American Cancer Society®

NATIONAL LUNG CANCER ROUNDTABLE

Lung Cancer Screening Messaging Guidebook

Recommended Messaging to Reach People Who Have Not Been Screened

2025

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Acknowledgments

The American Cancer Society National Lung Cancer Roundtable (ACS NLCRT) is grateful for the financial support from our sponsors, which helped develop this important resource, and ACS, which strategically propels our work. We especially wish to thank members of the ACS NLCRT Stigma and Nihilism Task Group, members of our Executive Leadership Team, key partner organizations, and ACS marketing research colleagues for their dedication, expertise, and the many hours of review and deliberation that went into conducting market research and developing the Lung Cancer Screening Messaging Guidebook.

Established in 2017, the ACS NLCRT is a consortium of approximately 200 member organizations and leading experts working together to create more lung cancer survivors. Our collective power and expertise enable us to take on challenges across the lung cancer continuum. We engage clinical, research, and public health experts, as well as patient and caregiver advocate representatives to catalyze action to build and strengthen innovative solutions, and develop and disseminate evidence-based interventions and best practices.

By working together and striving to avoid duplication among member organizations, we will drive progress faster than working alone to overcome lung cancer challenges, accelerate change, and address the determinants of cancer-related health disparities to advance health equity across the lung cancer continuum. This is the unique role of the ACS NLCRT.

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Letter from the ACS NLCRT Chairs

Lung cancer is the leading cause of cancer death among men and women, claiming almost as many lives each year as colon, breast, and prostate cancers combined. Early detection through lung cancer screening is already creating a stage shift in the United States. Combined with reductions in tobacco use and advances in lung cancer treatment, health care professionals in every discipline now see a pathway toward changing decades-old perceptions about lung cancer as a death sentence. Accelerating screening uptake is key to creating lung cancer survivors, changing perceptions about lung cancer, and providing hope and optimism to individuals affected by lung cancer and their families.

This new opportunity to prevent lung cancer deaths was made possible by the results of the landmark randomized-controlled trial performed in the United States, the National Lung Screening Trial, which led to the American Cancer Society's and United States Preventive Services Task Force's December 2013 recommendations for annual lung cancer screening using low-dose computed tomography (LDCT) in individuals at high risk for lung cancer. Due to language in the Patient Protection and Affordable Care Act, the USPSTF recommendation required private payors to cover this service and was soon followed by a Centers for Medicare & Medicaid Services (CMS) coverage decision in early 2015. Today, Medicaid plans in most states also cover lung cancer screening, although coverage varies. We're grateful to the many other professional society guidelines that recommend lung cancer screening, including the National Comprehensive Cancer Network and the American Academy of Family Physicians.

A decade later, the promise of lung cancer screening is far from being fully realized. Although lung cancer mortality is declining, screening rates for eligible individuals remain low, and have risen very slowly. As of 2022, only 18% of eligible individuals reported having had lung cancer screening in the past year. Key to achieving the goal of creating lung cancer survivors is to better understand the factors standing in the way of improving uptake of lung cancer screening.

To advance this critical public health goal, the American Cancer Society National Lung Cancer Roundtable (ACS NLCRT) conducted a market research project to determine the factors associated with either a greater likelihood of having been screened for lung cancer or a greater likelihood of not doing so. The evidence from this research led to the development of messages that have a greater chance of leading to action, from which a few overarching messages emerged.

1	Many people are not aware that a screening test exists that can reduce the risk of dying from lung cancer.
2	Many people believe lung cancer screening is not covered by insurance.
3	People who have quit smoking are less likely to realize they are at increased lung cancer risk.
4	Some people who smoke blame themselves for their increased cancer risk, and are less prone to action because they think nothing will actually reduce their lung cancer risk.

The evidence-based messages tested through this market research and presented in this Lung Cancer Screening Messaging Guidebook are tailored to address the factors associated with low screening rates. Helping people understand their risk, eliminate self-blame, and recognize that a simple, safe action can dramatically reduce their risk of dying prematurely from lung cancer will create opportunities to increase screening rates and reduce the burden of lung cancer. The researchers and authors of this guidebook invite you to consider the lessons learned from this market research and turn them into action.

About This Guidebook

This guidebook is designed for providers, clinic staff, and public health professionals who play a vital role in improving outreach and education about lung cancer screening. Whether you're working directly with patients or engaging with the broader community, this resource offers practical tools and messages to support your efforts. It serves as a starting point to help raise awareness, spark conversations, and encourage people to take the important step of talking to their provider about getting screened.

Although this guidebook focuses on general messages, ongoing research and collaboration are essential for creating messages that resonate with the unique concerns and barriers of different groups. Future efforts will focus on tailoring messages for specific communities.

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Why Focus on Lung Cancer Screening

Early diagnosis is critical to reducing mortality in patients with lung cancer.[1] In 2011, the National Lung Screening Trial (NLST) found that annual lung cancer screening using low-dose computed tomography (LDCT) decreased lung cancer mortality by 20% relative to a control group that was screened with chest x-ray.[2] LDCT is a painless procedure that does not require injections, ingesting contrast, or even changing out of your clothes; takes only a few minutes to complete; and is covered by Medicare, Medicaid, and private insurance plans.[3]

Based on the scientific evidence, in 2013 the American Cancer Society (ACS)[4] and the United States Preventive Services Task Force (USPSTF) recommended that individuals who are at high risk for developing lung cancer undergo annual LDCT screening.[5] Between 2013 and 2019, the incidence rate for localized-stage lung cancer increased by 3.6% annually, and increased more steeply in states with the highest lung cancer screening uptake (by 3%-5% annually) compared with those with the lowest screening rates (by 1%-2% annually).[6] In addition, greater gains in 2-year survival have been observed in women, from 32% in 2001-2002 to 54% in 2017-2018, and in men from 26% in 2001-2002 to 41% in 2017-2018, attributable to improvements in early detection and advances in therapy.[6,7,8]

As a result of improved early detection, novel surgical techniques, and new targeted therapies, the 5-year lung cancer relative survival rate increased from 16% in 2004 to about 27% in 2020.[9,10] However, despite these important gains, the legacy of tobacco use means lung cancer is still the leading cause of cancer-related deaths and the second most common cancer in both men and women, responsible for an estimated 124,730 deaths in 2025.[9] The most recent data show that only 18% of eligible people reported having been screened in 2022,[11] highlighting the missed opportunity for improving the survival of more people at high risk of developing lung cancer by increasing LDCT screening rates.

The American Cancer Society recommends yearly screening for lung cancer with a low-dose CT (LDCT) scan for people aged 50 to 80 years who smoke or used to smoke AND have at least a 20 pack-year history of smoking.

A pack-year is equal to smoking 1 pack (or about 20 cigarettes) per day for a year. For example, a person could have a 20 pack-year history by smoking 1 pack a day for 20 years, or by smoking 2 packs a day for 10 years.

