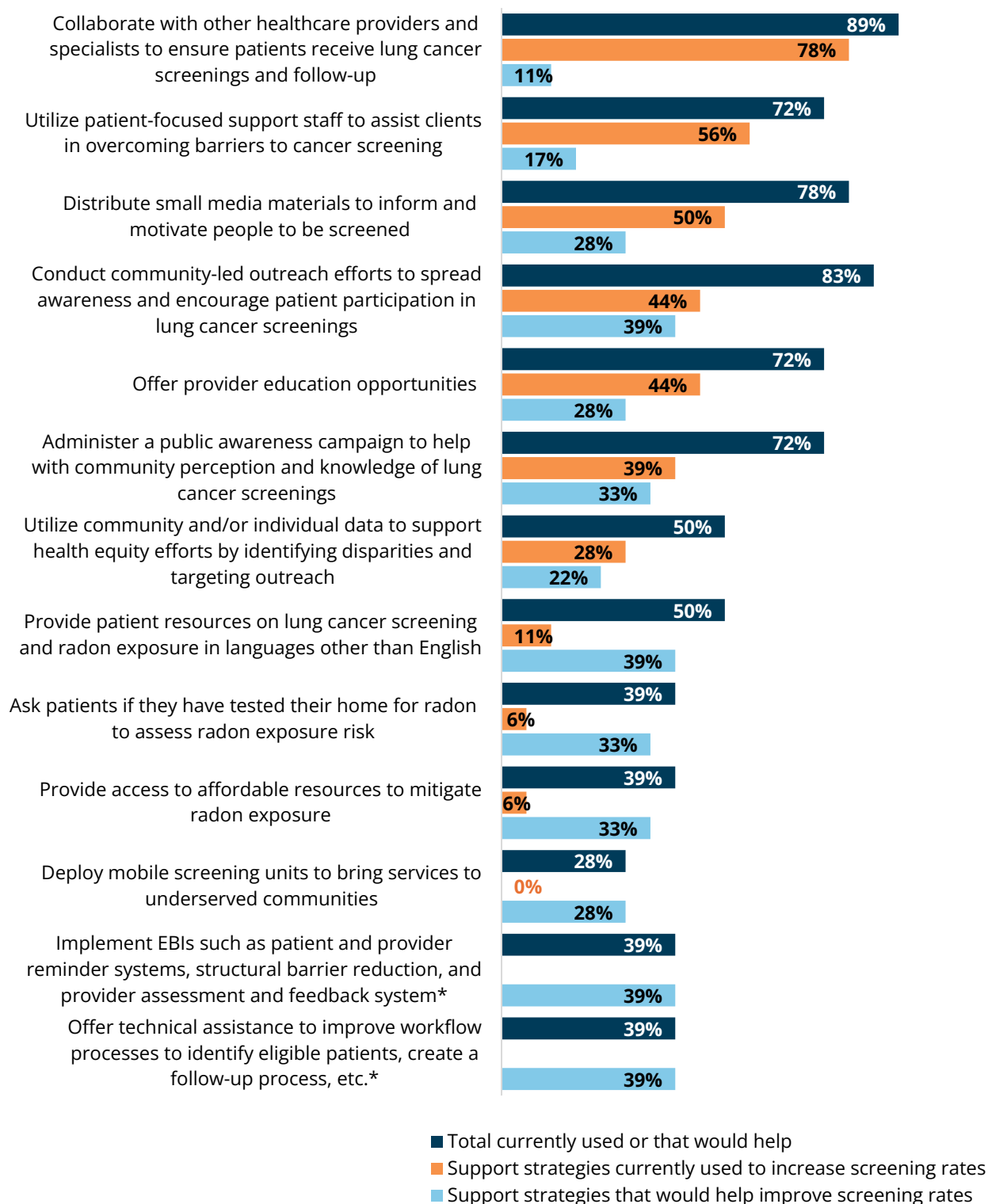
N = 15

Note: Percentages total more than 100 because more than one intervention could be selected.