Before deciding to be screened, people should have a discussion with a provider about the purpose of screening and how it is done, as well as understand the benefits, limits, and possible harms of screening.

People who still smoke should be counseled about quitting and offered interventions and resources to help them.

People should not be screened if they have serious health problems that will likely limit how long they will live, or if they won't be able to or won't want to get treatment if lung cancer is found.

These data led ACS to conduct market research on attitudes and perceptions about lung cancer and lung cancer screening. This guidebook provides tailored messages to increase engagement with lung cancer screening and improve lung cancer outcomes. It compiles market research insights and the most effective, tested messages to promote annual LDCT screening among eligible people who have not been screened. The findings highlight the crucial role of providers in initiating conversations about lung cancer screening, the need to raise lung cancer screening awareness and emphasize that it is covered by insurance, and the critical message that LDCT screening significantly improves survival and patient outcomes through early cancer detection.

Both stigma and nihilism experienced by people who currently smoke or formerly smoked can significantly impact their willingness to get screened, and are a central focus of evaluating these messages.[12,13] Stigma refers to the negative perceptions and beliefs that society holds about certain conditions. Stigma around smoking and lung cancer can deter people from seeking early detection due to fear of judgment and blame.[12-14] Beyond screening, stigma affects people across the lung cancer continuum, from lung cancer risk reduction to diagnosis, treatment, and survivorship.[15] Empathy, optimism, and urgency were first highlighted during the 2017 ACS NLCRT Stigma Summit as important ways to reduce stigma and support people affected by lung cancer. These themes help create hope and encourage people to take action, including getting screened for lung cancer.

To reduce stigma, the ACS NLCRT supported the development of the Lung Cancer Stigma Communications Assessment Tool, (LCS CAT), which was specifically designed to assist in creating new communication tools or assessing and improving existing resources through reviewing language, imagery, and context.[16] The tool emphasizes that using person-first language, like shifting from “smoker” to “a person who smokes,” can prevent patients from feeling defined solely by their condition and help to reduce stigma.

Nihilism in lung cancer represents the belief that there are no effective measures to improve lung cancer outcomes. This leads individuals to feel hopeless about their circumstances and disengaged from pursuing screening.[12] Empathetic and educational messaging, including language that explains there are effective treatments for the different lung cancer stages, can help lessen fears, correct misconceptions, and encourage more people to engage with lung cancer screening programs.

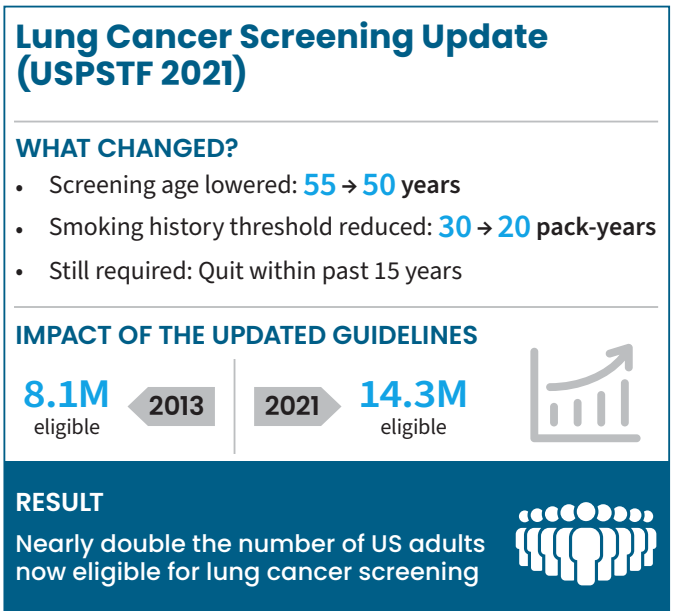
National Screening Data

What can the lung cancer screening data tell us? Examining registry trends in incidence, stage at diagnosis, mortality, and survival can provide inferential insights into the influence of early detection and therapy overall and in population subgroups.

However, national population surveys such as the CDC's Behavioral Risk Factor Surveillance System (BRFSS)[17], which collects lung cancer screening data every 2 years, and the National Health Interview Survey (NHIS)[18], which collects lung cancer screening data every 5 years, give us a periodic picture of state and national level uptake of lung cancer screening overall and in population subgroups directly from self-reports of recent screening from the individuals being interviewed.

Because these are direct reports of recent lung cancer screening among individuals interviewed, they are subject to various biases in recall that tend to inflate estimates above the actual screening rate. The most recent data available on lung cancer screening in these national surveys are from the 2022 BRFSS survey, from which we can estimate lung cancer screening rates nationally and in all 50 states, the District of Columbia, and three US territories.

In 2013, the USPSTF recommended annual LDCT for people aged 55 to 80 with a smoking history of 30 pack-years or greater, who currently smoke or formerly smoked (having quit within 15 years). In 2015, CMS announced coverage for annual LDCT for Medicare beneficiaries aged 55-77 who met the same USPSTF smoking history criteria.



Based on new evidence, in 2021 the USPSTF updated their recommendations by lowering the screening age to 50 years and the minimum smoking history to 20 pack-years, while still retaining the 15 years-since quit restriction.[19] Landy, et al. estimated that approximately 8.1 million US individuals were eligible for lung cancer screening under the USPSTF 2013 recommendations, a number that increased to approximately 14.3 million after the 2021 recommendation update.[20]

More recently, ACS updated their lung cancer screening guideline, which has the same age range (50-80) and pack year history (20+) as the USPSTF 2021 recommendation but eliminates any consideration of years since quitting smoking (YSQ) among individuals who formerly smoked.[1] ACS dropped the YSQ criterion after an evaluation of continuing lung cancer risk following smoking cessation and observing lung cancer risk in people who formerly smoked continues to rise with increasing age.[1,20-22]

The new ACS lung cancer screening guideline increased the number of adults eligible for lung cancer screening from 14.3 million to 19.2 million, most of whom would have met criteria to begin lung cancer screening, but would lose eligibility after reaching 15 YSQ, at a time when their lung cancer risk was still rising.[20,22]

Since 2013 it has been challenging to measure lung cancer screening uptake since the NHIS did not report lung cancer screening rates from their 2020 survey due to data collection challenges during the COVID-19 pandemic, and before 2022 lung cancer screening was not included among the core questions in the BRFSS survey. However, the data that were available showed very low uptake of lung cancer screening during the first 10 years following the first recommendations and guidelines.

In the 2022 BRFSS survey, Bandi et al. estimated that **18%** (2.17 million) of all eligible individuals, but **20.4%** of eligible adults 60-69, and **27%** of eligible adults 70-79 reported recent lung cancer screening.[11] As had been observed earlier, there was wide variation among the states, with Rhode Island having the highest reported prevalence (**31%**) and Wyoming having the lowest (**9.7%**).

Bandi, et al.'s analysis of 2022 BRFSS data showed among individuals, women were less likely to report up-to-date lung cancer screening (17.9%) compared with men (18.4%), and the prevalence of screening varied by race and ethnicity, with the highest rates observed among Black individuals (20%) compared with non-Hispanic White individuals (18.4%) and Hispanics (16.6%). Adults with Medicare had the highest levels of reported screening (26.3%), followed by Medicaid (16.2%), private insurance (14.4%) and the uninsured (3.7%). Those who reported a usual source of care also reported higher rates of recent screening (19.7%) compared with individuals reporting no usual source of care (3.7%).[11]

Henderson, et al. also evaluated 2022 BRFSS data on lung cancer screening, and although their estimates are slightly different compared with Bandi, et al., some of their analyses provide useful information for this guidebook.[11,23] The proportion of screened people in 2022 increases with age, ranging from 6% to 25% (50-54 and 75-79 years old, respectively, based on 2021 criteria). Additionally, findings from 2022 BRFSS data show significantly increased participation in lung cancer screening rates as people reach Medicare age, and some gain access to health care coverage.[11,23]

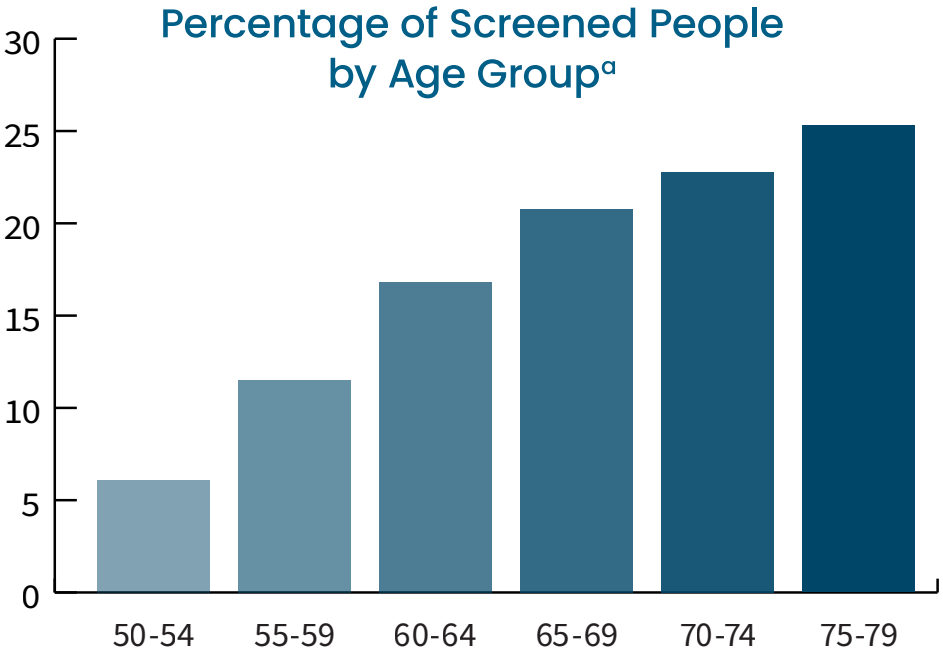
Apart from nearly doubling the number of individuals eligible for lung cancer screening, how else has the 2021 USPSTF policy change impacted lung cancer screening? An important change is an increased access to those groups that have been historically excluded who have been observed to be at higher risk of lung cancer at younger ages and with lighter smoking histories and thus had been less likely to benefit from the 2013 USPSTF recommendations compared with non-Hispanic White people. The size of the population eligible for screening increased from 55.6% to 109.1% in racial and ethnic minorities compared with 60.2% in non-Hispanic White people.[23]

Lack of health insurance coverage has been recognized as a significant factor in disparities for both cancer screening and outcomes.[24-27] In this regard, the initial 2013 USPSTF recommendations mandated commercial payors to cover lung cancer screening with no co-payment. And by 2015, the Centers for Medicare & Medicaid Services (CMS) also adopted lung cancer screening as a covered benefit.

Despite this coverage without out-of-pocket costs with most health insurance plans, the BRFSS data showed that only 3% of people lacking health insurance underwent screening in 2022, which is consistent with the large jump in the proportion of eligible adults who are 65+ who report recent lung cancer screening.[11] Lack of health insurance, co-pays for follow-up testing, and the common perception that lung cancer screening is expensive and not covered by insurance are barriers to lung cancer screening uptake.

Importantly, only 5% of individuals without a health care provider completed lung cancer screening in 2022, reinforcing the critical role of primary care providers in preventive health.[11] Without a regular health care provider, individuals may face barriers to screening, such as a lack of knowledge about screening guidelines or access to referral pathways.[27]

These data highlight that lung cancer screening among eligible individuals presently is low.



> A coordinated approach to increase screening uptake should combine targeted policies, public health outreach strategies, and support for health care teams.

[a] Henderson LM, Su IH, Rivera MP, et al. Prevalence of lung cancer screening in the US, 2022. *JAMA Netw Open*. 2024;7(3):e243190. doi:10.1001/jamanetworkopen.2024.3190.

Insights from ACS NLCRT Market Research

Market Research Overview

In 2022, the ACS NLCRT conducted market research to develop messaging and strategies for improving lung cancer screening awareness and action.

The primary goal was to learn more about people's perceptions, knowledge, and barriers related to lung cancer screening. A secondary goal focused on identifying messages and communication strategies to motivate at-risk individuals to consider and seek LDCT screening. Finally, the ACS NLCRT wanted to understand the best ways to deliver these messages.

This phase of the market research did not explore targeted messaging for specific demographic groups; rather it aimed to test generalizable messages for the population that has not been screened. Future market research efforts will explore messaging for different groups.

The research was divided into two phases between August and November 2022. Phase One assessed the attitudes and perceptions of the eligible population that had not been screened. Phase Two assessed the effectiveness of various screening messages through a quantitative survey.

The market research focused on individuals who met the following selection criteria:

- Nationally representative
- Aged 50 to 80 years old
- Self-identified as in good health
- Currently smoke or have quit smoking within the past 15 years
- Had at least a 20-pack-year smoking history
- Had not been screened for lung cancer (Phase Two only)

PHASE ONE Attitudes/Perceptions Assessment	PHASE TWO Message Assessment
➤ Objectives ➤	
• Quantify the general awareness level and the likelihood of being screened for lung cancer. • Understand the prevailing attitudes, perceptions, knowledge, and perceived importance of lung cancer screening. • Understand the barriers to lung cancer screening (emotional, financial, social, etc.). • Gain perspective on health service habits. • Explore the effects of COVID-19 on the patient's likelihood of receiving lung cancer screening. • Understand which strategies worked best by identifying the triggers that motivated the people who received LDCT screenings.	• Evaluate which message(s) resonate most and motivate the desired action for lung cancer screening. • Determine which message(s) best demonstrate desired themes (urgency, empathy, and optimism) while alleviating confusion and reflecting person-first language. • Identify the optimal source(s) for disseminating messages.