More than three-quarters (78 percent) of respondents said their organization currently collaborates with other healthcare providers and specialists to ensure patients receive lung cancer screenings and follow-up, more than half (56 percent) use patient-focused support to assist clients in overcoming barriers to cancer screening, and half distribute small media materials to inform and motivate people to be screened (Exhibit 7).

In addition to support strategies being currently used by respondent organizations, many respondents also said that those support strategies not currently being used would help the organization improve its lung cancer screening rates. For example, while fewer than half (44 percent) of respondents said their organization currently conducts community-led outreach efforts to spread awareness and encourage patient participation in lung cancer screenings, another 39 percent said that it would help if their organization did so.

EXHIBIT 7. Use of Support Strategies to Increase Screening Rates

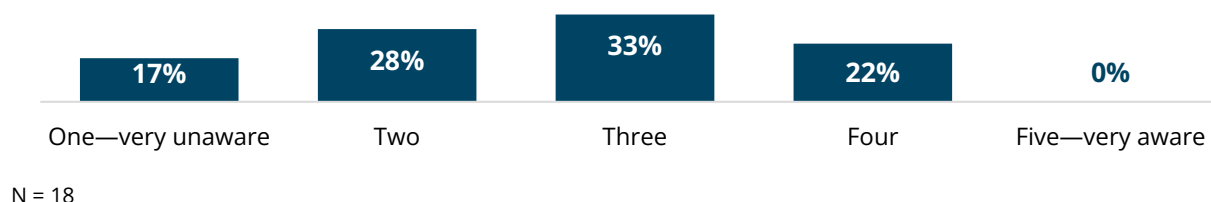


N = 18

Notes: Percentages total more than 100 because more than one support strategy could be selected; * denotes a response that was not included in the currently support strategy use question.

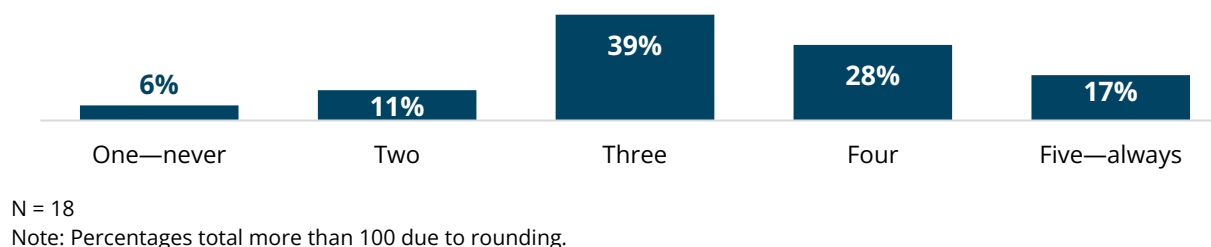
Staff awareness about the effects of radon on lung cancer risk was rated low by 45 percent of respondents, who rated the level of staff awareness either a one (very unaware) or two. Another one-third rated that awareness a three on a five-point scale (Exhibit 8).

EXHIBIT 8. Level of Staff Awareness of Effects of Radon on Lung Cancer Risk



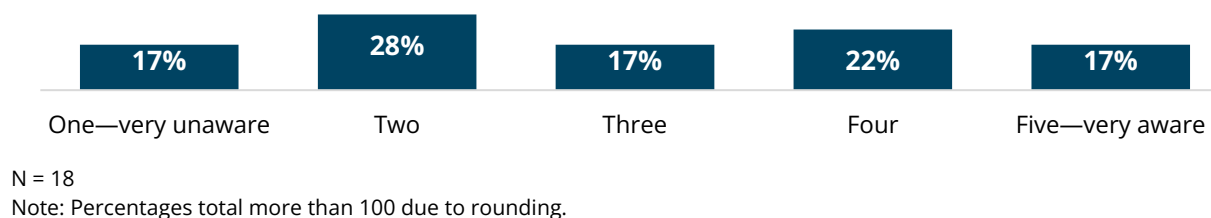
Around 20 percent of respondents said they always refer relevant clients to the Michigan Tobacco Quitlink resources to help them quit smoking, and 28 percent rated the frequency with which they refer clients a four on a five-point scale, indicating a high frequency (Exhibit 9).