PHASE ONE Attitudes/Perceptions Assessment	PHASE TWO Message Assessment
➤ Method ➤	
• Online, quantitative study • 15-minute interview length	• Online, quantitative study • 15-minute interview length • Maximum Difference (MaxDiff) Scaling was used to identify the most and least preferred messages for inspiring conversations with health care providers among 15 messages provided by ACS • Message evaluation using rational and non-conscious metrics
➤ Responses ➤	
Total Sample N=275 of which: • N=200 have not been screened for lung cancer – N=100 currently smoke – N=100 previously smoked (quit smoking in past 15 years) • N=75 have been screened for lung cancer: – N=58 currently smoke – N=17 previously smoked (quit smoking within the past 15 years)	**Total Sample** N=200 have not been screened for lung cancer:* • N=100 currently smoke • N=100 previously smoked (quit smoking in past 15 years) *New participants; not part of Phase One

The next sections of the guidebook explore what the research revealed, what people understood about lung cancer screening, how people view lung cancer screening, and how different messages resonated with them. These insights will help shape strategies to encourage more eligible individuals to get LDCT screening.

Understanding Screening Perceptions

Understanding what influences screening decisions is essential for increasing lung cancer screening rates among all eligible individuals. However, current evidence on patient preferences and values around lung cancer screening has been limited.

Although every person has their own reasons for making health care decisions, factors like higher risk, longer life expectancy, and trust in provider recommendations have been found to contribute to people's likelihood of being screened for lung cancer, while fears, fatalism, stigma, and medical mistrust have been shown to deter screening.[1]

Perceptions and Attitudes of Survey Respondents Who Have Never Been Screened

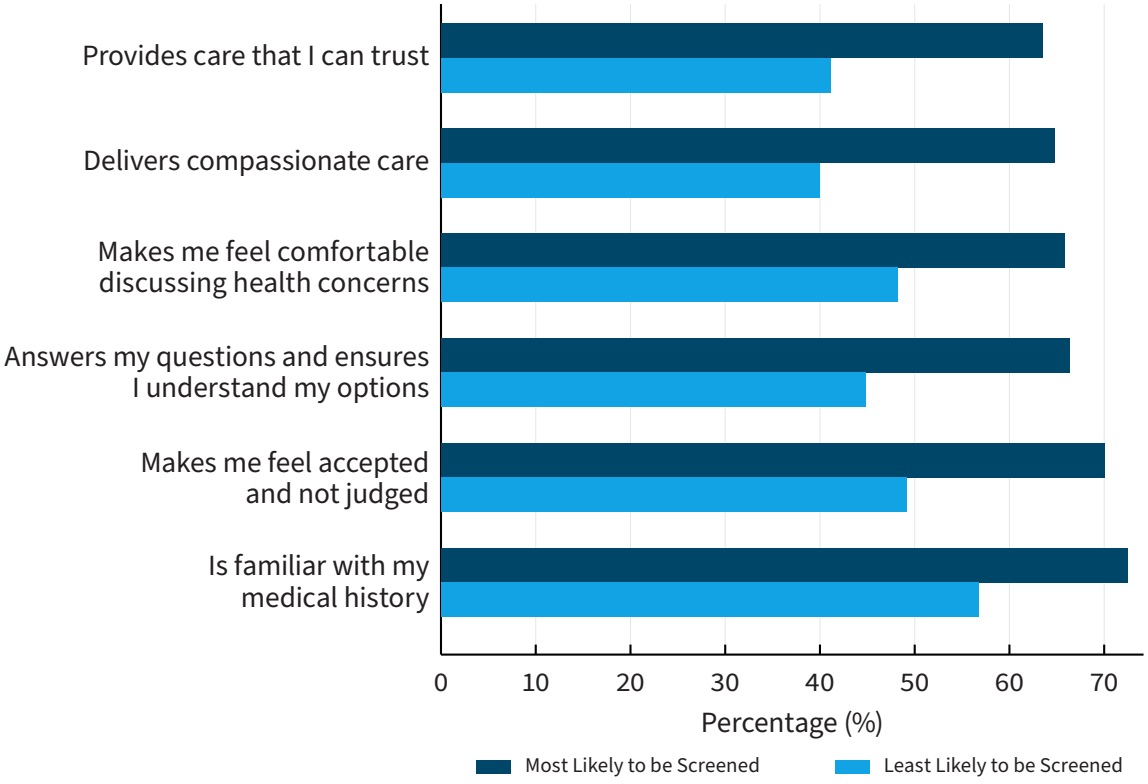
Screening Awareness	• Overall, two-thirds (**66%**) of respondents who had not been screened were unaware of LDCT scans for lung cancer screening. • Awareness differed by smoking history. Among those who had not been screened, **71%** of people who currently smoked and **62%** of those who previously smoked were unaware of LDCT scans for lung cancer screening.
Health Care Provider Perception	• **59%** of people who had been screened reported their health care providers provide them with care they can trust, compared with only **45%** of people who had never been screened.
Risk of Lung Cancer	• Among those who had not been screened, **57%** of people who currently smoked thought there was a chance they could get lung cancer, compared to only **34%** of people who previously smoked.
Worry About Lung Cancer	• Similarly, among those who had not been screened, **42%** of people who currently smoked said they were worried about getting lung cancer, compared to only **26%** of people who previously smoked.
Insurance Coverage	• Among people who had not been screened, nearly half (**47%**) believed lung cancer screening was not covered by insurance, and **78%** reported they would not have any test or treatment unless insurance paid for it.

Perceptions and Attitudes About Health Care

Trust in health care providers plays a big role in whether people consider lung cancer screening. People who have been screened tend to trust their providers more than those who have not. Building trust requires providers to communicate openly and without judgment, especially with people who feel stigmatized because of their smoking history. When patients feel respected and supported in health care settings, they are more likely to speak openly with their providers and make decisions about pursuing screening.

Mistrust of the health care system, due to past experiences of feeling judged or discriminated against, can make people less likely to seek screening. Providers can combat medical mistrust by using clear, compassionate language and framing lung cancer screening as something that is accessible and potentially beneficial for all eligible individuals, whether they currently smoke or formerly smoked. This approach can help rebuild trust and encourage more people to get screened.

Survey Respondents' Perceptions of Health Care Providers by Expressed Screening Likelihood[b]



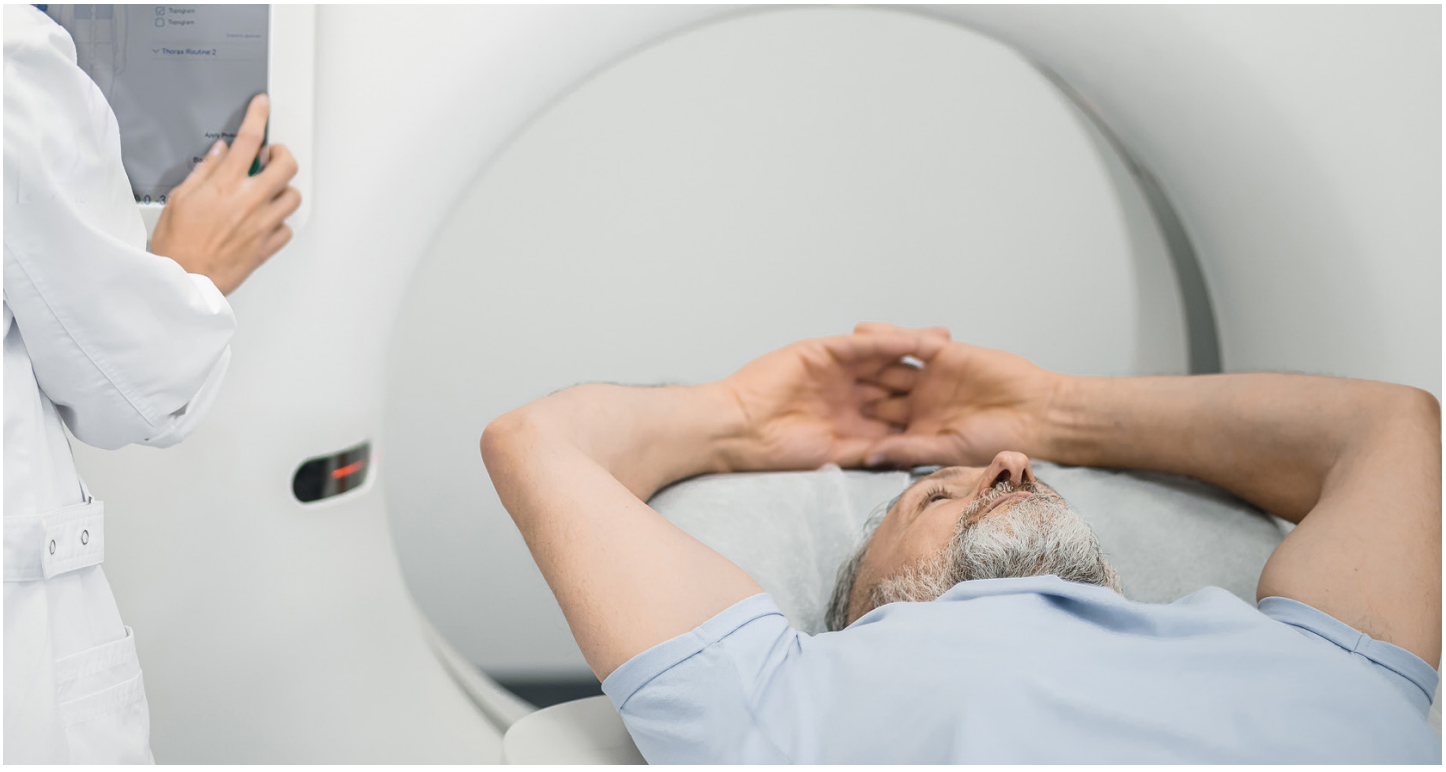
[b] Participants were divided into the most and the least likely to be screened by answering how likely they would get an LDCT chest scan to screen for lung cancer in the next year. Source: American Cancer Society, Lung Cancer Screening: Foundational Attitudes/Perceptions & Message Testing (2022).

Perceptions and Attitudes About Screening

Many people do not see lung cancer screening as a priority because they either are not aware of it or do not fully understand its purpose. Screening can seem unfamiliar or unnecessary, especially to people who believe their risk is low because they quit smoking. The widespread misunderstanding about the continuing and rising lung cancer risk with age after smoking cessation can give people a false sense of security and make them less likely to get screened. ACS dropped the 15-years since quit criterion from their lung cancer screening guidelines because the evidence does not support the belief that absolute lung cancer risk declines continuously after smoking cessation.[1]

Some people also associate lung cancer screening with fear or worry. People who currently smoke often feel more anxious about the possibility of a cancer diagnosis and may not fully understand the benefits of early detection. On the other hand, people who previously smoked tend to worry less about lung cancer, as many do not realize they are still at risk, and their risk is rising with increasing age.[20] These perceptions affect how people think about screening and highlight the urgent need for more education about detecting lung cancer early through screening.

Most people who have never been screened would not have an LDCT test unless insurance paid for it. Hence, it would be crucial to emphasize that most insurance plans, including Medicare, cover the recommended lung cancer screening tests.[28] However, the possibility of needing to undergo subsequent follow-up tests may incur additional costs, such as co-pays or deductibles, which also deters people from being screened.[29]



Barriers to Screening

Understanding the factors that prevent people from seeking lung cancer screening is crucial for the design of effective interventions to increase screening rates. Many eligible people perceive barriers to screening, some of which are real, and some of which are misperceptions, and each make it difficult to access lung cancer early detection care.

By recognizing and addressing common perceptions about barriers in our messaging, health care teams can make discussions about lung cancer screening more accessible, approachable, and tailored to correct misconceptions in order to help more people have better outcomes from early detection.

The results of the 2022 ACS NLCRT market research identified a number of barriers to lung cancer screening, of which the top four are highlighted below.

The Top Four Barriers to Screening Among Survey Respondents Who Have Never Had an LDCT Scan:

50%

The lack of a recommendation from a health care provider. Without a recommendation from a health care provider, many people may not know that they could benefit from lung cancer screening.

32%

Being afraid of getting diagnosed with lung cancer. Many people do not get screened to avoid the possibility of learning they have lung cancer.

28%

Insufficient knowledge about lung cancer screening. Many people are not familiar with lung cancer screening guidelines and may not be aware that they are eligible for screening.

26%

Beliefs that screening will be too expensive. Many people believe that they cannot afford lung cancer screening, creating a perceived barrier to accessing it.

Other Barriers Identified

22%	18%	17%	16%
Beliefs that lung cancer treatment will be too expensive	**Fears about the treatments for lung cancer**	**A belief among people who quit smoking many years ago that the risk of lung cancer risk is only a concern if you currently smoke**	**Lack of regular health care provider visits**

Use Health Care Visits to Overcome Screening Barriers

Health care professionals, including primary care providers, gynecologists, pulmonologists, and others, are often trusted sources of information. By working together, they have the opportunity to play a key role in identifying adults at risk, discussing lung cancer screening, referring them to screening, and addressing barriers to lung cancer screening. Public health professionals and providers can work together to incorporate conversations about lung cancer screening into routine care. These clinical touchpoints are valuable opportunities to educate and motivate patients to get screened.

During these health care visits, providers can emphasize the benefits of lung cancer screening while also discussing the possibility of adverse experiences, and engage patients through shared decision-making and respond to any of their concerns. Providers are well-positioned to address patient questions, discuss eligibility, and explain how screening can provide peace of mind and detect lung cancer early when treatment is more likely to be successful. Equipping health care teams with clear, patient-friendly talking points can help build patient trust in health care institutions and motivate them to take the next step.