EXHIBIT 9. Frequency with Which Staff Refer Relevant Clients to Michigan Tobacco Quitlink Resources



Organizational awareness of the upcoming lung cancer screening measure in the Health Effective Data Information System (HEDIS) was rated on the low end by 45 percent of respondents and on the high end by 39 percent of respondents (Exhibit 10).

EXHIBIT 10. Level of Organization Awareness of the Upcoming Screening Measure in HEDIS



Appendix D: Interview Guide

Introduction

1. To start, can you tell me about your organization and what services it provides related to lung cancer screening?
 - a. What are your roles and responsibilities at your organization?

Barriers

2. So far, our survey has shown us that [X and X] are some of the most pressing challenges that healthcare providers face in screening for lung cancer. Can you share more about how these challenges may affect your organization, if at all?
3. Outside of [X and X], what other challenges do you think your organization faces in screening for lung cancer?
 - a. [Probe] Are there any challenges that you feel are unique to your organization (e.g., location, language barriers and cultural competency, trouble attracting enough staff, etc.)?
 - b. [Probe] Sometimes a patient may not seek lung cancer screening because they have outside challenges that prevent them from doing so, such as transportation, health insurance, or child care. How does your organization help address these barriers for patients (e.g., referrals, support services, patient navigation)?
 - c. [Probe] Are there any challenges related to your organization's staff's understanding of how to address lung cancer screening-related stigma with their patients? If so, can you describe how that impacts screening uptake?

[If Organizational Leadership]

4. What procedural or administrative actions has your organization taken, if any, to increase the rate of lung cancer screenings?
 - a. [Probe] Some actions we have heard so far include focused staff training, hiring more staff, and efforts to build relationships and increase referrals. Which of these actions, if any, has your organization undertaken?
 - b. [Probe] The American Lung Association and American Thoracic Society recommend implementing evidence-based interventions, including patient reminder systems, provider reminder systems, and provider assessment and feedback systems. Which, if any, of these communication-based interventions has your location implemented?

5. [If the organization has taken actions] What outcomes have you seen so far from the actions that you have mentioned?
6. [If the organization has not taken actions] From your perspective, what kind of actions would be most feasible for your location to undertake?
 - a. [Probe] What additional barriers to implementing some of the interventions we've discussed today is your location facing?

[If Frontline Staff]

7. In general, how do you work with patients to increase their uptake of lung cancer screenings?
 - a. [Probe] The American Lung Association and American Thoracic Society recommend implementing evidence-based interventions, including providing group or one-on-one patient education, working together to promote informed decision making, and sending patient reminders. Which of these do you use, if any?
8. [If the staff uses any of these methods, or others] What outcomes have you seen so far from the actions that you have mentioned?
9. [If the staff does not use any of these methods, or others] What has prevented you from encouraging your eligible patients to receive lung cancer screenings?
10. How could your organization better support you in working with your patients to improve their lung cancer screening rates?

Recommendations

11. What resources or support would be the most beneficial to your organization to improve your lung cancer screening and/or referral program?
 - a. [Probe] Some things we've heard so far in our survey include utilizing patient-focused staff such as patient navigators, deploying mobile screening units, having resources on radon exposure available, and receiving technical assistance to improve workflows. Which of these resources, if any, would be helpful to your organization?

Closing

12. Is there anything else you would like to share before we wrap up?
-

Thank you so much for participating and sharing your perspective today. PSC will compile the information we've gleaned through interviews and provide a summary to the LCCP to help inform how they will provide support for lung cancer screenings in the future.

Thank you again. If you have any additional feedback, please feel free to reach out to us at mimre@publicsectorconsultants.com.



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