Nearly half (**47%**) of individuals least likely to be screened mistakenly believe that lung cancer screening is not covered by insurance, which discourages them from pursuing an LDCT scan. To address this misperception, messages to health care providers should emphasize that Medicare, Medicaid, and commercial health plan coverage with no out-of-pocket costs is available for almost all eligible patients. For uninsured individuals, public health professionals can connect them to local financial assistance programs to ensure that screening remains accessible.

Use Empathy and Optimism in Patient Conversations to Reduce Stigma

Stigma around lung cancer makes it harder for people to get screened. It can cause feelings of guilt, shame, or fear of being judged, which may stop patients from asking their provider about screening or seeking care altogether. Many patients have experienced this stigma in health care settings, making them less likely to engage with the health care system. Among the people surveyed, those who have felt discrimination from a health care provider reported:

Stigmas Identified

42%	35%	28%	25%
Being blamed for a health condition	**Being talked down to**	**Experiencing a lack of sympathy about not quitting smoking**	**Being repeatedly asked about a smoking history without a rationale**

Health care professionals can combat the stigma around lung cancer by using person-first language that is judgment-free and non-stigmatizing, fostering empathetic communication and creating a supportive environment during visits.

Explain why questions about smoking history are asked, such as determining eligibility for lung cancer screening. Clear communication can help patients understand the purpose of these questions without feeling judged.[16,30,31] Emphasizing that screening is about early detection and not assigning blame, reframes the conversation in a positive and empowering way.

By normalizing these discussions and validating patients' concerns, health care providers can build trust and encourage open dialogue about screening.[16,30,31]

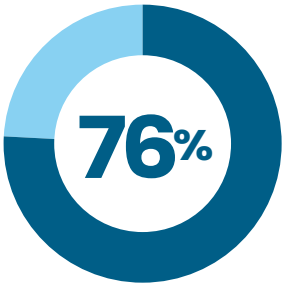
Providing clear, supportive explanations of screening that are tailored to individual patient needs can also reduce the impact of stigma. For example, providers can reinforce that everyone deserves access to potentially lifesaving cancer screening. Using language that focuses on the shared goal of promoting health, rather than personal responsibility, helps patients feel valued and understood.[16,30,31]

These strategies not only improve patient engagement, but also create a more inclusive and welcoming environment for all patients.[16,30,31]

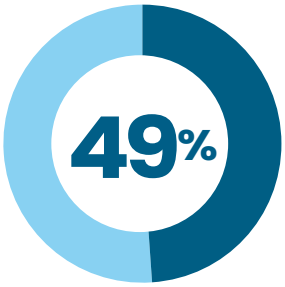
Motivations for Screening

Encouraging people to get screened for lung cancer begins with understanding what motivates them to take action. People most and least likely to express their intent to undergo screening were motivated and influenced by a variety of factors.

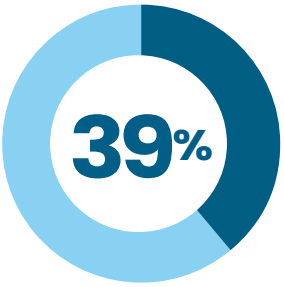
Survey respondents who were previously screened reported their top four motivating factors were:



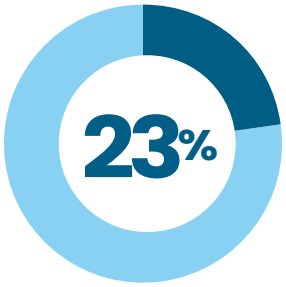
Recommendation from a health care provider



Obtaining peace of mind



Achieving early detection



Wanting to be around for their families, or because they have reached a certain age

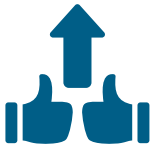
Among rural respondents, many were willing to drive longer distances – up to 40 minutes – for an LDCT scan, compared to the 30-minute average for urban and suburban respondents.

Other reasons for getting screened included:

Having a family history of lung cancer

Concern about having lung cancer

Having symptoms consistent with lung cancer



Motivation to quit smoking

Having recently quit smoking

People **MOST** Likely to Get Screened

vs.

People **LEAST** Likely to Get Screened

Survey respondents **most** likely to get screened in the next year often **engaged with health care** in the following ways:

- Visiting their provider regularly for preventive care
- Focusing on maintaining their health to prevent future issues
- Staying informed about the latest health findings
- Sharing health-related information with those close to them

Survey respondents **least** likely to get screened in the next year tended to **engage with health care** in the following ways:

- Visiting health care providers more often for acute health concerns than for preventive care
- Addressing health issues as they arise, rather than taking a preventive approach
- Being less familiar with health guidelines and screening recommendations

They also tended to approach **trust and access in health care** in the following ways:

- Being open to paying extra for tests and treatments when needed
- Finding the health care system easy to navigate
- Trusting research organizations and agencies
- Actively seeking out new tests or treatments

They also tended to approach **trust and access in health care** in the following ways:

- Experiencing mistrust toward the health care systems and research organizations
- Preferring to avoid new tests or treatments unless recommended by a provider
- Finding the health care system difficult to navigate and overwhelming
- Believing that lung cancer screening is not covered by insurance, which contributes to financial concerns

Message Delivery

People receive health care messages in many ways, and factors like where they live, their age, health knowledge, trusted relationships, and access to technology can influence where they look for information. Some approaches, like hearing from trusted health care providers, can reach people across different demographic groups.

Ways to Deliver Screening Messages

Among survey respondents, the most common ways for people to get health information were:

Most Common Ways to Get Health Care Information

83%	47%	27%	24%
Doctor or nurse	**Online health websites**	**Family member or friend**	**TV programs**

People less likely to get screened for lung cancer were more likely to express distrust in government health agencies and nonprofits that conduct research.

They tended to prefer familiar medical tests and treatments, and often found the health care system too complicated.

Social Media Usage

Although younger people commonly get information important to them from social media, the population eligible for lung cancer screening is older (aged 50-80), and less likely to use any of the social media platforms. Use of social media also is lower in people with lower education and income, groups that are more likely to be eligible for screening.[32] Thus, of the survey respondents, only 7% of people eligible for screening reported getting health information from social media websites, **making it one of the less effective ways to deliver messages about lung cancer screening**.

The information below highlights how often people who may be eligible for lung cancer screening use different social media platforms. However, it does not indicate that they visit these sites daily or visit them specifically to seek health information.

* Respondents visited Facebook daily or 4-6 times per week.

Health Care Providers Are Critical

Health care providers are influential figures in the decision to complete lung cancer screening and can empower patients to take proactive steps toward their health. Providers are central to increasing lung cancer screening rates because:

They are a trusted authority. Patients are more likely to accept lung cancer screening as necessary and important if the recommendation comes from their health care provider.

They can provide personalized guidance. Providers can tailor information and recommendations to each patient's unique experience, helping patients understand why screening is relevant to them.

They can clarify misconceptions. Many people have misconceptions about lung cancer screening that providers can address.

How to Deliver Screening Messages

- **Use person-first language** that is judgment-free and non-stigmatizing.
- **Engage** primary care providers, gynecologists, pulmonologists, and other multidisciplinary clinicians throughout the lung cancer continuum in the promotion of lung cancer screening messaging.
- **Emphasize** that people who have smoked for many years are at high risk for developing lung cancer and dying from lung cancer, and that screening could prevent an early death from lung cancer by detecting it early when treatment is more likely to be successful.
- **Stress** that annual lung cancer screening is recommended by the American Cancer Society, the US Preventive Services Task Force, and Medicare.
- **Emphasize** that lung cancer screening is covered by most private insurance, Medicare, and Medicaid plans, without a co-pay.
- **Communicate** that lung cancer screening is a proven test that is quick, easy, painless, and does not require that you remove your clothes. Communicate that most often, lung cancer screening finds lung cancer early when it is more likely to be treated successfully.
- **Educate** that early detection and treatment options have come a long way, and that there are treatments available for all stages of lung cancer.

Recognize that many patients who are eligible for lung cancer screening will experience feelings of fatalism and nihilism that may lead them to hesitate to accept the opportunity to engage in regular screening. Ensure your discussion provides actionable solutions to overcome these feelings, such as:

Reframing screening
as an opportunity for early detection

Addressing misconceptions
about lung cancer screening

Addressing beliefs
that lung cancer is untreatable or always fatal

Providing supportive resources, including navigators, transportation assistance, or financial resources

Most Preferred Screening Messages

Top Screening Messages

Researchers tested 15 messages based on five core themes identified in Phase One. See Appendix A for a complete list of tested messages. The **five core themes** for effective messages are shown below.

RELATABILITY/POSITIVITY

Many people begin smoking because they've been motivated by positive advertising and media images, and to blend in with peers, often without a full understanding of the consequences. Shared experiences can make screening more approachable.

COST/INSURANCE

Insurance coverage and cost are major barriers to getting screened for people without insurance, and people with insurance commonly perceive that screening is not a covered service. Educating the public about what is and is not covered by insurance is a recommended strategy.

REDUCING STIGMA

Those who currently smoke experience social stigma. Messaging that is relatable and positive instead of critical or threatening can help to reduce stigma and encourage more screening.

RISK REDUCTION

Those who have been screened or plan to get screened are more likely to take a proactive approach to health care. It might be effective to focus messaging on the higher survival rates associated with screening. In addition, highlighting the importance of regular screening could motivate those who have already been screened.

TRUST IN NUMBERS

Some people do not trust government organizations that perform scientific research. However, factual data can help to mitigate misinformation; branded and unbranded messaging, as well as the inclusion of statistical facts and numbers, is recommended.

The top four messages below are ranked according to their likelihood of convincing people to talk to their health care provider about getting screened.

All messages performed well across key metrics and were consistently preferred across gender, age, income status, likelihood to be screened, awareness about screening, and current smoking status subgroups.

The first message agreed with the Phase One findings that screening costs and lack of insurance coverage could be barriers to screening. However, the message does not strongly convey urgency or empathy.

1. Lung cancer screening is covered by Medicare, and by most private health insurance plans.

The next three messages focused on risk reduction, early detection, and urgency due to age. Urgency helps to reach those with a preventive care mindset and motivates people who have not been screened.

These three messages scored the highest at effectively communicating the importance of getting screened promptly (86%/86%/90%) and communicating empathy (81%/81%/82%).

2. Lung cancer screening takes just a few minutes, and it is an effective way to find lung cancer early.

3. Anyone can get lung cancer, and screening is recommended if you are 50 or older and currently smoke or used to smoke.

4. Yearly lung cancer screening helps save lives by catching it early when it's easier to treat.

Overall, each of the top four messages would inspire more than half of the surveyed individuals to speak with a health care provider.

The combination of the top three priority messages gave an optimal reach of 68%. As expected, these messages reached a higher proportion of those who were more likely to get screened (>80%) than those who were not likely to get screened (<26%).

All four messages helped motivate patients to learn more about screening (>68%), initiate discussions with their providers (>54%), and complete screening (>54%). These four messages target a core experience (~25%).

The 1st Most Preferred Screening Message

Lung cancer screening is covered by Medicare and by most private health insurance plans, and as of 2019, in Medicaid programs in over half of the states.

KEY FEATURE

This message ranked first, clearing up confusion about insurance coverage for lung cancer screening (68%).

KEY MOTIVATIONAL DRIVER

Few were aware that scans are covered by insurance, so communicating this information could clear up confusion about lung cancer screening for 68% of participants.

TOP RESONATING EMOTIONS

- ☑ Appeal
- ☑ Security

WHY IT WORKS

This message clarifies a major misconception about insurance coverage, making screening seem more accessible. By addressing financial concerns directly, it helps people feel more confident in pursuing screening.

WHERE TO USE THIS MESSAGE

Use this message in clinics, primary care offices, insurance materials, and digital ads to reach people over 50 who may be eligible for screening. These settings are ideal because they address patients who may have financial concerns or questions about insurance, making it easier for them to consider screening when they know it's covered.

The 2nd Most Preferred Screening Message

Lung cancer screening takes just a few minutes, and it is an effective way to find lung cancer early.

KEY FEATURE

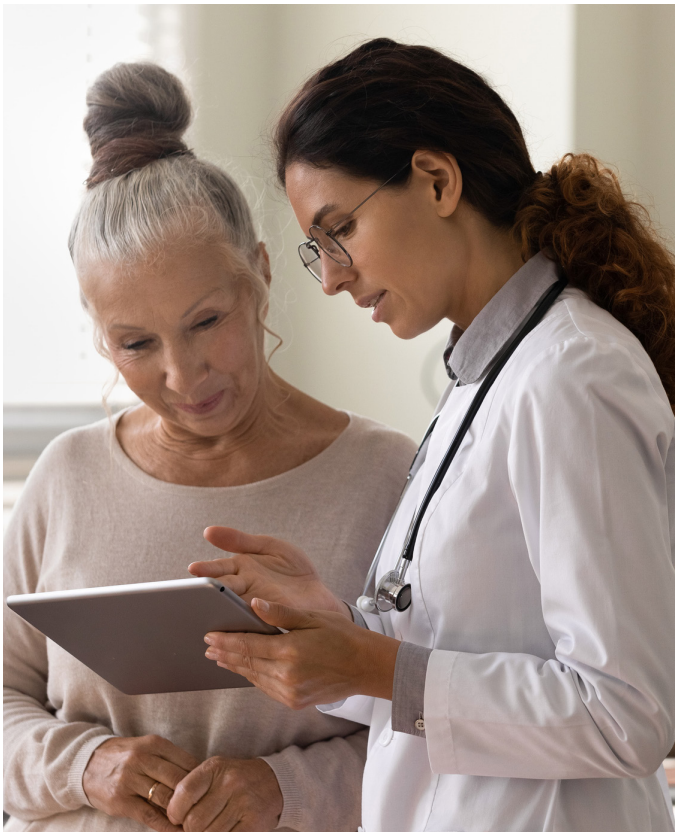
This message was the most motivating for learning more about lung cancer screening (78%). It ranked second for conveying a sense of hope for the future (84%), empathy (81%), and urgency (86%).

KEY MOTIVATIONAL DRIVER

Messages that focus on prevention and catching cancer early conveyed the greatest sense of hope for the future.

TOP RESONATING EMOTIONS

- ☑ Appeal
- ☑ Security



WHY IT WORKS

This message highlights that screening is quick and highly effective, addressing concerns about time and effort. It reassures people that a brief screening can significantly impact their health by catching cancer early.

WHERE TO USE THIS MESSAGE

Use this message in public health campaigns, social media, workplace wellness newsletters, and primary care settings to reach people focused on prevention and convenience. These platforms are effective because they allow the message to reach people where they may be looking for quick, accessible health options that fit their busy lifestyles.

The 3rd Most Preferred Screening Message

Anyone can get lung cancer, and screening is recommended if you are 50 or older and currently smoke or used to smoke.

KEY FEATURE

This message was the most memorable one, recalled correctly by 65% of respondents. It tied for the most empathetic message (82%) and ranked second for conveying a sense of urgency (86%).

KEY MOTIVATIONAL DRIVER

Messages that empathize with readers by accepting that quitting is difficult or that no one is immune to lung cancer performed the strongest in communicating a sense of understanding.

TOP RESONATING EMOTIONS

- ☑ Appeal
- ☑ Belonging
- ☑ Security

WHY IT WORKS

This message broadens the understanding of lung cancer risk to include all people, creating a sense of empathy and inclusivity. By acknowledging the challenge of quitting smoking, it supports individuals in feeling understood and open to screening.

WHERE TO USE THIS MESSAGE

Use this message in primary care offices, pulmonology clinics, community centers, and smoking cessation programs to reach individuals who may feel hesitant or stigmatized about their risk. These spaces provide supportive environments that help individuals feel comfortable and reduce any stigma they may feel around lung cancer risk and smoking history.

The 4th Most Preferred Screening Message

Yearly lung cancer screening helps save lives by catching it early when it's easier to treat.

KEY FEATURE

This message ranked first for conveying empathy (82%), a sense of hope for the future (86%), and a sense of urgency (90%). It ranked second in conveying motivation to learn about lung cancer screening (77%).

KEY MOTIVATIONAL DRIVER

This message informed about a positive outcome when cancer is found early, giving hope for the future while increasing the urgency to get screened.

TOP RESONATING EMOTIONS

- ☑ Belonging
- ☑ Security

WHY IT WORKS

This message emphasizes the urgency and lifesaving potential of yearly screening, encouraging people to take action. It shows that early detection can lead to better outcomes, motivating people to make screening a regular part of their health routine.

WHERE TO USE THIS MESSAGE

Use this message in health care provider reminders, outreach emails, health fairs, and public health programs to promote yearly screening as a valuable health habit. These locations are ideal because they encourage regular, proactive health actions and help individuals make lung cancer screening part of their annual routine.

Additional Ways You Can Approach Your Messaging

To enhance the impact of communication strategies, it's important to understand which lung cancer screening messages resonate most with specific groups of people. The top four message preferences are outlined for people who currently smoke, people who formerly smoked, and individuals aged 50-64 and 65 and older.

Message Preferences by Smoking History

People Who Currently Smoke

People in this group responded most strongly to messages that addressed the benefits of early detection and reduced barriers to screening. Messages that emphasized the speed and ease of the screening process were effective in minimizing concerns.

TOP MESSAGES LIKELY TO RESONATE

> Anyone can get lung cancer, but the risk is higher, and screening is recommended if you are 50 or older and currently smoke or used to smoke, based on your smoking history.

> Lung cancer screening takes just a few minutes, and it is an effective way to find lung cancer early.

People Who Formerly Smoked

The people in this group were particularly motivated by messages that acknowledged their continued risk for lung cancer after quitting. Messages emphasizing insurance coverage and risk reduction were found to be particularly effective.

TOP MESSAGES LIKELY TO RESONATE:

> Lung cancer screening is covered by Medicare and by most private health insurance plans, and in Medicaid plans in over half of the states.

> Yearly lung cancer screening helps save lives by catching it early when it's easier to treat.

Message Preferences by Age Group

Aged 50–64

People in this age group were more responsive to messages that stressed the urgency of screening for those aged 50 or older. Messages that reinforced the importance of early detection and better outcomes were particularly effective in motivating this age group.

TOP MESSAGES LIKELY TO RESONATE

> Anyone can get lung cancer, but the risk is higher, and screening is recommended, if you are 50 or older and currently smoke or used to smoke.

> Yearly lung cancer screening helps save lives by catching it early when it's easier to treat.

Aged 65 and Older

For people in this age group, messages focusing on the ease of the screening process and the fact that Medicare covers screening were the most effective. These messages addressed practical concerns and helped alleviate fears about the process.

TOP MESSAGES LIKELY TO RESONATE:

> Lung cancer screening is covered by Medicare and most private health insurance plans.

> Lung cancer screening takes just a few minutes, and it is an effective way to find lung cancer early.

Appendix A

Screening Messages

15 messages were created, with key themes determined by Phase One:

●	Lung cancer screening is recommended for adults who smoke or used to smoke but have no symptoms.
●	Lung cancer screening takes just a few minutes, and research shows it is an effective way to find lung cancer early.
●	Yearly lung cancer screening helps save lives by catching it early when it's easier to treat.
● ●	Anyone can get lung cancer, but the risk is higher if you are 50 or older and currently smoke or used to smoke.
●	Even if you have quit smoking, lung cancer screening might be recommended for you.
●	Did you know that there's a yearly screening test that can help detect lung cancer? If you are 50 or older and used to smoke or currently smoke, you may be eligible.
●	Over 200,000 people will be diagnosed with lung cancer this year, but early detection and treatment options have come a long way.
●	Yearly lung cancer screening reduces lung cancer deaths up to 33%.
●	Did you know that you don't have to quit smoking before being screened for lung cancer?
●	Lung cancer screening is painless, only takes a few minutes, and you can stay in your own clothes.
●	If you currently smoke or used to smoke, lung cancer screening may give you peace of mind.
●	Colonoscopy? Check. Mammogram? Check. Lung cancer screening? If eligible, you should make this important test a priority.
●	There are many lung cancer survivors today who have benefited from detecting their cancer early through yearly lung cancer screening.
● ●	Smoking is a hard habit to break, but starting a habit of yearly lung cancer screening could save your life.
●	Lung cancer screening is covered by Medicare and many private health insurance plans.

- ● Relatability/Positivity
- ● Cost/Insurance
- ● Reducing Stigma
- ● Risk Reduction
- ● Trust in Numbers

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